Planning and Environmental Consultants

Environmental Impact Assessment Report (EIAR)

Taurbeg Wind Farm Extension of Operational Life

Non-Technical Summary

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1. NON-TECHNICAL SUMMARY

1.1 Introduction

This Environmental Impact Assessment Report (EIAR) has been prepared by MKO on behalf of Taurbeg Limited (the Applicant), who intend to apply to Cork County Council (CCC) for planning permission to extend the operational period of the existing Taurbeg Wind Farm (the 'Proposed Lifetime Extension') for an additional 10 years to 2036 after the expiry of its current planning permission in 2026. A concurrent application will also be submitted to Kerry County Council (KCC) for the proposed hen harrier offsetting lands (Proposed Offsetting Measures) proposed as part of the overall project.

The existing Taurbeg Wind Farm comprises 11 no. turbines with an overall ground-to-blade tip height of 108.2m. The wind farm is located approximately 3.5km south of Rockchapel and 10.5km northwest of Newmarket, Co. Cork. Please see Figure 1-1 below for site location context. Other land-uses within the site include private forestry, peat bogs and agricultural lands.

A full description of the Proposed Project for the purposes of the planning application and the additional elements that form part of the overall project, assessed in this EIAR, is outlined in Chapter 4 of this EIAR.

For the purposes of this EIAR:

- Where the 'Proposed Lifetime Extension' is referred to, this relates to the continued 10-year operation of the existing Taurbeg Wind Farm from 2026. This includes all elements within the existing Taurbeg Wind Farm Site as shown in Figure 1-2 of this EIAR.
- Where 'the Site' is referred to, this relates to the primary study area for the Proposed Lifetime Extension, as delineated by the EIAR Site Boundary in green and encompasses an area of approximately 112 hectares (ha) as shown on Figure 1-2 of this EIAR.
- Where the 'Proposed Offsetting Measures' is referred to, this relates all works associated with the creation of new habitat in the townlands of Knockatee and Coom, Co. Kerry for the purposes of offsetting the potential significant adverse effects on hen harrier due to the continued operation of Taurbeg Wind Farm.
- Where the 'Proposed Offsetting Lands' are referred to, this relates to the lands in which the Proposed Offsetting Measures will take place, encompassing an area of approximately 123.2 hectares (ha).
- Where the 'Proposed Project' is referred to, this relates to the Proposed Lifetime Extension and the Proposed Offsetting Measures. The Proposed Project is described in detail in Chapter 4: Description of the Proposed Project of this EIAR.

No construction activities or alterations to the existing wind farm or substation are proposed as part of this planning application, beyond the extension of routine maintenance of the turbines and electrical infrastructure during the extended operational phase of the Project.

Applicant

The Applicant for the Proposed Project is Taurbeg Ltd, which is owned by Statkraft Ireland Ltd, a Norwegian company with Irish headquarters located in Cork. Statkraft is Europe's largest renewable energy producer, providing a range of renewable energy technologies such as onshore and offshore wind, solar, and grid services. Statkraft Ireland, which has already built approximately 500MW of wind,

solar and battery projects across the country, recently announced plans to deliver 3GW of renewable energy projects in Ireland by 2030.

Statkraft Ireland has extensive experience in the design, construction and operation of wind energy developments in Ireland and has built projects in counties Kerry, Cavan and Offaly.

Brief Description of the Proposed Project

Planning permission is being sought for the extension of the operational life of Taurbeg Wind Farm (Proposed Lifetime Extension) as permitted by Cork County Council under planning regulation ref N/2002/3608, for a further period of 10 years from the date of expiry (2026) per Condition no. 7 of the original planning consent issued, with decommissioning of the wind farm at the end of the proposed extension period.

The Proposed Lifetime Extension does not comprise any alterations to the existing operational wind farm. The Applicant intends to submit an application to Cork County Council for the Proposed Lifetime Extension.

The Proposed Lifetime Extension comprises:

i. *11 no. existing wind turbines with a tip height of 108.2 metres and all associated foundations and hardstanding areas;*
ii. *1 no. existing onsite 38kV electrical substation including a control building, associated electrical plant and equipment, welfare facilities and a wastewater holding tank;*
iii. *1 no. existing meteorological mast with a height of 67m;*
iv. *All existing underground electrical and communications cabling connecting the existing wind turbines to the existing onsite 38kV Substation;*
v. *An existing gated site entrance and existing internal access tracks;*
vi. *Existing site drainage;*
vii. *Existing ancillary infrastructure, associated site fencing and signage.*

The Taurbeg Wind Farm is connected to the national electricity grid at the existing Glenlara 110kV Substation. A 38kV underground cable runs between the onsite substation and a mast at the south of the site. A 38kV overhead line runs from the mast to the existing Glenlara 110kV Substation. The grid connection does not form part of the current planning application.

The Proposed Lifetime Extension is expected to have significant negative effects on displacement of Hen Harrier. Proposed Offsetting Measures have been developed to offset these effects. The lands within which these measures are proposed are located c. 12km east of the Taurbeg Wind Farm Site in Co. Kerry. The Applicant intends to submit an application to Kerry County Council for the Proposed Offsetting Measures.

The Proposed Offsetting Measures comprise:

i. *Permanent removal of commercial forestry (deforestation) over an area of approx. 105.5 Ha and the restoration of open peatland and creation of scrub habitat within the felled area.*
ii. *Restoration of farmland habitat to good quality hen harrier foraging habitat through diversifying the range and extent of habitats over an area of approx. 17.7 Ha;*
iii. *All associated site development works including fencing.*

A full description of the Proposed Project for the purposes of the planning application and the additional elements that form part of the overall project, assessed in this EIAR, is outlined in Chapter 4 of this EIAR. Further details of the Proposed Offsetting Measures can also be found in Appendix 7-7 of the EIAR.

Need for the Proposed Project

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. Further detail can be found in Chapter 2 of this EIAR.

The Proposed Project therefore represents an opportunity to continue to harness Ireland's significant renewable energy resources, with valuable benefits to air quality and in turn to human health. 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 (CO_2), oxides of nitrogen (NO_x), and sulphur dioxide SO_2, thereby resulting in cleaner air and associated positive health effects.

The report also highlights the particular challenges associated with the repowering or extension of operation life of operational wind farm projects in Special Protection Areas (SPAs) designated for the protection of hen harrier under the EU Birds Directive. This is particularly relevant given the research established that there is 732MW of wind energy generating capacity currently installed within the hen harrier SPAs, and a further 347MW installed within five kilometres of these same SPAs. The report also suggests a strategy for repowering or extending the operational life of wind farms in SPAs for hen harrier, which involves assessing the impacts on the conservation objectives of the SPAs, and exploring the possibility of proceeding through the Imperative Reasons of Overriding Public Interest (IROPI) route, drawing on the recent EU policies that classify renewable energy projects as being in the overriding public interest

Economic Benefits

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

The Proposed Project will be capable of providing power to approximately 18,469 households every year, as presented in the calculations in Section 4.3.1.5 of this EIAR

Several significant long-term benefits for the local economy from the Proposed Development will continue, including the provision of jobs, landowner payments, local authority commercial rate payments, and Community Benefit Scheme.

The Proposed Project 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 and the continuation of the existing Community Benefit Fund.

Commercial rate payments from the Proposed Project will be provided to the respective local authority each year which will be redirected to the provision of public services. 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.

Purpose and Scope of this EIAR

The purpose of this EIAR is to document the current state of the environment on and in the vicinity of the Site Project and to quantify the likely significant effects of the Proposed Project on the environment. The compilation of this document served to highlight any areas where mitigation measures may be necessary in order to protect the surrounding environment from the possibility of any negative impacts arising from the Proposed Project.

It is important to distinguish the Environmental Impact Assessment (EIA) to be carried out by the Planning Authority and the EIAR. The EIA is the assessment carried out by the competent authority, which includes an examination that identifies, describes and assesses in an appropriate manner, in the light of each individual case and in accordance with Articles 4 to 11 of the Environmental Impact Assessment Directive, the direct and indirect significant effects of the Proposed Project on the following:

a) *Population and human health*
b) *Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC*
c) *Land, soil, water, air, and climate*
d) *Material assets, cultural heritage and the landscape*
e) *The interaction between the factors referred to in points (a) to (d)*

The EIAR submitted by the applicant provides the relevant environmental information to enable the EIA to be carried out by the competent authority. The information to be contained in the EIAR is prescribed in Article 5 and Annex IV of the revised EIA Directive and Article 94 and Schedule 6 of the Planning and Development Regulations 2001 (as amended) described in Section 1.2 above.

1.2 Background to the Proposed Project

This chapter of the EIAR presents the policies and targets which have been put in place at the various levels of Government including international, national, regional and local in relation to planning; renewable energy and climate change; and biodiversity and nature restoration which are relevant to the Proposed Project. It also summarises the public consultation and EIA scoping undertaken, as well as the cumulative impact assessment process.

This chapter also provides a summary of the planning policy context relevant to the Proposed Project and should be read in conjunction with the relevant Planning Reports which accompany the planning applications to Cork County Council and Kerry County Council.

The Proposed Project is being brought forward in response to local, regional, national and European policy regarding Ireland's transition to a low-carbon economy, associated climate change policy objectives and to reduce Ireland's dependence on imported fossil fuels for the production of electricity. Along with biodiversity and nature restoration policy objectives and targets.

The need to decarbonise the economy and reduce emissions has always been imperative, however in recent years the urgency involved has become clearer to all stakeholders. The latest Climate Action Plan 2025 (CAP) sets out the detail for taking action to deliver the decarbonisation required under the carbon budgets and sectorial emissions ceilings. Central to this is the set of measures set out to increase the proportion of renewable electricity to up to 80% by 2030 and a target of 9GW from onshore wind. The CAP places front and centre the facts that without urgent action, global warming is likely to be more than 2˚C above pre-industrial levels, threatening the health and livelihoods of people across the globe. Urgency of action is also a key focus of the CAP. All sectors will have to further their efforts if the core and further measures are to be achieved.

The Climate Action and Low Carbon Development Act 2015 (as amended) commits Ireland to a legally binding target of net-zero emissions no later than 2050, and a cut of 51% by 2030 (compared to 2018 levels). To ensure that climate targets are met, Section 15 of the Climate Action and Low Carbon Development Act 2015 (as amended) requires all public bodies to exercise their functions in a manner consistent with, in so far as practicable, the national climate objective and the latest climate policy. Extending the lifetime of operational wind farms, such as the Proposed Project is key to helping Ireland achieve these legally binding climate targets as well as addressing the country's over-dependence of imported fossil fuels.

As detailed in Section 1.1.1 in Chapter 1, for the purposes of this EIAR, the various project components are described and assessed using the following references: 'Proposed Project', 'Proposed Lifetime Extension, 'Proposed Offsetting Measures', 'the Site' and 'Proposed Offsetting Lands'. Please see Section 1.1.1 of this EIAR for further details. A detailed description of the Proposed Project is provided in Chapter 4 of this EIAR.

Local Planning Policy

Proposed Lifetime Extension

It is considered that the Proposed Lifetime Extension is consistent with the policies and objectives of the Cork County Development Plan 2022-2028.

Cork County Development Plan 2022-2028

The Cork County Development Plan 2022-2028 (CCDP) came into effect on 6th June 2022 and was also subject to a Ministerial Direction in accordance with section 31(4)(c) of the Planning and Development Act 2000, as amended however the requirements of this Direction did not relate to renewable energy and has no impact on the Proposed Lifetime Extension subject of this EIAR.

There is policy support at local level for the development of renewable energy projects in the CCDP. **Objective ET 13-1** aims to "*Ensure that County Cork fulfils its potential in contributing to the sustainable delivery of a diverse and secure energy supply and to harness the potential of the county to assist in meeting renewable energy targets and managing overall energy demand".*

Objective ET 13-2 of the CCDP states that the Council will aim to "*Support Ireland's renewable energy commitments as outlined in Government Energy and Climate Change policies by facilitating the development of renewable energy sources such as wind, solar, geothermal, hydro and bio-energy and energy storage at suitable locations within the county where such development has satisfactorily demonstrated that it will not have adverse impacts on the surrounding environment (including water quality), landscape, biodiversity or amenities" and "Support and facilitate renewable energy proposals that bring about a direct socio-economic benefit to the local community".*

Objective ET 13-4 of the Plan is considered particularly important in the consideration of the Proposed Lifetime Extension, as it offers clear support for the policy direction and sentiments being expressed at upper levels in the policy hierarchy (outlined above) and clearly states the Council are supportive of onshore wind:

> *"In order to facilitate increased levels of renewable energy production consistent with national targets on renewable energy and climate change mitigation as set out in the National Energy and Climate Plan 2021-2030, the Climate Action Plan 2021, and any updates to these targets, and in accordance with Ministerial Guidelines on Wind Energy Development, the Council will support further development of on-shore wind energy projects including the upgrading, repowering or expansion of existing infrastructure, at appropriate locations within the county in line with the Wind Energy Strategy and objectives detailed in this chapter and other objectives of this plan in relation to climate change, biodiversity, landscape, heritage, water management and environment etc"* (our emphasis added).

It is the case that within the CCDP that the Site is within an area where wind energy is deemed '*Normally Discouraged*'. The nature of the proposal is such that no construction works are proposed and no new infrastructure proposed; the aim is to simply ensure that the turbines which currently exist onsite and currently contribute to the amount of renewable energy generated in the County, can continue. The precise wording of the relevant Objective, **Objective ET 13-5: Wind Energy Projects** is:

"(a)*supports a plan led approach to wind energy development in County Cork through the identification of areas for wind energy development. The aim in identifying these areas is to ensure that there are minimal environmental constraints, which could be foreseen to arise in advance of the planning process.*

b) On-shore wind energy projects should focus on areas considered 'Acceptable in Principle' and 'Areas Open to Consideration' and generally avoid "Normally Discouraged" areas as well as sites and locations of ecological sensitivity".

Objective ET 13-8: Normally Discouraged states that *"Commercial wind energy developments will be discouraged in these areas which are considered to be sensitive to adverse impacts associated with this form of development (either individually or in combination with other developments). Only in exceptional circumstances where it is clear that adverse impacts do not arise will proposals be considered."*

There is no objective or policy provision in the CCDP regarding sites such as the application site, where extending the operational life of the wind farm is wholly viable, and represents clear alignment with the wider planning policy framework.

Objective ET13-9: National Wind Energy Guidelines is also relevant to the proposal. It states:

"Development of on-shore wind should be designed and developed in line with the 'Planning Guidelines for Wind Farm Development 2006' and 'Draft Wind Energy Development Guidelines 2019" and any relevant update of these guidelines."

Proposed Offsetting Measures

It is considered that the Proposed Offsetting Measures are consistent with the policies and objectives of the Kerry County Development Plan 2022-2028 (KCDP).

The KCDP was adopted by the elected members of Kerry County Council on the 4th of July 2022. Chapter 11 sets out the relevant policy in relation to the environment within the County. The KCDP highlights that over 40% of County Kerry is designated under the Natura 2000 network, representing the significance of the County's natural heritage and diverse and varied biodiversity. The policies included in the KCDP that are relevant to the Proposed Offsetting Measures include:

> ***KCDP 11-2**: Maintain the nature conservation value and integrity of Special Areas of Conservation, Special Protection Areas, Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs). This shall include any other sites that may be designated at national level during the lifetime of the plan in co-operation with relevant state agencies.*
>
> ***KCDP 11-3:** Work with all stakeholders in order to conserve, manage and where possible enhance the County's natural heritage including all habitats, species, landscapes and geological heritage of conservation interest and to promote increased understanding and awareness of the natural heritage of the County.*
>
> ***KCDP 11-22:** Encourage and facilitate the retention and creation of features of local biodiversity value, ecological corridors and networks that connect areas of high conservation value such as watercourses, woodlands, hedgerows, earth banks and wetlands.*

The Proposed Offsetting Measures seeks to enhance and manage the Proposed Offsetting Lands for hen harrier in the townlands of Coom and Knockatee, County Kerry.

Kerry County Council's Biodiversity Action Plan 2022-2028

Kerry County Council's Biodiversity Action Plan 2022-2028 (KBAP) forms part of Volume 6 of the KCDP. The key objectives within the KBAP which relate to the Proposed Offsetting Measures are as follows:

- ***Objective 2:** To conserve, protect and enhance biodiversity and ecosystem services in the county*
- ***Objective 4:** Work with a range of stakeholders to ensure protection and enhancement of biodiversity in the*

The Proposed Offsetting Measures align with the KBAP as it seeks to restore habitat for the benefit of hen harrier and will improve biodiversity in the Proposed Offsetting Lands.

Planning History

A planning search was carried out through Cork County Council and Kerry County Council's online planning portals and An Coimisiún Pleanála's online planning portal in July 2025 for relevant planning applications that fall within the planning application boundaries of the Proposed Lifetime Extension and Proposed Offsetting Measures.

A planning search was carried out to establish permitted, operational and proposed wind energy developments within 20km of the proposed turbines for the purposes of informing the potential

cumulative effects. The search was carried out using the relevant local authority and An Coimisiún Pleanála's planning portals in July 2025 for relevant planning applications.

Scoping and Consultation

Chapter 2 Section 2.10 of the EIAR presents detail of the EIA Scoping undertaken with regards to the Proposed Project. As part of the constraints mapping process, which is detailed in Chapter 3 of the EIAR, telecommunications operators were contacted in November 2023, January 2024 and February 2024 in order to determine the presence of telecommunications links either traversing or in close proximity to the Site. Following this exercise, an EIAR scoping letter, providing details of the Proposed Project, was prepared by MKO and circulated to the relevant personnel/bodies in February 2024. The scoping letter provided details of the Proposed Project and set out the scope of work for the EIAR. Consultees were invited to contribute to the EIAR by suggesting baseline data, survey techniques and potential impacts that should be considered as part of the assessment process and in the preparation of the EIAR.

Chapter 2 Section 2.11 of the EIAR includes details of the pre-planning meetings undertaken prior to the planning application being lodged with the following stakeholders:

- The planning authority Cork County Council under the provisions of Section 247 of the Planning and Development Act 2000, as amended.
- The National Parks and Wildlife Service

Community engagement has been undertaken by the applicant, details of which can be found in Appendix 2-2 of the EIAR. In preparation for the public consultation, conducted by Statkraft Ireland, a Community Liaison Strategy (CLS) was developed by the Community Engagement Team. The CLS involved desk research on the local area including research on the 2022 Census figures and the County and Local Development Plans. This research was undertaken in order to gain an understanding of the local heritage, people and business environment. The CLS is based on the 'Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement' and the Aarhus Convention.

A Statkraft Community Liaison Officer (CLO) was appointed for the project in August 2023 to act as the main point of contact to the local community. The appointment of a dedicated CLO was crucial to ensure effective communication and foster trust between Statkraft Ireland and the local residents.

Public consultation for the project comprised of two rounds of engagement where the CLO and a member of the Community Liaison Team called to households in the local area. The intention of the visits to households was for the CLO and the Community Liaison Team to introduce themselves and Statkraft Ireland to the individuals locally, to establish a line of dialogue with local residents, informing them of the acquisition of the existing wind farm by Statkraft Ireland and outlining the details of the Proposed Lifetime Extension.

Cumulative Impact Assessment

The EIA Directive and associated guidance documents state that as well as considering any direct, indirect, secondary, transboundary, short, medium, and long term, permanent and temporary, positive and negative effects of the project the description of likely significant effects should include an assessment of cumulative impacts that may arise. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project. The factors to be considered in relation to cumulative effects include population and human health, biodiversity, land, soil, water, air, climate, material assets, landscape, and cultural heritage as well as the interactions between these factors.

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

The potential cumulative impact of the Proposed Project and combined with the potential impact of other projects has been carried out with the purpose of identifying what influence the Proposed Project will have on the surrounding environment when considered collectively with approved and existing projects, projects pending a decision from the planning authority and land-uses in the defined cumulative assessment study areas as set out in Table 2-7 below.

The cumulative impact assessment of projects has three principle aims:

- To establish the range and nature of existing and approved projects within the cumulative impact study area of the Proposed Project.
- 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 Project and discard projects that will neither directly or indirectly contribute to cumulative impacts. (Note: this is carried out by individual experts with respect to their specialist area of expertise.)

Projects were identified through a search of relevant online planning registers and effects were considered following a review of associated EIARs.

The review of the relevant local authority planning portals documented relevant general development planning applications in the vicinity of the Proposed Lifetime Extension, the majority of which relate to the provision and/or alteration of one-off rural housing and the provision of agricultural buildings. These applications and land uses 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 Project. These include permitted and existing wind farms in the area, solar farms, ongoing agricultural practices/forestry practices, quarries and extractive industries, intensive production/ processing industries, large infrastructure projects and other EIAR projects. The OPW (www.floodinfo.ie) does not record the presence of any Arterial Drainage Schemes or Benefited Lands within the Site.

Overall, the mitigation measures set out in this EIAR will ensure that significant cumulative effects do not arise during the extended operational or decommissioning phases of the Proposed Project. 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.

1.3 Consideration of Reasonable Alternatives

This chapter of the EIAR contains a description of the reasonable alternatives that were studied by the Applicant, which are relevant to the Proposed Project and its specific characteristics and provides an indication of the main reasons for the option chosen, taking into account the environmental effects. The consideration of alternatives includes alternative design, technology, size and scale. A 'Do-Nothing Scenario', i.e., an outline of what is likely to happen to the environment, should the Proposed Project not be implemented, is also included.

The process of identifying a suitable wind farm site is influenced by a number of factors, while wind speeds, the area of suitable or available land, proximity to a grid connection point and planning policy are all very important, a wind farm project must be commercially viable/competitive, as otherwise it will never attract the necessary project finance required to build it.

The initial design of the existing Taurbeg Wind Farm, prior to its construction and commencement of operations in 2006, was an informed and collaborative process, involving designers, developers, engineers, environmental, hydrological and geotechnical, archaeological specialists and traffic consultants. This proposal for the extension of operation of the wind farm was informed by site-specific information and experience gained during the operational history of the wind farm.

The Proposed Lifetime Extension does not include any significant alterations to the existing site design or layout. The aim of the current multidisciplinary Project Team in extending the lifespan of the wind farm is to continue from the past successful operation of the wind farm, whilst ensuring that any new processes or methods to reduce the potential for environmental effects are incorporated into the future operation.

It is considered appropriate to extend the operational phase of Taurbeg Wind Farm at the current site for a number of reasons including the successful operational history at its current location since 2006. The site has proven to have reliably good wind speeds and maintained a good generating capacity. In addition, the existing wind turbine models can continue to operate efficiently for a further 10 years without a significant loss in the total generating capacity of 25.3 megawatts (MW).

The existing wind farm infrastructure on the site, including the substation and site roads, can continue to be used for the extended operational period, which reduces environmental effects when compared to an undeveloped greenfield site, particularly in relation to landscape and visual effects and effects on locally important habitats. The existing wind farm site entrance can continue to be used without any alterations or road works required.

It has been demonstrated by the Applicant that the existing 11 no. Bonus (now Siemens) SWT 2.3MW turbines can continue to operate effectively for a further 10 years without a significant loss in total generating capacity of 25.3 MW.

The Proposed Project can contribute to the achievement of national energy targets and can continue to provide significant social and economic benefits for the local area (direct and indirect employment, community development fund) and the wider region.

Having been previously permitted, the principle for wind energy development at this site is already well established and has been proven to be in accordance with the proper planning and sustainable development of the area.

It is noted that the total current wind farm site, i.e. the EIAR Site Boundary as shown on figures, is approximately 112 hectares (ha). The existing development footprint therefore accounts for approximately 3.76 ha or approximately 3% of the total site area.

1.4 Description of the Proposed Project

This section of the EIAR describes the Proposed Project and all its component parts. The planning application for the Proposed Project will be made to CCC and KCC.

The Proposed Lifetime Extension does not comprise any alterations or modifications to the existing operational wind farm. The Proposed Lifetime Extension encompasses the continued operation of Taurbeg Wind Farm, which comprises:

i. *11 no. existing wind turbines with a tip height of 108.2 metres and all associated foundations and hardstanding areas;*
ii. *1 no. existing onsite 38kV electrical substation including a control building, associated electrical plant and equipment, welfare facilities and a wastewater holding tank;*
iii. *1 no. existing meteorological mast with a height of 67m;*
iv. *All existing underground electrical and communications cabling connecting the existing wind turbines to the existing onsite 38kV Substation;*
v. *An existing gated site entrance and existing internal access tracks;*
vi. *Existing site drainage;*
vii. *Existing ancillary infrastructure, associated site fencing and signage.*

The Proposed Lifetime Extension is expected to have significant negative effects on displacement of Hen Harrier. Proposed Offsetting Measures have been developed to offset these effects. The lands within which these measures are proposed are located c. 12km east of the Taurbeg Wind Farm Site in Co. Kerry. The Applicant intends to submit an application to Kerry County Council for the Proposed Offsetting Measures.

The Proposed Offsetting Measures comprise:

i. *Permanent removal of commercial forestry (deforestation) over an area of approx. 105.5 Ha and the restoration of open peatland and creation of scrub habitat within the felled area.*
ii. *Restoration of farmland habitat to good quality hen harrier foraging habitat through diversifying the range and extent of habitats over an area of approx. 17.7 Ha;*
iii. *All associated site development works including fencing.*

All elements of the existing Taurbeg wind farm are pre-existing and it is not proposed to make any alterations to the current site layout, wind turbines or associated infrastructure as part of this application.

By 2026, the existing turbines will have been in operation for only 20 years, , despite the normal operational life of a turbine being more than this i.e. beyond a 30 year lifespan, as turbine technology and reliability continues to improve, and with strategic replacement of key components such as gearboxes, blades, sensors and electricals It is therefore intended to apply for planning permission to continue the operation of the existing wind farm for ten years beyond the expiration of the current permission.

The extended operation of all elements of the existing wind farm and the enhancement and management of lands for the purposes of hen harrier mitigation have been assessed as part of this EIAR. The Taurbeg Wind Farm is connected to the existing Glenlara 110kV Substation. A 38kV underground cable runs between the onsite substation and a mast at the south of the site. A 38kV overhead line runs from the mast to the existing Glenlara 110kV Substation. The overhead line does not form part of the current planning application and was subject to a separate planning application (Pl. Reg. Ref: N/2001/6549) but has been assessed cumulatively with the rest of the wind farm infrastructure, as part of the EIAR.

The existing wind turbines have a tip height of 108.2m, rotor diameter of 82.4m and a hub height of 67m. The wind turbines that are installed on the site are conventional three-blade turbines, that are geared to ensure the rotors of all turbines rotate in the same direction at all times. The existing wind turbines at the Taurbeg Wind Farm are Bonus (now Siemens) SWT 2.3MW turbines. Each turbine is capable of producing 2.3MW of electricity resulting in an estimated installed capacity of 25.3 MW. The 82,002 MWh/yr of electricity produced by the Taurbeg Wind Farm would be sufficient to supply approximately 19,524 Irish households with electricity per year, based on the average Irish household using 4.2MWh of electricity.

Each wind turbine is secured to reinforced concrete foundation that has been installed below the finished ground level. The turbine foundation transmits any load on the wind turbine into the ground. The existing turbine foundations are circular in plan with an average area of 100m^2.

Hardstanding areas consisting of levelled and compacted hardcore are in place around each turbine base, to facilitate access and maintenance and generally provide a safe, level working area around each turbine position. The hardstanding area is intended to accommodate a crane if necessary during maintenance works. There will be no changes to the existing hardstanding areas as part of the Proposed Lifetime Extension. The existing hardstanding areas vary slightly at each of the 11 no. turbines, with an average area of approximately 722m^2.

No changes are proposed to the existing site access roads of approximately 8.4km in total length, which provide vehicular access to all turbines from the main entrance gate located at the northeast of the site. Site roads are constructed of consolidated gravel with an average running width of 4.5m. The existing Taurbeg Wind Farm is accessed via the wind farm site entrance off the L5005 local road and is served by a network of existing wind farm access roads. No changes to the site entrance are proposed.

There are no groundworks involved in the Proposed Lifetime Extension, and therefore no existing natural drainage features will be altered and there will be no direct or indirect discharges to natural watercourses.

Each turbine will continue to be subject to a routine maintenance programme involving monthly checks and intermittent changing of consumables, including oil changes. In addition, there will be a requirement for unscheduled maintenance, which could vary between resetting alarms to major component changes requiring a crane. All site roads will continue to be subject to maintenance, this includes surfacing works to maintain operational site access. Typically, maintenance traffic will consist of four-wheel drive vehicles or vans. The wind farm manager will continue to attend the site regularly to perform inspections and oversee maintenance works.

The Proposed Project includes the management of lands required for the offsetting of potential effects of the continued operation of the existing Taurbeg Wind Farm on Hen Harrier. The Proposed Offsetting Lands are located in Knockatee and Coom, Co. Kerry, approximately 11.5km east from the Taurbeg Wind Farm site. Offsetting measures include deforestation (105.5 ha) and grassland management (17.7 ha). Felling methodology has been designed by SWS forestry, with 10 ha of forestry being permanently felled and removed from the site and the remaining 95.5ha being permanently felled to waste at the site. Windrows at 50m intervals will be created, where possible, to aid felling works.

Area 3 of the Proposed Offsetting lands consists of pastural agricultural land. Grassland management measures which will be utilised at the Proposed Offsetting Lands include:

- Planting and restoring of hedgerow
- Rotational grazing scheme
- Linear wildlife crop sowing
- Cease on fertiliser application
- Predator Fencing

Decommissioning of the existing wind farm is required to be carried out in 2026, i.e. 20 years from the grant of permission for the 11 no. turbines, under the current planning permission. The Proposed Project would extend the operation of the existing wind farm for a further 10 years, thereby postponing decommissioning until 2036.

It is proposed to leave the turbine foundations in place underground and to cover them with earth and reseed as appropriate. Leaving the turbine foundations in-situ is considered a more environmentally prudent option, as to remove that volume of reinforced concrete from the ground could result in significant environmental nuisance such as noise, dust and/or vibration. It is proposed that site roadways will be left in situ, as appropriate, to facilitate ongoing access to agricultural holdings. If it were confirmed that the roads were not required in the future for any other purpose, they could be removed where required, however, this is not envisaged at this time. It is proposed to leave underground cables in place where they are below a level likely to be impacted by typical agricultural works. During decommissioning, it may be possible to reverse some of the potential impacts caused during the initial construction of the wind farm by rehabilitating construction areas such as turbine bases and hard standing areas. This will be done by allowing these areas to naturally revegetate and regenerate which reduces run-off and sedimentation.

1.5 Population and Human Health

One of the principal concerns in the development process is that people, as individuals or communities, should experience no diminution in their quality of life from the direct or indirect impacts arising from the construction and operation of a development. The key issues examined in this section of the EIAR relate to population and human health and incorporate population statistics, employment and economic activity, land-use, residential amenity (shadow flicker, noise, visuals and telecommunications), community facilities and services, tourism, property values, accidents/natural disasters, health and safety and other environmental hazards such as water contamination, air pollution, traffic and flooding.

Information regarding population and general socio-economic data were sourced from the Central Statistics Office (CSO), the Cork County Development Plan 2022-2028, Fáilte Ireland and any other literature pertinent to the area. The study included an examination of the population and employment characteristics of the area. This information was sourced from the Census of Ireland 2022, which is the most recent census for which a complete dataset is available, also the Census of Ireland 2016, the Census of Agriculture 2010 and from the CSO website (www.cso.ie).

In order to assess the population in the vicinity of the Site and Proposed Offsetting Lands, the Population Study Areas for the Population section of this EIAR was defined in terms of the Electoral Divisions (EDs) where the Site is located, and where relevant, nearby EDs which may be affected by the Proposed Project. The existing Taurbeg Wind Farm lies within one ED: Clonfert East. The Population Study Area has a population of 355 persons, as of 2022 and comprises a total land area of 41km^2 (Source: CSO Census of the Population 2022). The Proposed Offsetting Lands similarly lies within 1 ED: Mount Eagle. The Population Study Area has a population of 174 persons, as of 2022 and comprises a total land area of 36.67km2

Current land-use within the Site is renewable energy production, peat bogs, agricultural pastures, coniferous forestry and transitional woodland scrub. Within the wider landscape of the existing Taurbeg Wind Farm, land use comprises wind energy production, agricultural pastures, transitional woodland scrub and peat bogs.

Current land use within the Proposed Offsetting Lands include commercial forestry, peat bogs and improved agricultural grassland. Within the wider landscape, land use comprises of commercial forestry, renewable energy production, agricultural pastures, peat bogs and low density residential.

The Population Study Area and the Proposed Offsetting Measure Population Study area decreased by 6.8% and -1.69% respectively between 2016 and 2022. There is an increase in population growth for County Cork, Kerry and the State.

There is currently no published credible scientific evidence to positively link wind turbines with adverse health effects. The main publications supporting the view that there is no evidence of any direct link between wind turbines and health are summarised in Chapter 5 of this EIAR. Although there have been no empirical studies carried out in Ireland on the effects of wind farms on property prices, it is a reasonable assumption based on the available international literature that the continued operation of a wind farm at the proposed location would not impact on the property values in the area.

Shadow flicker is a phenomenon that occurs when rotating wind turbine blades cast shadows over a window in a nearby property. Shadow flicker is an indoor phenomenon, which may be experienced by an occupant sitting in an enclosed room when sunlight reaching the window is momentarily interrupted by a shadow of a wind turbine's blade. Shadow flicker effect lasts only for a short period of time and happens only in certain specific combined circumstances. Current guidelines recommend that shadow flicker at neighbouring dwellings within 824 metres (ten times the rotor diameter) of a proposed turbine location should not exceed a total of 30 hours per year, or 30 minutes per day.

The study area for the shadow flicker assessment is ten times rotor diameter from each turbine as set out in the Wind Energy Development Guidelines for Planning Authorities (Department of Environment, Heritage and Local Government, 2006). There is a total of 3 no. residential buildings including occupied, unoccupied/derelict and permitted, located within a distance of ten rotor diameters (824 metres) from the existing 11 no. turbine wind farm locations.

For the purposes of this shadow flicker assessment, the software package WindPRO (Version 4.0.423) has been used to predict the level of shadow flicker associated with the Proposed Lifetime Extension, identifying the predicted daily start and end times, maximum daily duration and the individual turbines predicted to give rise to shadow flicker.

Of the 3 no. properties modelled, it is predicted that none of the properties, may experience daily shadow flicker in excess of the DoEHLG guideline threshold of 30 minutes per day. Therefore no mitigation is required. This prediction is assuming theoretical precautionary conditions (i.e., 100% sunshine on all days where the shadow of the turbines passes over a house, wind blowing in the correct direction, no screening present, etc.) and in the absence of any turbine control measures.

Knockacummer Wind Farm is the closest wind farm to the existing Taurbeg Wind Farm, located east of the Taurbeg at a distance of approximately 881m between the wind farms closest turbines. When applying a 10x rotor diameter buffer zone to the Knockacummer turbine locations it was found that the respective shadow flicker study areas of Knockacummer Wind Farm overlaps with the Taurbeg Wind Farm Shadow Flicker Study Area. However, there are no permitted or existing Sensitive Receptors located within the overlapping areas, therefore there is no potential cumulative shadow flicker effects.

There is no potential for construction phase related impacts commonly discussed, such as may relate to Population and Human Health, including Health and Safety, Noise, Dust, and Traffic related impacts.

Impacts on human beings during the Proposed Lifetime Extension and Proposed Offsetting Measures are described in detail in Chapter 5, in terms of health and safety, employment and investment, population, land-use, property values, noise, air quality, traffic, tourism, residential amenity, renewable energy production, and reduction in greenhouse gas emissions, and interference with communication systems. Where a negative impact was identified, the appropriate mitigation measures will be put in place to ensure that there will be no adverse impacts on human health in the surrounding area.

Following the consideration of the residual effects (post-mitigation), the Proposed Project will not result in any significant effects on population and human health. Provided that the Proposed Project is operated in accordance with current best practice, and mitigation measures that are described within this application are implemented, significant effects on population and human health are not anticipated at local, county, national or international scale.

1.6 Biodiversity

Chapter 6 of the EIAR assesses the likely significant effects (both alone and cumulatively with other projects) that the Proposed Project may have on Biodiversity, Flora and Fauna, and sets out the mitigation measures proposed to avoid, reduce or offset any potential significant effects that are identified. Avian Biodiversity has been assessed in Chapter 7 of the EIAR.

The Proposed Project consists of two distinct survey areas; the EIAR Site Boundary (The Site), and the Proposed Offsetting Lands. To inform the assessment, a comprehensive desk study and suite of field surveys including multidisciplinary walkover surveys, habitat assessments, dedicated species/habitat specific surveys including, bats, protected mammals, and invasive species, were undertaken between February 2024 and January 2025. During all surveys, incidental records of other species were also recorded. In addition, aquatic ecology surveys (fisheries, aquatic macroinvertebrates) have been undertaken as part of the detailed baseline assessment, the detailed results of which are provided in technical appendices to this EIAR.

The multi-disciplinary walkover surveys comprehensively covered the lands within the EIAR Site Boundary and the Proposed Offsetting Lands. All surveys were carried out in accordance with NRA Guidelines on Ecological Surveying Techniques for Protected Flora and Fauna on National Road Schemes (NRA, 2009).

During the multidisciplinary surveys, a search for Invasive Alien Species (IAS) listed under the First Schedule of the European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374 of 2024) and the Third Schedule of the European Communities Regulations 2011 (S.I. 477 of 2015) was conducted.

The habitats on the Site and Proposed Offsetting Lands were the subject of a detailed survey and assessment and habitat mapping. This habitat mapping and assessment was undertaken following the 'A Guide to Habitats in Ireland' (Fossitt, 2000).

The Site consists of a built and operating wind farm development (built ground consisting of Buildings and Artificial surfaces (BL3) and Spoil and Bare Ground (ED2)), and is surrounded predominantly by peatland habitats (Upland Blanket Bog (PB2), Wet Heath (HH3), Wet Heath/Scrub (HH3.WS1), Montane Heath (HH4), and Dry-humid Acid Grassland (GS3)), and Conifer plantation (WD4). Other terrestrial habitats within the Site include improved agricultural grassland (GA1), Wet grassland (GS4), Scrub (WS1), Treelines (WL2), and Wet grassland/ scrub (GS4/WS1) habitat mosaic. Historical Drainage ditches (FW4) were present along field boundaries, within conifer plantation, and throughout areas of previously cut peatland within the Site. Three EPA mapped watercourses which were classified as Eroding/upland rivers (FW1) flow through/along the Site boundary at the northeast of the site. Areas of Upland Blanket Bog (PB2), Wet Heath (HH3) and Montane Heath (HH4) found within the Site, while degraded, are considered to represent their associated Annex I habitats: Upland Blanket Bog: 'blanket bogs (*if active bog) (7130)', Wet Heath: 'northern Atlantic wet heaths with Erica tetralix (4010)', and Monatne Heath: 'Alpine and Boreal heaths (4060)'.

There are no construction works proposed within the Site associated with Proposed Lifetime Extension and as such there is no potential for any loss of the above habitats within the Site as a result of the Proposed Project.

The Proposed Offsetting Lands are divided into 4 areas, referred to within this EIAR as Area 1, Area 2, Area 3 and Area 4. Areas 1, 2 and 4 are dominated by Conifer Plantation (WD4) habitat. Other habitats such as Upland Blanket Bog and Wet Heath are located in small proportions and along the margins of Areas 1, 2 and 4. Area 3 is dominated by wet grassland (GS4) habitat with an area of (Mixed) broadleaved woodland (WD1) present within the western end. Other habitats such as hedgerows (WL1) and treelines (WL2) are present along the periphery of Area 3. A number of watercourses passed through and adjacent to the boundaries of the Proposed Offsetting Lands, all of

which were classified as eroding/upland rivers (FW1). These watercourses include the Fulacht Fia Coom (EPA_Code: 22F41), two unnamed tributaries of the Tooreennascarty River (EPA_Code: 23T23), and the Knockatee_22 River (EPA_Code: 22K83). Upland Blanket Bog and Wet Heath within the Proposed Offsetting Lands, while degraded are considered to represent the Annex I habitats: 'blanket bogs (*if active bog) (7130)', and 'northern Atlantic wet heaths with Erica tetralix (4010)'. There will be no loss of these habitats as a result of proposed works. Proposed works within Area 3 consist predominantly of grassland habitat management for hen harrier and there will be no loss of any habitats of local importance higher value or greater associated with the Proposed Offsetting Measures within Area 3.

All conifer plantation habitat within Areas 1, 2 and 4 of the Proposed Offsetting Lands will be deforested in order to facilitate the Proposed Offsetting Measures. The proposed loss of 105.5ha of conifer plantation at the Proposed Offsetting Lands represents the loss of a highly managed and homogenous habitat, of local importance (lower value), which is common throughout the wider landscape. This loss is not considered significant at any geographical scale.

The overall bat activity on Site was Low however, some peaks in activity across the seasons and for certain species were recorded. The habitats within and surrounding the Site and Proposed Offsetting Lands are likely to be utilised by a bat population of Local Importance (higher value). Bats are likely to forage and commute within the vicinity of the Site and Proposed Offsetting Lands. While dog-lead carcass surveys of the operating turbines within the Site did not reveal any impact on bats (0 carcass records), taking a precautionary approach, based on collision risk data carried out for the Existing Taurbeg Wind Farm, potential for collision was identified for high collision risk species. Taking a precautionary approach, during the deforestation period of the Proposed Offsetting Measures there will be temporary losses of linear features for bats to utilise for commuting and forging within Areas 1, 2 and 4. The potential effect on bats as a result of the Proposed Offsetting Measures is limited to the temporary works phase loss or damage to commuting and foraging habitat. Following the implementation of mitigation, no potential for residual significant effects with regard to loss of commuting and foraging habitat, loss or damage to roosts, or displacement have been identified. In relation to potential collision risk and injury with operational turbines, a bespoke adaptive monitoring and mitigation strategy has been devised for the Proposed Project in line with NatureScot (2021) Guidance, which will ensure that there is no potential for significant residual effects on local bat populations during the continued operational phase of the Proposed Project.

No Otter signs, in the form of print, slides, spraint, or holts, were recorded within the Site or the Proposed Offsetting Lands. It is likely that watercourses within the Site and Proposed Offsetting Lands provide limited suitability to Otter due to their gradient, high energy and elevations above sea level. However, watercourses downstream of the Site and the Proposed Offsetting Lands have the potential to support populations of Otter. During dedicated aquatic surveys of the Site, evidence of otter activity (spraints) was identified at locations downstream of the Site. However, no otter holts or other resting places were recorded during any of the ecological surveys for the Site or Proposed Offsetting Lands. Given that no otter holts or resting places were recorded within or in the vicinity of the Site or Proposed Offsetting Lands, no direct mortality, significant disturbance or barrier to the movement of otter is anticipated. Watercourses within the Site and Proposed Offsetting Lands are hydrologically linked to downstream watercourses (and aquatic fauna within them). In the absence of mitigation surface water deterioration during the continued operation of the Taurbeg wind farm and during the deforestation works for the Proposed Offsetting Lands have the potential to negatively affect Otter and other aquatic fauna. Following the implementation of mitigation, there will be no significant residual effect on otter or other aquatic fauna as a result of the Proposed Project.

No signs of badger were recorded within the Site. Signs of badger were recorded along the north-eastern boundary of Area 1 of the Proposed Offsetting Lands in the form of prints on a forestry track. Frogspawn was identified in areas of the Site and Proposed Offsetting Lands. The recorded evidence

suggests that the Site and the Proposed Offsetting Lands are not utilised by populations of protected fauna of higher than local significance and no potential for significant effects on these species have been identified at the population level. Protected fauna are unlikely to be significantly affected.

Following mitigation measures set out within Chapter 9 of the EIAR, no residual significant effects on surface water quality, groundwater quality or the hydrological/ hydrogeological regime were identified during any phase of the Proposed Project. A full hydrological assessment in relation to the Proposed Project has been carried out in Chapter 9 of the EIAR.

No First Schedule or Third Schedule Invasive Alien species were recorded within the Site during the surveys conducted. The First Schedule and Third Schedule listed Invasive Alien species Rhododendron Ponticum was recorded at a number of locations throughout the Proposed Offsetting Lands. Following the implementation of mitigation included within Chapter 6 of the EIAR, there will be no significant residual negative effect related to the spread of Rhododendron during or following the Proposed Offsetting Measures.

In relation to nationally designated sites, Mount Eagle Bogs NHA [002449] was identified as being within the Likely Zone of Influence and is assessed in the EIAR.

In relation to European designated sites, the Lower River Shannon SAC [002165], Blackwater River (Cork/Waterford) SAC [002170] and Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA [004161] have been fully assessed within the Article 6(3) and 6(4) Reporting that accompanies this planning application along with this EIAR.

Following consideration of the residual effects (post mitigation) it is concluded that the Proposed Project will not result in any significant effects on any of the identified KERs. No significant effects on receptors of International, National, County or local Importance were identified. Following the implementation of mitigation, no potential for significant effects on Nationally designated sites were identified. The mitigation described in this chapter will be implemented in full and it is therefore predicted that there will be no significant individual or cumulative effects on non-avian biodiversity at the international, national, county or local scales or on any of the identified KERs

1.7 Birds

This chapter assesses the likely significant effects of the proposed extension of operation of the existing Taurbeg Wind Farm (hereafter the "Proposed Lifetime Extension") on avian receptors. Firstly, a brief description of the Proposed Lifetime Extension is provided. This is followed by a comprehensive description of the methodologies that were followed in order to obtain the information necessary to complete a thorough assessment of the potential effects of the Proposed Lifetime on bird species. The survey data is presented in full in the Environmental Impact Assessment Report (EIAR) appendices with a summary of the information presented within this chapter. An analysis of the results is then provided, which discusses the ecological significance of the birds recorded within the study area. The potential effects are then described in terms of the operation and decommissioning phases of the Proposed Lifetime Extension, and works involved in the Proposed Offsetting Measures. An accurate prediction of the effects is derived following a thorough understanding of the nature of the Proposed Lifetime Extension along with a comprehensive knowledge of bird activity within the Site. The identification of Key Ornithological Receptors (KORs) and the assessment of effects follow a precautionary approach.

The following KORs were identified: hen harrier, golden plover, nightjar, short-eared owl, kestrel, red grouse, snipe, buzzard and sparrowhawk.

The potential for effects on designated sites is fully described in the Natura Impact Statement (NIS) that accompanies this application. The NIS concluded that the potential for adverse effect on Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA cannot be robustly blocked by avoidance, appropriate design, or mitigation measures. Therefore, it is concluded that "*the Proposed Lifetime Extension will adversely affect the integrity of the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA, in view of the site's conservation objectives. It is recommended that the Article 6(4) (of Council Directive 92/43/EEC (The EU Habitats Directive)) process be engaged. Volume 2 includes the Assessment of Alternative Solutions and Imperative Reasons of Overriding Public Interest*".

Based on the detailed assessment, it is considered that the Proposed Lifetime Extension has the potential for the ongoing displacement of hen harrier from the Site, in the absence of offsetting measures there is the potential for an ongoing *likely medium-term constant significant negative* (indirect) habitat loss effect. Accordingly, a comprehensive offsetting strategy is proposed. The Proposed Offsetting lands are located in Knockatee and Coom, Co. Kerry, approximately 11.5km east from the Taurbeg Wind Farm site and are situated entirely within the SPA. The Proposed Offsetting Plan is detailed in Appendix 7-7, and broadly comprise the permanent deforestation of approximately 105.5ha of forestry and the restoration of a further 17.7ha of agricultural land for the benefit of hen harrier. Following the Proposed Offsetting Plan, residual impacts of no greater than negligible are predicted as a result of the Proposed Lifetime Extension.

No significant operational phase impacts requiring mitigation were identified for any other KORs. The review of effects considered habitat loss, displacement and barrier effects and collision risk during the operational phase. No effect significance greater than Low, as per Percival (2003) criteria, was identified for any others KORs. No effect significance greater than Slight, as per EPA (2022) criteria, was identified for any other KORs. The detailed assessment of the decommissioning phase of the Proposed Lifetime Extension identified the potential for short-term moderate to significant negative effect (EPA, 2022) on nightjar and red grouse as a result of the potential for disturbance during decommissioning works, in the absence of mitigation. Specific mitigation measures have therefore been described.

In conclusion, following consideration of the residual effects, it is concluded that the Proposed Lifetime Extension will not result in any significant effects on any identified KORs. No significant effects on receptors of International, National or County Importance were identified. Provided that the Proposed Lifetime Extension is operated and decommissioned, and the Proposed Offsetting Measures are implemented and operated, in accordance with the design and best practice mitigation measures that are

described within this application, significant individual or cumulative effects on the identified KORs are not anticipated.

1.8 Land, Soils and Geology

The Site is located in an upland area which is dominated by blanket bog, wet heath and coniferous forestry plantations with existing infrastructure associated with the Taurbeg Wind Farm. The total constructed development footprint area is approximately 3.76ha, representing ~3% of the Site land surface (112ha).

There are no requirements for construction works or reinstatement works with regard to the Proposed Lifetime Extension. During the extended operational phase, occasionally vehicles or plant may be necessary for maintenance of access roads, drainage networks and hardstands along with some minor landscaping works. None of these activities have the potential for significant effects on Land, Soils and Geology at the Site, as they are of such small scale and also of an intermittent nature. There will be adherence to the proposed Operational and Environmental Management Plan with regard the use of oils and fuels on the Site.

The potential effects associated with decommissioning of the existing Taurbeg Wind Farm will be similar to those associated with construction but of much reduced magnitude due to the measures as outlined in the proposed Decommissioning Plan.

It is proposed to leave turbine foundations in place underground and to cover them with soil and reseed as appropriate. Leaving the turbine foundations in-situ is considered a more environmentally prudent option as excavation works can be avoided. Site roadways will be left in situ, as appropriate and as required, to facilitate on-going access and commercial forestry uses. It is proposed to leave underground cables in place where they are below a level likely to be impacted by typical agricultural works.

During decommissioning, it will be possible to reverse or at least reduce some of the potential impacts during construction by rehabilitating construction areas such as turbine bases and hardstanding areas.

The Proposed Lifetime Extension has no potential for off-site effects on Land, Soils and Geology and therefore no impacts are possible on local geological heritage sites. Due to the lack of off-site effects, cumulative effects and public health effects are also not possible.

The Proposed Project also includes Proposed Offsetting Measures which include the permanent removal of commercial forestry (c. 105.5 ha) and the restoration of farmland habitat (c. 17.7 ha) for the benefit of hen harrier. The Proposed Offsetting lands are located at Mount Eagle and within the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA. The Proposed Offsetting Measures will have a positive effect on the land environment and are consistent with the conservation objectives of the SPA. All proposed deforestation activities will be completed in accordance with the Forest Service regulations, policies and strategic guidance documents and measures will be implemented to prevent peat and subsoil erosion. The storage and handling of hydrocarbons during the Proposed Offsetting Measures will also be carried out using best practice methods. A peat stability risk assessment has been completed for the Proposed Offsetting lands and found that the Proposed Offsetting lands predominantly have an acceptable margin of safety and are suitable for the Proposed Offsetting Measures. Some very localised areas are deemed to have a higher risk of instability due to local topography. It is considered that these areas do not present a significant peat slide risk if the prescribed mitigation measures are implemented. With the implementation of the prescribed mitigation measures the Proposed Offsetting Measures have no potential to result in significant effects on the Land, Soils and Geological environment.

1.9 Hydrology and Hydrogeology

This chapter assesses the likely significant effects that the Proposed Project may have on hydrology and hydrogeology and sets out the mitigation measures proposed to avoid, reduce or offset any potential significant effects that are identified.

Taurbeg Wind Farm

Regionally, the Site is located in 2 no. regional surface water catchments. The vast majority of the Site, including 10 of the 11 no. existing turbines associated with the Taurbeg Wind Farm are located in the Tralee Bay-Feale surface water catchment within Hydrometric Area No. 23 of the Shannon River Basin District. Meanwhile, the south of the Site, including 1 no. existing turbine, is mapped within the Blackwater (Munster) surface water catchment within Hydrometric Area No. 18 of the South Western River Basin District.

The Site is drained by several small streams which flow downslopes before eventually discharging into the Feale River, to the north, and the Dalua River to the southeast. In places the natural drainage is further facilitated by a network of manmade drains. These manmade drains are concentrated within the areas of coniferous forestry and along sections of the existing wind farm access roads.

The bedrock geology underlying the Site is classified by the GSI as being a Locally Important Aquifer – Bedrock which is Moderately Productive only in Local Zones. The underlying bedrock has little or no open cracks which means groundwater movement within the aquifer is very localised. The low potential for pollutant travel within the bedrock makes surface water bodies such as streams more sensitive to pollution than groundwater. Due to the nature of the Proposed Project being a lifetime extension application for an existing wind farm with no proposed construction works, combined with the local hydrogeological regime there is no potential for effects on local groundwater well supplies.

The Site is located within the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (Site Code: 004161). Within the Tralee Bay-Feale surface water catchment, the Lower River Shannon SAC (Site Code: 002165) is located downstream of the Site with a hydrological flowpath length of ~1.8km. Meanwhile, within the Blackwater (Munster) surface water catchment the Blackwater River (Cork/Waterford) SAC (Site Code: 002170) is located downstream of the Site with a hydrological flowpath length of ~6.5km. Due to the nature of the Proposed Project being a lifetime extension application for an existing wind farm with no proposed construction works, the potential for effects on these designated sites is very limited. Mitigation measures are proposed for the Extended Operational Phase which will ensure that there are no adverse impacts on any hydrologically connected designated site.

No significant effects to surface water (quality and flows) and groundwater (quality and quantity, and any local groundwater wells) will occur as a result of the Proposed Lifetime Extension. No earthworks, excavations or construction works will be required at the Site. The wind farm infrastructure and associated drainage systems are already in place at the Site. The only works required will be minor maintenance works. During such works the storage and handling of hydrocarbons/chemicals will be carried out using best practice methods which will ensure the protection of surface and groundwater quality.

A Flood Risk Assessment has been completed for the Proposed Project and found that the Site is located in Flood Zone C and is at low risk of flooding. Furthermore, the existing wind farm infrastructure does not increase the risk of downstream flooding.

A Water Framework Directive (WFD) Compliance Assessment has been completed for all waterbodies (surface water and groundwater bodies) with the potential to be impacted by the Proposed Lifetime Extension. With the implementation of the mitigation measures detailed in this EIAR there will be no change in the WFD status of the underlying groundwater body or downstream surface waterbodies as a

result of the Proposed Lifetimes Extension. The Proposed Lifetime Extension has been found to be fully compliant with the WFD and will not prevent any waterbody from achieving its WFD objectives.

An assessment of potential cumulative effects associated with the wind farm and other developments on the hydrological and hydrogeological environment has been completed. With the implementation of the mitigation measures detailed in this EIAR, the cumulative assessment found that there will be no significant effects on the hydrological and hydrogeological environments.

No significant effects on the water environmental will occur during the extended operational phase of the existing Taurbeg Wind Farm.

Proposed Offsetting Measures

The Proposed Offsetting lands are located in townlands of Coom and Knockatee, Co. Kerry, ~12km west/southwest of the Site. The Proposed Offsetting Measures comprise the permanent removal of c. 105.5 ha of coniferous plantation forestry and the restoration of c.17.7 ha of farmland for the benefit of hen harrier.

The Proposed Offsetting lands are located in 2 no. regional surface water catchments. In the west the Proposed Offsetting lands are located in the Laune-Maine-Dingle Bay regional surface water catchment (Hydrometric Area 22) while the southeast is mapped in the Tralee Bay Feale regional surface water catchment (Hydrometric Area 23).

The Proposed Offsetting lands are mapped within the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA and are hydrologically connected to the Lower River Shannon SAC with a hydrological flowpath of ~2km.

During the Proposed Offsetting Measures, a number of activities will take place which will have the potential to affect the hydrological regime or water quality at the site or downstream. The main potential effects on the hydrological and hydrogeological environment will occur during the deforestation works while very few potential direct effects are envisaged following deforestation works. These potential effects arise from sediment input and nutrient release during deforestation operations and the implementation of the proposed restoration measures. Potential effects may also arise from other pollutants such as hydrocarbons which will be present at the Proposed Offsetting lands during the deforestation works. These potential effects are similar to all sites which are managed for commercial forestry.

Surface water drainage measures, pollution control measures and other preventative measures have been incorporated into the project design to minimise significant negative effects on downstream water quality. Proven and effective measures to mitigate the risk of releases of sediment and nutrients in runoff have been proposed and will ensure that no significant effects will occur. Preventative pollution measures which also include fuel management have been incorporated into the construction and Environmental Management Plan.

Overall, the Proposed Offsetting Measures present no likely significant effects to surface water (quality or flows) and groundwater (quality or quantity) provided that the proposed mitigation measures are implemented.

No significant cumulative effects on any surface or groundwater bodies will result from the Proposed Offsetting Measures.

1.10 Air Quality

This section identifies describes and assesses the potential effects of the continued operation of Taurbeg Wind Farm and decommissioning, on air quality.

The EPA has designated four Air Quality Zones for Ireland:

- Zone A: Dublin
- Zone B: Cork
- Zone C: Other cities and large towns including Limerick, Galway, Mullingar
- Zone D: Rural Ireland, i.e., the remainder of the State excluding Zones A, B and C.

These zones were defined to meet the criteria for air quality monitoring, assessment and management described in the Clean Air for Europe (CAFE) Directive (as amended) and the Fourth Daughter Directive. The air quality in the vicinity of the Project site is typical of that of rural areas in the South-East of Ireland, i.e., Zone D. Prevailing south-westerly winds carry clean, unpolluted air from the Atlantic Ocean onto the Irish mainland.

Due to the non-industrial nature of the Proposed Project and the general character of the surrounding environments, air quality sampling was deemed to be unnecessary for this EIAR.

As per the original grants of permission for the existing wind farm and substation, if the 'Do-Nothing' alternative was chosen, decommissioning of the existing Taurbeg Wind Farm would involve the restoration of the Site to its original state prior to development. Decommissioning activities have evolved since the original planning applications were submitted and a Decommissioning Plan has been prepared to account for such updates and is included in Appendix 4-3 of this EIAR. The removal of wind farm and substation infrastructure such as turbine foundations under the 'Do Nothing' scenario is not considered to be the most environmentally prudent option. In order to remove this infrastructure, a significant volume of reinforced concrete would have to be removed from the ground. This could result in significant environmental nuisance such as dust and/or pollution of surface waters and/groundwaters, soils, traffic, and negative impacts on sensitive habitats within the vicinity of the Site. In addition, the removal of the access roads has the potential to create significant dust issues as well as pollution of surface waters and additional traffic. As the access roads are also currently used for agricultural activities around the wind farm and substation infrastructure, a further consequence would be the installation of farm tracks around the site to mitigate for the loss of the access roads.

Exhaust emissions associated with the operational phase of the Proposed Project will arise from occasional machinery and Light Goods Vehicles (LGV) that are intermittently required onsite for maintenance. This will give rise to a Medium-Term, Imperceptible, Negative Effect. However, any negative impacts associated with maintenance of the existing turbines will be offset by the continued operation of the wind farm. Based on the assessment above there will be No Significant Direct or Indirect Effects associated with the Propose Lifetime Extension.

By providing an alternative to electricity derived from coal, oil or gas-fired power stations, Taurbeg Wind Farm has resulted and will continue to result in emission savings of carbon dioxide (CO_2), oxides of nitrogen (NO_2), and sulphur dioxide (SO_2) during its extended operational phase. The production of renewable energy from the Proposed Lifetime Extension will have a Medium-Term, Significant, Positive Impact on air quality.

As part of the Proposed Offsetting Measures, it is proposed to permanently remove 105.5 ha of forestry to create suitable habitat for hen harrier. Whilst deforestation works and the removal of trees from the Proposed Offsetting Measures will give rise to increased dust and vehicle emissions, good site management practices will mitigate any potential significant effects. No significant effects on air quality are expected as a result of the Proposed Offsetting Measures.

1.11 Climate

This chapter identifies, describes, and assesses the potential significant direct and indirect effects on climate arising from the extension of operation and decommissioning of the Proposed Project.

The production of energy from wind turbines has no direct emissions as is expected from fossil fuel-based power stations. Harnessing more energy by means of wind farms will reduce dependency on fossil fuels, thereby resulting in a reduction in harmful emissions that can be damaging to human health and the environment.

Climate change is one of the most challenging global issues facing us today and is primarily the result of increased levels of greenhouse gases in the atmosphere. These greenhouse gases come primarily from the combustion of fossil fuels in energy use. Changing climate patterns are linked to increased frequency of extreme weather conditions such as storms, floods and droughts. In addition, warmer weather trends can place pressure on animals and plants that cannot adapt to a rapidly changing environment. Moving away from our reliance on coal, oil and other fossil fuel-driven power plants is essential to reduce emissions of greenhouse gases and combat climate change.

In May 2025, the Environment Protection Agency (EPA) released '*Ireland's Greenhouse Gas Emissions Projections 2024-2055*. The EPA has produced two scenarios in preparing these greenhouse gas emissions projections: a "With Existing Measures" (WEM) scenario and a "With Additional Measures" (WAM) scenario. These scenarios forecast Irelands greenhouse gas emissions in different ways. The WEM scenario forecasts Ireland emissions including all national policies and measures implemented by the end of 2021, the latest inventory year. The WAM scenario has a higher level of ambition and includes government policies and measures to reduce emissions, such as those in Ireland's Climate Action Plan 2025 (CAP 2025), that are not yet implemented. As implementation of policies and measures occurs, they will be migrated into the WEM Scenario.

In its approach to decarbonisation, the EU has split greenhouse gas emissions into two categories, the Emissions Trading System (ETS) and the non-ETS. Emissions from electricity generation and large industry in the ETS are subject to EU-wide targets which require that emissions from these sectors be reduced by 42% by 2030, relative to 2005 levels. Within the ETS, participants are required to purchase allowances for every tonne of emissions, with the amount of these allowances declining over time to ensure the required reduction of 42% in greenhouse gas emissions is achieved at EU-level[1]. Considerable progress has been made in the decarbonisation of the Electricity Sector, with emissions falling 22% between 2022 and 2023. This reduction in emissions is due to an increase in the share of renewable electricity generation, from 38.6% to 40.7% from 2022 to 2023, with wind energy accounting for 33.7% of electricity supply.[2]

The original EIAR for the Existing Taurbeg Wind Farm did not include a discussion on carbon losses and savings. The assessment is included in Section 11.4.3.1 in Chapter 11. Please note, under a precautionary scenario all carbon losses associated with the Proposed Project and those from the Exiting Taurbeg Wind Farm were calculated with 2025 emission factors rather than 2006 emissions factors (i.e., when the Existing Taurbeg Wind Farm was constructed). Please see Appendix 11-2 Carbon Calculations for further information on carbon calculations for the Proposed Project.

The Proposed Lifetime Extension will continue to feed renewable energy to the national grid and result in carbon dioxide emissions reductions. While the carbon losses assessment considered both the Existing Taurbeg Wind Farm and the Proposed Project, the carbon savings assessment focuses solely on the 10-year extended operational life of the Proposed Lifetime Extension. The Existing Taurbeg Wind Farm, operational for 19 years at the time of writing, has consistently provided renewable energy

[1] *Department of the Environment, Climate and Communications (2023) - Climate Action Plan 2024* https://www.gov.ie/en/publication/79659-climate-action-plan-2024/
[2] *Department of the Environment, Climate and Communications (2025) - Climate Action Plan 2025*

during that period to the national grid. Emissions associated with the Existing Taurbeg Wind Farm during construction and operation are assumed to have been offset by its 19-year operational life to date. Therefore, the carbon savings and offset period discussed below relate exclusively to the Proposed Lifetime Extension.

The carbon balance of proposed wind farm developments in peatland habitats has attracted significant attention in recent years. When developments such as wind farms are proposed for peatland areas, there will be direct impacts and loss of peat in the area of the development footprint. There may also be indirect impacts where it is necessary to install drainage in certain areas to facilitate construction. The works can either directly or indirectly allow the peat to dry out, locally, which permits the full decomposition of the stored organic material with the associated release of the stored carbon as CO_2. It is essential therefore that any wind farm development in a peatland area saves more CO_2 than is released. The Proposed Project is situated on agricultural land and peatland, with small sections being covered by coniferous forestry. For this reason, the carbon balance between the use of renewable energy and the loss of carbon stored in the peat are assessed in Section 11.4.3.1 of the EIAR.

The Proposed Project and the Existing Taurbeg Wind Farm will result in the loss of 40,313tCO_2e, the details of these carbon losses are provided in Table 11-6 of Chapter 11 of the EIAR. Please note, that in completion of these calculations a number of assumptions have been made under theoretical precautionary conditions; all assumptions are detailed in Appendix 11-2 Carbon Calculations. Therefore, it can be determined that the actual carbon losses associated with the Proposed Project will likely be less than the values provided in Table 11-6 of Chapter 11.

The Proposed Lifetime Extension will have an export capacity of approximately 25.3MW and therefore will help contribute towards the achievement of national and international emission reduction targets, provide much needed grid infrastructure, and the capacity to offset 18,852tCO_2e per annum, or 188,523tCO_2e over the Proposed Lifetime Extension. Carbon losses to the atmosphere as a result of the Proposed Project will be offset by the Proposed Lifetime Extension in approximately **8.9** months of operation. Please see Section 11.4.3.2 for details on carbon savings/offset calculations.

During the operational phase of the Proposed Project, there will be a Medium-Term Slight Positive Effect on Climate as a result of reduced greenhouse gas emissions from the operation of the Proposed Lifetime Extension. The Proposed Offsetting Measures will result in a Short-term Imperceptible Positive effect on Climate. Decommissioning of the Proposed Lifetime Extension will have a Permanent Imperceptible Negative Effect on climate as a result of traffic and transport emissions and loss of carbon sequestering vegetation and habitat during decommissioning activities.

1.12 Noise and Vibration

This chapter of the EIAR has been prepared to assess the likely significant environmental noise and vibration effects of the Taurbeg Wind Farm Extension of Operational Life project. The chapter identifies appropriate noise and vibration threshold values for the various phases and elements of the project with reference to best practice guidance documents.

The potential impacts and effects are assessed with reference to the EPA Guidelines on the Information to be Contained in Environmental Impact Statements (EPA, 2022), and, where required, appropriate mitigation measures have been outlined to minimise any potential significant effects.

An environmental noise survey has been undertaken to inform the noise impact assessment. Existing representative baseline and background noise levels at sensitive receptors in the receiving environment have been established.

The potential noise and vibration effects on the surrounding environment has been considered for two stages: the long-term operational phase and, the short-term decommissioning phase and offsetting measures.

Short Term Decommissioning Phase and Offsetting Measures

The assessment of noise and vibration associated with the decommissioning and offsetting measures has been conducted in accordance with best practice guidance contained in BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Noise and BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Vibration.

The assessment of potential effects has demonstrated that the project is expected to comply with the identified threshold and therefore there are no significant effects anticipated, and no specific mitigation measures are required.

Long Term Operational Phase

The relevant guidance that governs environmental noise from wind energy developments is the 'Wind Energy Development Guidelines for Planning Authorities 2006' (WEDG), with further details on the assessment methodology provided in 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' published by the Institute of Acoustics (IOAGPG).

Typical background noise levels for day and night periods at various wind speeds have been derived from the background noise survey in accordance with best practice guidance contained in IOAGPG. It is important to note that background noise levels are derived without any significant contribution from existing wind turbine noise. In contrast, baseline noise or the existing noise environment, incorporates any contribution from the operation of the existing wind turbines in the environment. The results of the background noise survey have been used to derived appropriate operational turbine noise criteria for the development in line with the guidance contained in the WEDG. As the Taurbeg wind turbines are currently in operation there will be no change to the existing noise environment if the lifetime extension is permitted.

Turbine noise criteria were established in line with current WEDG guidance and IOAGPG best practices. The assessment confirms that residual turbine noise levels can operate within the proposed criteria. Therefore, no significant effects are anticipated during the operational phase

If the project is granted permission, commissioning noise surveys will be undertaken to ensure compliance with any noise conditions applied to the development. If an exceedance of the noise criteria is identified as part of the commissioning assessment, the guidance outlined in the IOA GPG and Supplementary Guidance Notes will be followed, and relevant actions taken.

No significant vibration effects are associated with the operation of the Proposed Development.

In summary, the potential noise and vibration effects on the surrounding environment from the proposed Taurbeg Wind Farm Extension of Operational Life project are not expected to cause any significant effects at sensitive receptors.

1.13 Landscape and Visual

It is important to note that Taurbeg Wind Farm is an existing project located within Co. Cork, and this EIAR is being prepared in support of a planning application to extend the operational lifespan of the existing Taurbeg Wind Farm by a further 10 years, to beyond 2026.

The Chapter assesses the likely significant landscape and visual impacts arising as a result of the Proposed Lifetime Extension. Although all elements of the project are assessed, the Chapter focuses on the turbines, as they are deemed to be the essential aspects of the proposal under assessment from a landscape and visual perspective. The Chapter describes the baseline landscape and assesses the direct effects on the landscape of the wind farm Site, as well as the effects on landscape character and the impact on sensitive landscape receptors, Landscape Character Types (LCTs) and Landscape Character Areas (LCAs). The visibility of the existing turbines was assessed from receptors within a study area extending 20km from the existing turbines and the visual effects were determined using zone of theoretical (ZTV) mapping, photographic visualisations and information gathered during multiple site visits.

The wind farm Site is located in an upland area in the Mullaghareirk Mountains, an undulating landscape consisting of coniferous forestry and peatlands. The sensitivity of the landscape within the Site was deemed to be 'Low' considering that the landscape has been highly modified for coniferous forestry and agriculture, as well as in terms of the existing Taurbeg Wind Farm itself. The magnitude of change was deemed to be 'Moderate' considering the continued impact of the wind farm on the character of this upland landscape. Overall, the existing Taurbeg Wind Farm is deemed to have Medium-term, 'Slight', Negative landscape effects within the Site itself, which will be highly localised to the Taurbeg Wind Farm footprint.

The wider landscape setting consists of rolling hills, narrow valleys and low-elevation hills including Knockacummer hill, Taur hill and Foilard hill, which slightly enclose the infrastructure of the existing wind farm. Two other existing wind farms are in close proximity to the existing wind farm: Glentane Wind Farm located to the southwest and Knockacummer Wind Farm located to the northeast. Collectively, the three wind farms are mostly visible in combination as a single visual unit, as shown in photomontage imagery (VP3, VP4 and VP5). Although the three wind farms are sited on separate and distinct landforms, collectively they comprise a visually extensive linear array of turbines upon upland ridges. The three wind farms combined comprise a wide horizontal extent, as seen in VP4 and VP5, and are coherent in terms of siting and design guidance as set out in the Wind Energy Development Guidelines for Planning Authorities' (hereafter, WEDGs) published by Department of the Environment, Heritage and Local Government (DoEHLG) (2006) and 'Draft Revised Wind Energy Development Guidelines' (hereafter, Draft Revised WEDGs) published by Department of Housing, Planning and Local Government (DoHPLG) (2019), as all turbines combined appear in a linear layout across the ridgelines in the background of the views.

In terms of effects on landscape character, the Proposed Lifetime Extension will have the highest effect on Co. Cork LCT 14a – Fissured Marginal and Forested Rolling Upland. The residual landscape effects on this LCT were deemed to be 'Moderate.' There is limited visibility of the existing Taurbeg Wind Farm from a large proportion of this LCT, far less than is suggested by the ZTV map. Due to the nature of boundary vegetation, forestry, and localised undulations, visual exposure of the existing Taurbeg Wind Farm is limited within this LCT and there are no significant effects on its key characteristics or sensitivities. For other LCTs within the study area, a residual effect of 'Slight' was determined for Co. Cork LCT 11 - Broad Marginal Middle Ground Valleys, and a residual effect of 'Not Significant' was determined for Co. Kerry LCA 10 - Mount Eagle and Upper Clydagh River Valley and Limerick LCA 07 – Southern Upland. The Proposed Offsetting lands are located within LCA 10 – Mount Eagle and Upper Cydagh River Valley in Co. Kerry. Mount Eagle is a prominent feature of this landscape.

Proposed Offsetting measures are to be implemented for the lifetime extension which involve planting of wildlife seed crop, hedgerow enhancement, scrub planting, cessation of fertiliser application and

predator fencing. It is also proposed to permanently remove commercial forestry; these measures will have positive Long-Term landscape and visual effects on the upland landscape of Mount Eagle. The Proposed Offsetting lands will be improved through restoration of farmland and permanent removal of forestry. The residual landscape and visual effects were deemed to Permanent, Positive and 'Not Significant' on the Proposed Offsetting lands.

Visual effects arising as a result of the existing Taurbeg Wind Farm have the greatest impact on residential receptors within 3km. Photomontage VP6, which represents residential receptors on the L1003 local road with open views of the existing turbines, was deemed to have a residual Medium-term, 'Moderate' residual visual effect. However, the residential dwellings are well setback from the existing turbines by approximately 3km and there are very few residential receptors which experience the view and visual effects shown in VP6. Two viewpoints (VP1 and VP5), which represent designated Co. Cork Scenic Routes 15 and 17 and residential receptors with open views towards the existing turbines, were deemed to have Medium-term, 'Slight' residual visual effects.

As the existing Taurbeg Wind Farm was granted planning permission in 2003 and became operational in 2006, the WEDGs (DoEHLG, 2006) had not been previously published prior to the consent and commissioning of the wind farm. Currently, the WEDGs (2006) and Draft Revised WEDGs (2019) give best practice guidance for wind farm siting and design in relation to residential visual amenity, which set out a minimum 500m setback distance and 4-times-tip-height setback specifically for residential receptors. The existing Taurbeg Wind Farm exceeds both setback distances; the closest dwelling is H10 at 731m from turbine T8 (minimum setback distance = tip height 108.2m x 4 = 432.8m).

The townlands of Tauremore, Glasheenanargid, Foiladaun, Glennakeel North and Meentinny West were assessed in relation to residential receptors in the immediate setting of the existing Taurbeg turbines. The greatest visual effects will occur on residential receptors in Glennakeel North which are represented by VP6. A residual effect of 'Moderate' was deemed to arise on residential receptors in close proximity to this viewpoint, though the receptors are located at a setback distance of approximately 3km. The residential receptors in the townlands of Meentinny West and Glasheenanargid were deemed to have an overall residual effect of 'Slight'. An overall residual effect of 'Not Significant' was deemed to arise on residential receptors in the townlands of Tauremore and Foiladaun.

Overall, this LVIA has determined that the existing Taurbeg turbines are visible from a very small number of receptors in a sparsely populated rural landscape, with no significant landscape or visual effects.

1.14 Cultural Heritage

The Site is located within the townlands of Glasheenanargid, Taurbeg and Taurmore, in the parish of Clonfert and the barony of Duhallow, County Cork, within an upland marginal landscape. A 2km study area measured from the boundary of the Proposed Lifetime Extension Site, was analysed for this assessment.

There are no recorded archaeological monuments located within the Site; however, there are 12 recorded monuments within the study area, including one record which has since been made redundant. No stray finds are recorded in the study area. There are no recorded structures of architectural merit within the Site or the study area. There are also no former designed landscapes within the Site or the study area. Two townland boundaries traverse the site, but do not appear to possess physical remains. No specific cultural heritage sites have been identified as part of this assessment.

It is noted that unlicensed archaeological monitoring was undertaken of the groundworks associated with the existing Taurbeg Wind Farm. Nothing of archaeological significance was noted during this course of works.

The Proposed Offsetting Lands comprise four separate parcels of land in the townlands of Knockatee and Coom, in the parish of Ballincuslane and the barony of Trughanacmy, County Kerry. A 100m study area was examined for the Proposed Offsetting Lands, which will be provided as areas of improved habitat.

There are no recorded monuments within the 100m study area established for this assessment. The nearest example is a *fulacht fia* (KE040-069) located c. 550 southwest of the northernmost parcel. No stray finds are recorded from in the study area of the Proposed Offsetting Lands. There are no protected structures within the Proposed Offsetting Lands or the 100m study area. The Proposed Offsetting Lands are not located within an Architectural Conservation Zone. There are no structures listed in the NIAH within the Proposed Offsetting Lands or within the 100m study area. Similarly, there are no former designed landscapes within the site or the study area. No specific cultural heritage sites have been identified as part of this assessment; however, a number of townland boundaries are noted bordering the Proposed Offsetting Lands.

No construction activities, groundworks or alterations to the existing wind farm are proposed as part of the Proposed Project. There will be therefore, no direct negative effects on the archaeological, architectural or cultural heritage as a result of the Proposed Lifetime Extension.

In addition, no intrusive works are proposed for the Proposed Offsetting Lands. Therefore, there will be no direct negative effects on the archaeological, architectural and cultural heritage resources as a result of the Proposed Offsetting Measures.

No direct impacts will occur in the archaeological, architectural and cultural heritage during the extended operational phase. This is due to the fact that there are no archaeological, architectural or cultural heritage sites within the Proposed Lifetime Extension site that will be directly affected by the extended operational phase of the wind farm.

The baseline environment consists of the existing wind farm including turbines, existing roads and service building. The Proposed Lifetime Extension will not result indirect effects on the archaeological, architectural and cultural heritage resource as the existing turbines will remain in place which will not materially change the character of the existing baseline environment.

As the existing wind farm is extant and forms part of the receiving environment, no cumulative effects are predicted with regards the Proposed Lifetime Extension., when considered with proposed surrounding developments.

As there are no potential direct or indirect effects on the archaeological, architectural and cultural heritage resource, no mitigation is deemed necessary.

1.15 Material Assets

Traffic and Transport

The Existing Taurbeg Wind Farm is located approximately 3.5km south of Rockchapel and 10.5km northwest of Newmarket, Co. Cork. The existing Taurbeg Wind Farm is accessed for the purpose of routine maintenance via a single existing access junction located off the west side of the local L5005 road. The access is located approximately 3.6km along the L5005 to the south of the junction with the R576 regional road. The individual turbines are accessed via the onsite network of existing wind farm access roads.

As the existing Taurbeg Wind Farm is currently operational, and no changes to the existing wind farm are proposed, there is no construction phase associated with the Proposed Lifetime Extension. Therefore, there will be no new construction traffic generated by the continued operation of Taurbeg Wind Farm.

Traffic and Transport

During the extended operational phase, the wind farm and substation will continue to be remotely monitored. Traffic associated with the operational phase of the existing wind farm and substation will be from personnel visiting the onsite substation and control building, and maintenance personnel who will visit individual turbines. The traffic volumes that will be generated by the Proposed Lifetime Extension during its continued operation will be minimal. The Site will generate monthly maintenance trips, with approximately two maintenance staff travelling to site at any one time. Each turbine is subject to a twice yearly maintenance schedule which includes twice yearly master maintenance and visual blade inspections. In addition, there will be a requirement for unscheduled maintenance, which could vary between resetting alarms to major component changes. The use of a crane on site may be required but this is only for major component repairs/change. All site roads and public roads are suitable for this access if required, as per the construction phase of the existing Taurbeg Wind Farm and no modifications are required. Typically, maintenance traffic will consist of four-wheel drive LGVs. The wind farm operations and maintenance manager will continue to attend the site regularly (in recent years this has averaged approximately 9 no. visits per year) to perform inspections and oversee maintenance works. The onsite substation and site tracks will also require periodic maintenance. The existing Taurbeg 38 kV Substation will continue to be operational 24 hours per day, 7 days a week throughout the year. Substations can be operated remotely and manually. Supervisory operational and monitoring activities will be carried out remotely using a SCADA system, with the aid of computers connected via a telephone modem link. It is estimated that daily visits of one maintenance team will be made to the site for authorised persons and vehicles to undertake minor routine maintenance and inspection, if and when required. The level of activity required for the maintenance of the existing Taurbeg Wind Farm infrastructure is minimal.

The Proposed Lifetime Extension will have Medium-Term, Imperceptible, Neutral Effects on traffic and transportation, as no changes to the existing infrastructure are proposed.

Upon decommissioning of the existing Taurbeg Wind Farm, as proposed in 2036, cranes and heavy plant vehicles will be required onsite to disassemble the existing above-ground turbine structures. Turbine infrastructure including turbine towers, nacelles and rotor components will be separated and removed offsite for re-use or recycling. It is expected that trip generations for the removal of turbines from the Site will result in a Temporary, Slight, Negative Effect.

There will be approximately 20 days when 5 HGV loads or 10 HGV movements per day will be generated to and from the Proposed Offsetting Lands during the implementation of the Proposed Offsetting Measures. It is estimated that the impact of these movements on local traffic will be Negative, Temporary and Slight in terms of severity.

Telecommunications and Aviation

Telecommunications

Wind turbines, like all large structures, have the potential to interfere with broadcast signals, by acting as a physical barrier or causing a degree of scattering to microwave links. The most significant effect at a domestic level relates to a possible flicker effect caused by the moving rotor, affecting, for example, radio signals. The most significant potential effect occurs where the wind farm is directly in line with the transmitter radio path.

Wind turbines have the potential to affect other signal types used for communication and navigational systems, for example tower-to-tower microwave communication links, and airborne and ground radar systems. Interference with radar systems occurs when wind turbines are located close to an airport or directly in line with the instrument landing approach. These effects are generally easily dealt with by detailed micro-siting of turbines in order to avoid alignment with signal paths or by the use of repeater relay links out of line with the wind farm.

The existing Taurbeg Wind Farm has been operational since 2006.

Scoping responses were received from 2RN, BAI, Cellnex, Enet, Eir, ESB Telecommunications, EOBO Ltd., Imagine, Ivertec, JFK Communications, JS Whizzy Ltd., Lackabeha Services Ltd., TETRA Ireland, Three Ireland, Viatel, Virgin Media Ltd., Vodafone and Western Broadband Network during the period of November 2023 to February 2024, affirming that the Proposed Lifetime Extension will have no negative impact on their transmission links.

Given the nature of the Proposed Offsetting Measures, which consist of permanent removal of forestry and restoration of farmland for the benefit of hen harrier, no interference is anticipated on telecommunications links in the area.

Aviation

A scoping response was received from the Irish Aviation Authority (IAA) on 21st of February 2024 with the IAA requesting details regarding the specifications of the lights for the turbines at the current wind farm, such as candela value, Type B/C, medium or low intensity lighting, and colour. Planning Ref 02/3608 Condition 18 states the following in relation to aviation lighting requirements:

'Model Cegelec ZA 768 red low intensity Type A obstacle lighting or similar shall be installed on all turbines if required by the IAA, full details shall be submitted to and agreed with the IAA before development commences'.

Following consultation with the IAA in 2004 only the turbine with the highest elevation (Turbine no.11) required lighting. Refer to copy of correspondence in Appendix 15-1. On March 22nd 2024, the IAA responded further stating:

'Therefore, should a formal planning application be submitted for the extension of the lifetime of Taurbeg WF, the Authority will make observations to the effect that a new obstacle lighting scheme shall need to be agreed with the applicant.'

A scoping response was received from the Irish Air Corps, the Department of Defence on the 29th of August 2024. In their response, they made the following observation, clarifying that any Irish Air Corps requirements are separate to any IAA requirements:

> *"All turbines should be illuminated by Type C, Medium intensity, Fixed Red obstacle lighting with a minimum output of 2,000 candela to be visible in all directions of azimuth and to be operational H24/7 days a week. Obstacle lighting should be incandescent or, if LED or other types are used, of a type visible to Night Vision equipment. Obstacle lighting used must emit*

light at the near InfraRed (IR) range of the electromagnetic spectrum, specifically at or near 850 nanometres (nm) of wavelength. Light intensity to be of similar value to that emitted in the visible spectrum of light."

The existing Taurbeg Wind Farm has been in operation since March 2006 and no aviation issues have arisen in that time, with the wind farm operating as per Condition 18 of the schedule of conditions. No changes to the existing wind farm infrastructure or turbine dimensions are proposed. Therefore, no impacts on telecommunications and aviation are anticipated. There will be no significant cumulative effects in relation to telecommunications and aviation associated with the Project in combination with other projects.

Given the nature of the Proposed Offsetting Measures, which consist of permanent removal of forestry and restoration of farmland for the benefit of hen harrier, no interference is anticipated with aviation. As such, the Proposed Offsetting Measures will have no impact on aviation.

Overall, the Proposed Lifetime Extension and Proposed Offsetting Measures will have no residual impact on telecommunications and aviation.

Other Material Assets

This section of the Material Assets chapter considers other utilities or built services in the area such as electricity supply and transmission, water, gas and underground telecommunications. This section also considers waste management during the operational and decommissioning phases of the Proposed Lifetime Extension.

The Taurbeg Wind Farm is connected to the national electricity grid at the existing Glenlara 110kV Substation. A 38kV underground cable runs between the onsite substation and a mast at the south of the site. A 38kV overhead line runs from the mast to the existing Glenlara 110kV Substation. There are no other 110kV or 38kV overhead electricity lines within or adjacent to the existing Taurbeg Wind Farm or Proposed Offsetting lands, with the closest 110kV overhead electricity line being c.2.2km west of Taurbeg Wind Farm site. There is no electrical infrastructure located within the Proposed Offsetting Lands.

There is no Gas Network Ireland infrastructure within or near the Site and Proposed Offsetting Lands.

The GSI do not map the presence of any registered Group Water Schemes (GWS) or Public Water Schemes (PWS) or associated source protection areas within the Site (www.gsi.ie). There are no PWS or GWS within 10km of the Site. The closest mapped GWS is the Kileedy GWS. The source protection area associated with this GWS is mapped ~11km to the northeast of the Site, and 22km northeast of the Proposed Offsetting Lands.

A search of private well locations (wells with location accuracy of 1–100m were only sought) was undertaken using the GSI well database (www.gsi.ie). Two wells (GSI Name: 1111SWW041 and 1111SWW040) are located to the northeast of the Site in the townland of Glennakeel South. These wells are mapped ~1.4km and 1.9km northwest of T3 and are listed as having agricultural and domestic uses. The GSI map several local private wells/boreholes in the lands to the west of the Proposed Offsetting lands. These wells are used for agricultural and domestic purposes.

There are no EPA-licensed or local authority-authorised waste facilities or activities located within the Site or Proposed Offsetting Lands. The closest, authorised municipal waste facility is located approximately 29km southwest of the Site, and 19km southwest of the Proposed Offsetting Lands in Killarney, Co. Kerry. It is not anticipated that any significant volume of waste will be generated within the Site or Proposed Offsetting Lands during the Proposed Lifetime Extension as only a small number of operational and maintenance personnel will be present onsite during maintenance. All waste arising as a result of servicing and maintenance (e.g., lubrication oils, packaging from spare parts or

equipment, unused paint etc.) will be removed from site and reused, recycled, or disposed of in accordance with best practice in an authorised facility.

Waste from the toilet facility will be removed from its storage tank by a licenced provider and disposed of in an authorised facility.

There will be no operational phase impacts or associated effects on other material assets associated with the Proposed Project. With the implementation of best practice measures and all mitigation and monitoring measures set out in Chapter 15, there will be no significant effects on other material assets as part of the decommissioning phase.

1.16 Major Accidents and Natural Disasters

This section of the EIAR describes the likely significant effects on the environment arising from the vulnerability of the Proposed Project as detailed in Chapter 4 to risks of major accidents and/or natural disasters.

Major accidents or natural disasters are hazards which have the potential to affect the Proposed Project and consequently have potential impacts on the environment. These include accidents during construction and operation caused by operational failure and/or natural hazards. The assessment of the risk of major accidents and/or disaster considers all factors defined in the EIA Directive that have been considered in this EIAR, i.e., population and human health, biodiversity, ornithology, land, soil, water, air quality, climate and material assets, cultural heritage and the landscape.

A desk-study has been completed to establish the baseline environment for which the proposed risk assessment is being carried out. This will influence both the likelihood and the impact of a major accident or natural disaster. Local and regional context has been established prior to undertaking the risk assessment to develop an understanding of the vulnerability and resilience of the area to emergency situations.

Further detail on the baseline environment is provided in Section 16.3 of this EIAR,

The scenario within the Site with the highest risk score in terms of the occurrence of major accident and/or disaster was identified as 'Contamination' of the Site and 'Industrial Accident- Fire / Gas Explosion' during the Extended Operational Phase as well as the Decommissioning Phase.

The Proposed Project has been designed and will be built in accordance with the best practice measures set out in this EIAR and, as such, mitigation against the risk of major accidents and/or disasters is embedded through the design.

The risk of a major accident and/or disaster during the Extended Operational Phase of the Proposed Project is considered 'low' in accordance with the 'Guide to Risk Assessment in Major Emergency Management' (DoEHLG, 2010).

When the implementation of best practice measures and all proposed mitigation and monitoring measures detailed in the EIAR is implemented, the residual effect(s) associated with the construction, operation and decommissioning of the Proposed Lifetime Extension are not significant.

The scenario with the highest risk score in terms of a major accident and/or natural disaster during the Proposed Offsetting Measures is 'Peat Stability'

Potential effects associated with peat stability as a result of the Proposed Offsetting Measures are addressed fully in Chapter 8 Land Soil and Geology of this EIAR. A dedicated Peat Stability Risk Assessment has also been prepared. The mitigation measures outlined therein to protect environmental receptors as well as the procedures will ensure that the risk from these sources is predicted to not be significant.

The risk of a major accident and/or disaster during the Proposed Offsetting Works is considered 'low' in accordance with the 'Guide to Risk Assessment in Major Emergency Management' (DoEHLG, 2010).

When the implementation of best practice measures and all proposed mitigation and monitoring measures detailed in the EIAR and Peat Stability Risk Assessment is implemented, the residual effect(s) associated with the construction, operation and decommissioning of the Proposed Lifetime Extension are not significant.

1.17 Interaction of Effects

Chapter 17 of this EIAR identifying the potential significant environmental effects that may occur in terms of Population and Human Health, Biodiversity, Birds, Land, Soils and Geology, Water, Air Quality, Climate, Noise and Vibration, Landscape and Visual, Cultural Heritage, Material Assets and Major Accidents and Natural Disasters, as a result of the Proposed Project. All potential significant effects of the Proposed Project and the measures proposed to mitigate them have been outlined in the main EIAR. However, for any development with the potential for significant environmental effects there is also the potential for interaction between these potential significant effects. The result of interactive effects may exacerbate the magnitude of the effects or ameliorate them or have a neutral effect. Two matrices are presented in Chapter 17 of the EIAR to identify interactions between the various aspects of the environment already discussed in the EIAR for both the Site and Proposed Offsetting Lands. The matrices highlight the occurrence of potential positive or negative impacts during the extended operational and decommissioning phases, as well as the Proposed Offsetting Measures. Where any potential interactive impacts have been identified, appropriate mitigation is included in the relevant sections (Chapters 5–16) of the EIAR.