travels down the L6072 Local Road for approx. 960m, before entering Lodgewood 220kV Substation. There are no changes to the existing substation, control buildings or grid connection proposed as part of the Proposed Development.

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.

Decommissioning of the existing wind farm is required to be carried out in August 2025, i.e. 20 years from the grant of permission for the 11 no. turbines, under the current planning permission. The Proposed Development would extend the operation of the existing wind farm for a further 20 years, thereby postponing decommissioning until 2045. The existing planning permission for Castledockrell Wind Farm would mean that decommissioning would look at returning the site to its original condition and would involve removal of site roads and turbine foundations, which would require significant excavation and ground works. A more environmentally sensitive Decommissioning Plan is presented in Appendix 4-4 of this EIAR.

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.

Population and Human Health

One of the principal concerns in the development process regarding the Proposed Development is that human beings, as individuals or communities, should experience no significant diminution in their quality of life from the direct, indirect or cumulative effects arising from the operation and decommissioning of a development. Ultimately, all the impacts of a development impinge on human beings, directly and indirectly, positively and negatively. The key issues examined in this chapter of the EIAR include population, human health, employment and economic activity, land-use, residential amenity, property values and health and safety.

Information regarding population and general socio-economic data were sourced from the Central Statistics Office (CSO), the Wexford 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 Proposed Development the Population Study Area for the Population section of this EIAR was defined in terms of the Electoral Divisions (EDs) where the Proposed Development site is located, and where relevant, nearby EDs which may be affected by the Proposed Development. The existing Castledockrell Wind Farm lies within two EDs:

Castledockrell and Ballindaggan. The Population Study Area has a population of 1,320 persons, as of 2022 and comprises a total land area of 41.16km^2 (Source: CSO Census of the Population 2022).

The existing Castledockrell Wind Farm is located 8.1km west of Ferns and 6.5km south of Bunclody, Co. Wexford. The existing Wind Farm comprises lands in the townlands of Kilcullen, Ballynelahillan, Carranroe, Tomatee, Knockduff and Sroughmore. The EIAR Site Boundary covers an area of approximately 97 hectares (ha) with a development footprint of approximately 3.23 hectares.

Current land-use within the Proposed Development site is predominantly agricultural, which is split between pastural and arable land. Within the wider landscape of the existing Castledockrell Wind Farm, land use bordering the site comprises of agricultural grassland, tillage and one-off rural housing.

The Population Study Area increased by 7.8% between 2016 and 2022. There is an increase in population growth for the Population Study Area but the population growth rate is below both that of County Wexford and the State. The highest level of employment within the Population Study Area was recorded in the Non-Manual category. The levels of employment within the Employers/Managerial, Semi-Skilled, Own Account Workers and Farmers and Agricultural Workers were higher than those recorded for the State and Wexford County.

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 710 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 40 no. residential buildings including occupied, unoccupied/derelict and permitted, located within a distance of ten rotor diameters (710 metres) from the original 11 no. turbine wind farm locations. Of these 40 no. dwellings, 3 no. are involved landowners, and 1 no. is currently in the planning permission stage.

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 Development, identifying the predicted daily start and end times, maximum daily duration and the individual turbines predicted to give rise to shadow flicker.

Of the 40 no. properties modelled, it is predicted that 18 no. properties, may experience daily shadow flicker in excess of the DoEHLG guideline threshold of 30 minutes per day. Of these 18 no. properties, 3 no. are participating landowners, and 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. When the regional sunshine average is taken into account, the 2006 DoEHLG Guidelines limit of 30 hours is predicted to be exceeded at just one property, which is an involved landowner, and therefore no mitigation is required.

5 no. properties have the potential to experience cumulative shadow flicker impacts, when the existing Turbine 12 of Castledockrell Wind Farm is assessed alongside the Proposed Development, with only 3 no. properties warranting further assessment. To mitigate the cumulative effect on these properties, the relevant Proposed Development turbines would be programmed to switch off for the appropriate time to prevent any shadow flicker experience as a result of the Proposed Development.

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 operational phase of the Proposed Development are described in Chapter 5, in terms of health and safety, employment and investment, population, land-use, property values, noise, 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 Development will not result in any significant effects on population and human health. Provided that the Proposed Development 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.

Biodiversity

The Biodiversity Chapter of the EIAR was prepared by MKO and assesses the potential impacts on habitats, flora and fauna. The habitats, flora and fauna of the site including species and habitats protected under the Habitats Directive (92/43/EEC) were assessed by means of a desk study of literature pertinent to the site and surrounding area, and field surveys including a survey of habitats and flora and walkover faunal surveys along with general observation work.

The key objectives of the Biodiversity assessment are to (i) Undertake a review of desktop and field survey information to inform an assessment of the current baseline ecological characteristics of the operational wind farm in relation to biodiversity, (ii) Evaluate the ecological significance of the proposals to extend the operational life of the wind farm in the context of biodiversity; and (iii) Assess the potential for direct, indirect and cumulative impacts of the proposals in the context of biodiversity.

Habitat, bat and other protected fauna surveys were undertaken between April 2023 and February 2025, to inform the current biodiversity baseline for the operational wind farm. Habitats within the site were classified based on vegetation present and management history. During the multi-disciplinary ecological walkover surveys, the potential for the study area to support protected birds, mammals, amphibians and additional fauna was assessed.

Habitat types classified as Local Importance (higher value) were recorded within the EIAR Study Area and included Hedgerows (WL1), Dry meadows and grassy verges (GS2) and Scrub (WS1). The remaining habitats, classified as Local Importance (lower value), comprised of highly modified habitats such as access infrastructure and agricultural fields. No habitats greater than Local Importance (higher value) were identified within the site.

Whilst no watercourses were recorded within the EIAR Study Area, tributaries of the Slaney River are located downgradient of the EIAR Study Area and therefore, as these tributaries flow into European Designated Sites (Slaney River Valley SAC and Wexford Slobs and Harbour SPA), aquatic receptors were classified as Local Importance (***higher value***) to International Importance and were included as Key Ecological Receptors (KERs).

Following a highly precautionary approach, a potential pathway for indirect effects on the above-mentioned aquatic receptors and European Sites during the operational phase (including routine maintenance works) and decommissioning phase was identified. Potential impacts in the form of surface water deterioration will be prevented by adherence to the mitigation described in Chapter 9 of the EIAR and therefore, no significant impacts to aquatic Key Ecological Receptors or protected sites exists.

Effects upon European Sites are fully discussed within the Natura Impact Statement (NIS) which accompanies this report. The NIS concluded that the Proposed Development, by itself or in combination with other plans and projects, in light of best scientific knowledge in the field, will not adversely affect the integrity of any European sites.

Protected species such as badger, otter, marsh fritillary, and bats were considered in the valuation of the site as Local Importance (higher value) and are fully considered within the chapter. No potential for significant impacts on any protected species exists as a result of the Proposed Development. No invasive species were recorded within or adjacent to the EIAR Study Area.

Provided that the Proposed Development is operated in accordance with the best practice and mitigations that are described within this application, significant individual or cumulative effects on biodiversity are not anticipated at any geographical scale.

Ornithology

This chapter assesses the likely significant effects that the Proposed Development may have on bird species. Firstly, a brief description of the Proposed Development 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 Project 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 of the Proposed Development are then described in terms of the operation and decommissioning phases of the project. An accurate prediction of the effects is derived following a thorough understanding of the nature of the Proposed Development along with a comprehensive knowledge of bird activity within the study area. The identification of Key Ornithological Receptors (KORs) and the assessment of effects follow a precautionary approach.

The potential for effects on designated sites is fully described in the Natura Impact Statement (NIS) that accompanies this application. The NIS concluded that where the potential for any adverse effect on any European Site has been identified, the pathway by which any such effect may occur has been robustly blocked through the use of avoidance, appropriate design and mitigation measures as set out within this report and its appendices. The measures ensure that the operation and decommissioning of the Proposed Development will not adversely affect the integrity of any European sites.

Based on the detailed assessment, it is considered that the potential effects of the Proposed Development upon birds will not be significant. Effects associated with habitat loss, disturbance displacement, collision risk and cumulative effects have been assessed to be no greater than long-term slight negative effect (EPA, 2022) and low effect significance (Percival, 2003).

The implementation of the prescribed mitigation measures will render any potential effects on avian receptors to low significance. In conclusion, no significant effects as a result of the Proposed Development are foreseen on key ornithological receptors of the study area.

Land, Soils and Geology

This chapter provides a baseline assessment of the environmental setting of the Proposed Development in terms of land, soils and geology and discusses the potential likely significant effects of extending the wind farm's operational life. This chapter also discusses any mitigation measures required to be put in place to limit any identified potentially significant effects to soils and geology and provides an assessment of residual impacts and significance of effects.

The Environmental Impact Assessment Report (EIAR) Study Area for the Proposed Development is approximately 97 hectares (ha) while the total development footprint of the Proposed Development (i.e., the existing Castledockrell Wind Farm) is approximately 3.23 ha. The vast majority of the EIAR study area is under agricultural use, split between arable and pastural land throughout the site.

The topography across the site is relatively flat and slopes downwards in all directions. The site has a maximum elevation of approximately 218 metres Ordnance Datum (m OD) in the west of the site, at T05 and a minimum elevation of approximately 170 metres Ordnance Datum (m OD) in the east of the site at T11. The Blackstairs Mountains run from the northwest to southwest of the site. Mount Leinster and Black Rock Mountain occur to the east of the site, with peak elevations of 796 mAOD and 600 mAOD respectively. The predominant land use in the areas surrounding Castledockrell Wind Farm is agricultural land and small patches of commercial forestry to the east, with scattered one-off housing and small developments.

According to GSI Mapping (www.gsi.ie), the Proposed Development is dominated by three soil types: shallow and well drained Non-Calcareous Bedrock at Surface (RckNCa), deep, well drained mineral till derived from metamorphic rocks (mainly acidic in nature) [TMp] and deep well drained mineral till derived chiefly from lower Palaeozoic rocks (mainly acidic in nature) [TLPSsS]. There are also bands of alluvially derived mineral AlluvMIN) along the River Slaney and other smaller watercourses in the wider area surrounding the site.

GSI mapping for the site indicates that the site and surrounding area is underlain by Lower-Middle Ordovician slate, sandstone, greywacke and conglomerate.

The Teagasc soils map (www.gis.teagasc.ie/soils/map) identifies the soil associations within the Castledockrell Wind Farm site as loamy soils over gneiss and schist bedrock (800a) and within the wider region of the site as fine loamy soils over shale and slate bedrock (1100e). These soils are generally not very well drained and not well suited to intensive agricultural practices, unless accompanied with the use of lime and fertilizers regularly.

It was noted during the site walkover that most of the site is under agricultural use for pasture and arable activities. Low levels of soil erosion are likely due to farm machinery action.

Based on the GSI bedrock map of the region, the site of the Proposed Development is underlain by the Maulin Formation (OTMAUL) consisting of dark blue-grey slate, phyllite and schist and the Ballylane Shale Formation (OABYLA) consisting of green-grey and grey slates and shales interbedded with green of pale grey siltstones. The Maulin Formation is classified by the GSI as being a locally important aquifer which is generally moderately productive in local zones, while the Ballylane shale Formation is classed as a Poor Aquifer that is generally unproductive except for local zones.

There are two recorded Geological Heritage sites within the wider area surrounding the Proposed Development as well as a number of designated sites (both national and EU Natura 2000 sites) located within proximity of the Proposed Development.

As the Proposed Development consists of an extension of life to an existing wind farm, no construction related excavations, groundworks or other intrusive works are planned. No effects on soils and geology have occurred, or are anticipated, during the operational phase. The operational phase of the

development will not involve any disturbance to topsoil, subsoils or geology of the area. Routine operational and maintenance works are anticipated to be required throughout the lifespan of the Proposed Development. These works are likely to include minor upgrades or replacements of turbine components, and mechanical/electrical components related to the control building. There is potential for limited use of plant and machinery as part of this maintenance work..

The potential impacts associated with future decommissioning of the Proposed Development in 20 years will be similar to those associated with a typical wind farm construction but of a reduced magnitude, due to the reduced scale of the proposed decommissioning works.

It is proposed to leave turbine foundations in place underground and to cover 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 nuisances such as noise, vibration and dust.

It is proposed to leave underground cables in place where they are unlikely to be impacted by typical agricultural works. It is proposed that the site roadways will be left in-situ, as appropriate, to facilitate access for agricultural lands. A decommissioning plan will be agreed with the local authority at least three months prior to decommissioning of the Proposed Development

No Significant Effects to the land, soil and geology at the site have occurred, or are anticipated, as a result of the project, including the Proposed Development's continued operation and decommissioning phases.

Due to the limited scale of other developments in the vicinity, there is little potential for significant impacts to land, soil, and geology resulting from those developments. The Proposed Development does not involve any construction or excavation works, and there is no potential for significant impacts to land, soil, and geology. Therefore, no significant cumulative effects on land, soils and geology environment are anticipated during the continued operational and decommissioning phases of the Proposed Development.

Water

This chapter of the Environmental Impact Assessment Report (EIAR) provides a baseline assessment of the environmental setting of the Proposed Development in terms of hydrology and hydrogeology and discusses the potential likely significant effects of the Proposed Development on the receiving environment. A desk study and preliminary hydrological assessment of the site of the Proposed Development and the surrounding study area (i.e., lands within the immediate vicinity of the wind farm) was completed in advance of the site walkover. This involved collection of all relevant geological, hydrological, hydrogeological and meteorological data for the area.

While the Proposed Development is located in an upland area, the topography across the site is relatively flat and slopes downwards in all directions. The predominant land use in the areas surrounding Castledockrell Wind Farm is agricultural land and small patches of commercial forestry to the east/northeast, with scattered one-off housing and small developments also present.

The entire site of the Proposed Development lies within the South Eastern River Basin District (RBD). With respect to regional hydrology, under the Water Framework Directive (WFD) the Proposed Development is located entirely within the Slaney and Wexford Harbour surface water catchment. The Proposed Development site is located within the Slaney (SC070) regional surface water sub-catchment. Bordering sub-catchments include the Urrin (SC010) and Slaney (SC060) surface water sub-catchments.

The nearest named watercourse to the Proposed Development is the River Glasha, a river which has its origins in the lowland areas of Black Rock Mountain and flows east into the River Slaney approximately 3.5km northeast of the site. The River Slaney is located approximately 3.2km from the

nearest turbine (T11) at its closest point. There are no watercourses within the EIAR site boundary. With regard to the existing wind farm and substation infrastructure drainage, the development mainly adopts an "over the edge" drainage approach in conjunction with sections of roadside drainage swales.

Watercourses are not expected to be affected by the continued operation of the existing Castledockrell Wind Farm due to the fact that the wind farm has been in operation since 2011 and there are no additional groundworks proposed. No surface water sampling was performed on the site of the Proposed Development as it was not deemed to be a requirement due to the absence of any construction works or activities associated with the Proposed Development which could impact upon water quality. There are also no surface water features present within the EIAR Site Boundary.

There are no flood incidents recorded within the vicinity of the Proposed Development on the OPW's indicative river and coastal flood map. There are no fluvial or pluvial flood zones identified on the PFRA mapping within the vicinity of the Proposed Development site.

The Proposed Development is underlain by the Maulin Formation (OTMAUL), consisting of dark blue-grey slate, phyllite and, and the Ballylane Shale Formation (OABYLA) consisting of green-grey and grey slates and shales interbedded with green of pale grey siltstones. The Proposed Development is underlain by the generally poorly productive Ballyglass Ground Water Body (GWB) as delineated by the EPA/GSI. Groundwater vulnerability is generally mapped as varying between Rock at or near Surface or Karst (X), and Extreme (E) across the area of the Proposed Development. Most of the site of the Proposed Development falls under the category of Rock at or near Surface or Karst (X).

There are 2 no. surface water bodies identified within the immediate vicinity of the site, namely the River Glasha (Glasha(Slaney)_010) approximately 1km north at its closest point (T10) and the River Slaney (Slaney_150) approximately 3.3km east at its closest point (T11). The River Glasha, which flows into the River Slaney, is classed as 'At Risk', with no 'High Status Objective'. The River Slaney itself is classed as 'Not at Risk' of reaching its WFD objectives by 2027, with no 'High Status Objective'. The WFD sub-catchment assessment report for the Slaney_SC_070 (EPA, 2019)[1] identifies the River Glasha as facing environmental pressures from agriculture, in particular due to excess sedimentation, with an observed decline in biological status from 'Good' to 'Moderate'. The operation of the existing Castledockrell Wind Farm to date has not had any long-term impact on the water quality of these streams. As the Proposed Development does not involve any excavation or construction activity no impact is anticipated for surface waterbodies in the area.

The existing Castledockrell Wind Farm is not located within any designated site or habitat. It is located approximately 4.4km away from the Blackstairs Mountains SAC and pNHA at its closest point (T10). However, as there are no groundworks or construction works proposed as part of the Proposed Development, it is not expected that there will be any negative effects associated with the proximity to the Blackstairs Mountains SAC and pNHA.

There will be no soil disturbance or use of machinery during the operation phase. Furthermore, since there was no deep excavation associated with the project there is no potential for impacts on groundwater flow during the operation phase. Therefore, no effects are envisaged during the operational phase. The operational wind farm does not require on-site storage of significant quantities of materials or liquids likely to cause a pollution incident, however small quantities of hydrocarbons may be required from time to time in order to operate/maintain machinery.

The potential impacts associated with decommissioning of the Proposed Development in 2045 will be similar to those associated with a typical wind farm construction but of a reduced magnitude, due to the reduced scale of the proposed decommissioning works.

[1] *https://www.catchments.ie/wp-content/files/subcatchmentassessments/12_1%20Slaney_SC_070%20Subcatchment%20Assessment%20WFD%20Cycle%202.pdf*

It is proposed to leave turbine foundations in place underground and to covered with earth and reseeded 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 nuisances such as noise, vibration and dust.

It is proposed to leave underground cables in place, with the ducting to be left in place, where they are unlikely to be impacted by typical agricultural works. It is proposed that site roadways will be left in situ, as appropriate, to facilitate agricultural and amenity uses by the local community. A decommissioning plan will be agreed with the local authority at least three months prior to decommissioning of the Proposed Development.

No significant effects on the hydrological and hydrogeological environment are envisaged during the decommissioning stage of the Proposed Development.

Due to the limited scale of other developments in the vicinity, there is little potential for significant impacts to surface waters, groundwaters or coastal waters resulting from those developments. Therefore, no significant cumulative effects on local hydrology or hydrogeology are anticipated during the continued operation and decommissioning of the Proposed Development.

Air and Climate

Air Quality

This chapter identifies, describes and assesses the potential significant direct and indirect effects on air quality and climate arising from the continued operation and decommissioning of the Proposed Development.

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. This chapter identifies, describes and assesses the potential significant direct and indirect effects on air quality and climate arising from the continued operation and decommissioning of the Proposed Development.

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

Under the 'Do-Nothing' scenario, the Proposed Development would be decommissioned in accordance with the conditions of the current planning permission (WCC Pl. Ref. 2004/4702, ABP Ref PL26.211725), once this permission expires in 2025. Should the Decommissioning Plan as set out in the current conditions be implemented it may lead to environmental effects on air quality due to the potential increase in emissions from construction plant and vehicles required to remove the existing turbines and other infrastructure.

Exhaust emissions associated with the operational phase of the Proposed Development will arise from machinery and Light Goods Vehicles (LGV) that are intermittently required onsite for maintenance. This will give rise to a Long-term Imperceptible Negative Effect.

By providing an alternative to electricity derived from coal, oil or gas-fired power stations, the Proposed Development 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 operational phase. The production of renewable energy from the Proposed Development will have a Long-Term Moderate Positive Effect on air quality.

The potential impacts associated with decommissioning of the Proposed Development (2045 should planning permission be granted for the Proposed Development) will be similar to those associated with a typical wind farm construction but of a reduced magnitude, due to the reduced scale of the proposed decommissioning works. A preliminary Decommissioning Plan for the Proposed Development, see Appendix 4-4, contains details which will be agreed with the local authority prior to any decommissioning. The overall risk of dust emissions impacts with no mitigation applied for the major dust generating activities during the decommissioning phase of the Proposed Development is Low. Therefore, the potential effects of dust from the construction phase of the Proposed Development are considered to be equivalent to Short-term, Slight Negative effects.

Climate Change and Carbon Balance Calculations

Although variation in climate is thought to be a natural process, the rate at which the climate is changing has been accelerated rapidly by human activities. Climate change is one of the most challenging global issues facing the world today and is primarily the result of increased levels of greenhouse gases in the atmosphere. Increasing human emissions of carbon dioxide and other greenhouse gases cause a positive radiative imbalance at the top of the atmosphere, meaning energy is being trapped within the climate system. The imbalance leads to an accumulation of energy in the Earth system in the form of heat that is driving global warming[2],[3]. Greenhouse gases come primarily from the combustion of fossil fuels in energy use.

CAP 2024[4] was launched in December 2023. Following on from Climate Action Plans 2019, 2021, and 2023, CAP 2024 sets out the roadmap to deliver on Ireland's climate ambition. It aligns with the legally binding economy-wide carbon budgets and sectoral ceilings that were agreed by Government in July 2022 following the Climate Action and Low Carbon Development (Amendment) Act 2021, which commits Ireland to a ***legally binding target of net-zero greenhouse gas emissions no later than 2050, and a reduction of 51% by 2030.*** CAP 2024 seeks to build on the progress made under Climate Action Plan 2023 by delivering policies, measurements and actions that will support the achievement of Irelands carbon budgets, sectoral emission ceilings, and 2030 and 2050 climate targets; while further enabling the closure of identified emissions gaps and the allocation of unallocated emission savings associated with each carbon budget period.

In March 2023 the European Environment Agency (EEA) published the European Climate Risk Assessment[5]. This assessment states that Europe is the fastest warming continent on the planet and is warming at about the twice the global rate. The average global temperature in the 12-month period between February 2023 and January 2024 exceeding pre-industrial levels by 1.5°C. 2023 was the warmest year on record over more than 100,000 years globally, at 1.48°C above pre-industrial levels, with the world's ocean temperature also reaching new heights.

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[2] *Hansen, J.; Sato, M.; Kharecha, P. et al. Earth's Energy Imbalance and Implications. Atmospheric Chemistry and Physics 2011, 11 (24), 13421–13449.* https://doi.org/10.5194/acp-11-13421-2011

[3] von Schuckmann, K.; Palmer, M. D.; Trenberth, K. E. et al. An Imperative to Monitor Earth's Energy Imbalance. Nature Clim Change 2016, 6 (2), 138–144. https://doi.org/10.1038/nclimate2876.

[4] *Department of the Environment, Climate and Communications (2023) Climate Action Plan 2024. Available at: https://www.gov.ie/en/publication/79659-climate-action-plan-2024/#new-approach-to-the-2024-annex-of-actions*

[5] European Environment Agency (2023) European Climate Risk Assessment <https://climate-adapt.eea.europa.eu/en/eu-adaptation-policy/key-eu-actions/climate_risk_assessment/index_html/>

The Environmental Protection Agency (EPA) publish Ireland's Greenhouse Gas Emission Projections and at the time of writing, the most recent report, *'Ireland's Greenhouse Gas Emissions Projections 2023-2050'* was published in May 2024. The report includes an assessment of Ireland's progress towards achieving its emission reduction targets out to 2030 set under the Effort Sharing Regulation (ESR).

The Wexford County Council Climate Action Plan 2024-2029[6] (Wexford CCCAP) highlights the current state of climate action in Ireland, and how Wexford County Council intends to deliver and enable climate action for a just transition to a low carbon and climate resilient future within County Wexford. The Wexford CCCAP will help address the mitigation of greenhouse gases, the implementation of climate change mitigation and adaption measures, and will strengthen the alignment between national climate policy and the delivery of effective local climate action.

16,305 tonnes of carbon dioxide will be displaced per annum from the largely carbon-based traditional energy mix by the Proposed Development. Over the proposed 20-year extended lifetime of the development, therefore, 326,100 tonnes of carbon dioxide will be displaced from traditional carbon-based electricity generation.

The Proposed Development will assist in reducing carbon dioxide (CO_2) emissions that would otherwise arise if the same energy that the Proposed Development will generate were otherwise to be generated by conventional fossil fuel plants. This is a Long-term Moderate Positive Effect.

The Proposed Development will assist in reducing CO_2 emissions that would otherwise arise if the same energy that the Proposed Development will generate were otherwise to be generated by conventional fossil fuel plants. This is a Medium term significant positive effect. The overall significance upon climate from the proposed extended operational life of the wind farm was assessed as a direct, long-term moderate positive effect.

Noise and Vibration

Irwin Carr Consulting Limited has been commissioned to conduct an assessment into the likely environmental noise and vibration impacts of the Proposed Development, which comprises the proposed extension of the lifetime of Castledockrell Wind Farm, which has been assessed within the EIAR.

The background noise environment has been established through a noise monitoring survey undertaken at a receptor location which was predominantly upwind of the Proposed Development during the monitoring period – data was filtered to ensure that only upwind data not influenced by the Proposed Development was relied upon. Typical background noise levels for the most sensitive night-time period at various wind speeds have been measured in accordance with best practice guidance contained in the Institute of Acoustics document 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' (IOA GPG). The results of the background noise survey have been used to derive appropriate noise criteria for the Proposed Development in line with the guidance contained in 'Wind Energy Development Guidelines for Planning Authorities 2006'.

When considering a development of this nature, the potential noise and vibration effects on the surroundings must be considered for two stages: the short-term decommissioning phase and the long-term operational phase. The assessment of decommissioning noise and vibration and 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 –

[6] *Draft Wexford County Climate Action Plan 2024-2029.* < https://www.wexfordcoco.ie/sites/default/files/content/Climate%20Action%20Plan%202024-2029%20English.pdf >

Vibration. Subject to good working practice and mitigation measures as recommended in the EIAR Chapter, it is not expected that there will be any significant noise and vibration impacts associated with the decommissioning phase and the likely noise from decommissioning activity at the nearest NSLs is expected to be within recommended threshold values. There will be no significant effects associated with decommissioning noise and vibration impacts.

Based on detailed information on the site layout, the actual turbine noise emissions (including consideration of amplitude modulation) and turbine hub height for the Proposed Development, a series of turbine noise prediction models were prepared. The predicted turbine noise levels have been calculated in accordance with the IOA GPG recommendations. The assessment has confirmed that the residual cumulative turbine noise levels associated with the Proposed Development will be within the best practice noise criteria curves recommended in Irish guidance document 'Wind Energy Development Guidelines for Planning Authorities 2006'. There will be no significant effects associated with operational noise impacts. No significant vibration effects are associated with the operation of the Proposed Development. In summary, the noise and vibration impact of the Proposed Development is not significant considering best practice guidance for wind turbine developments

Cultural Heritage

An archaeological, architectural and cultural heritage impact assessment of the Proposed Development was undertaken. The potential direct and indirect effects of the Project on the surrounding archaeological, architectural and cultural heritage landscape were assessed. The assessment is based on both a desktop review of the available cultural heritage and archaeological data and a site inspection.

No National Monuments are located within the Proposed Development site and none are located within close proximity to same. No recorded monuments are located within the existing wind farm site or within the EIAR Site Boundary. Thirteen recorded monuments are located within 2km of the nearest turbines. This comprises a relatively low density of monuments within the surrounding landscape (within 2km) of the existing turbines. No Protected Structures, NIAH structures or historic gardens are located within the existing wind farm or EIAR Site Boundary.

As the Proposed Development comprises the continued operation of the existing wind farm and no works are proposed at the operational stage, no direct or indirect effects to the archaeological, architectural or cultural heritage resource are identified. Similarly, no additional cumulative effects on this resource are identified as a result of the Proposed Development. No potential effect as a result of the proposed decommissioning phase of the Proposed Development are identified.

Landscape and Visual

Chapter 13 assesses the likely significant landscape and visual impacts arising as a result of extending the operational lifespan of the existing turbines. Although all elements of the Proposed Development are assessed, the Chapter focuses upon the turbines, as they are deemed to be the essential aspects of the Proposed Development under assessment from a landscape and visual perspective. The Chapter describes the baseline landscape and assesses the direct effects on the landscape of the site, as well as effects on landscape character and the impact on sensitive landscape receptors and Landscape Character Units (LCUs). Visibility of the existing turbines was assessed from receptors within a Study Area extending 20km from the existing turbines; and visual effects were determined from information gathered during multiple site visits as well as other tools such as ZTV mapping and photographic visualisations.

The site is in an undulating landscape comprising of existing wind farm infrastructure and agricultural land. The existing turbines are strategically sited between areas of high elevation limiting visual exposure in the wider LVIA Study Area. On-site visibility appraisals, ZTV mapping, and visual assessment from viewpoint locations determined that visibility of the existing turbines is very limited from locations beyond 5km from the site. Siting of the existing turbines in an undulating landscape with

highly vegetated working fields surrounding the site, largely restricts visual exposure in the wider landscape. Visibility of the existing turbines beyond the immediate landscape setting of the Proposed Development site is limited to localised areas of high elevation where open views across the undulating and highly vegetated landscape are available from elevated vantage points, which is in general not a common occurrence in the LVIA Study Area. When the existing turbines are visible from elevated vantage points beyond 5km, they occupy a limited horizontal and vertical extent within views.

The continued operation of existing turbines on the site will not alter the landscape of the site itself. In terms of effects on Landscape Character, the sensitivity of this landscape, Uplands LCU, to this form of development was deemed to be High. The continued presence of turbines and other infrastructure will cause a 'Moderate' magnitude of change to result in a 'Moderate' residual effect on the LCU. All other LCUs within the LVIA Study Area were comprehensively assessed in Section 13.5. Effects on landscape character from these LCUs relate to impacts on perceptual and aesthetic qualities. The continued presence of turbines will not materially alter these landscape receptors and likely effects upon landscape character were not deemed to be significant.

Photographic visualisations were used to assess the visual effects arising as a result of the Proposed Development from 5 No. viewpoint locations. The significance of the residual visual effect was not considered to be "Profound" or "Very Significant" at any of the 5 viewpoint locations. A residual visual effect of 'Significant' was deemed to arise at one of the viewpoint locations (VP04). In this case a residual visual effect of 'Significant' is due to the proximity of the visual receptor (<300m from the proposed turbine). A residual effect of 'Moderate' was deemed to arise at one of the five viewpoints. All other viewpoints were assessed as resulting in "Slight" residual visual effects.

The assessments determined that no significant cumulative landscape and visual effects will occur as a result of the continued operation of the Castledockrell turbines in combination with any other existing, permitted or proposed wind farm developments in the LVIA Study Area. As reported throughout this chapter, the Castledockrell turbines have a low overall visual exposure in the LVIA Study Area and do not cause significant visual impacts on any sensitive visual receptors.

As shown throughout the Photographic Visualisations Booklet and Visual Baseline Section, the Proposed Development is seen as a spatially coherent wind farm and are viewed in a linear array across the undulating landscape. The existing turbines are suitably sited and scaled within the landscape. Considering the limited visual exposure of the existing turbines and relatively limited number of sensitive landscape and visual receptors impacted within the LVIA Study Area, the Proposed Development is deemed to be acceptable from a landscape and visual perspective.

Material Assets

Traffic and Transport

This chapter of the EIAR addresses the likely significant effects of the Proposed Development on transportation infrastructure and on telecommunications and aviation, which are economic assets of human origin.

Access to the existing Castledockrell Wind Farm for traffic, such as maintenance vehicles, is via the existing entrance on the L2012 Local Road, which runs in a north-south direction to the west-southwestern border of the Proposed Development site. The turbines are accessed via the existing onsite network of access roads.

As the Castledockrell 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 of the existing wind farm. There will therefore be no new construction traffic generated by the Proposed Development.

During the operational phase, the wind farm will continue to be remotely monitored. Traffic associated with the operational phase of the wind farm will be from Castledockrell Wind Group Ltd. personnel visiting the onsite substation and control building, and maintenance personnel who will visit individual turbines and associated infrastructure. The traffic volumes that will be generated by the Proposed Development 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. Maintenance crews will be required onsite to complete major component replacement on a sporadic basis, e.g. turbine component changes or onsite control building maintenance.

An estimated theoretically precautionary of 64 truckloads is the required trip generation in the decommissioning phase. With the implementation of a Traffic Management Plan during future decommissioning works at the site, there will be no significant effect on traffic and transport resulting from the decommissioning phase.

Operational phase and decommissioning impacts on traffic and transport are imperceptible and therefore there are No Significant Cumulative Effects in relation to traffic and transport associated with the extended operational phase of the Proposed Development in combination with other projects.

Telecommunications and Aviation

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 the use of repeater relay links out of line with the wind farm.

To date, Castledockrell Wind Group Ltd. are not aware of any complaints from telecommunications service providers regarding interference to service associated with the existing wind farm. No telecoms operators have highlighted issues regarding the Proposed Development. Copies of all scoping responses received are presented in Appendix 2-1 of this EIAR.

A scoping response was received from the Irish Aviation Authority (IAA) on the 29th August 2023 regarding their position on the Proposed Development. In their response, IAA stated that '*Based on the information provided, IAA's Aerodromes Division has no requirements for incorporation into the EIA Scoping Request'.* Additionally, the existing Castledockrell Wind Farm has been in operation since 2011 and no aviation issues have arisen in that time. No changes to the existing wind farm infrastructure or turbine dimensions are proposed.

There will be No Significant Cumulative Effects in relation to telecommunications and aviation associated with the Proposed Development in combination with other projects.

Major Accidents and Natural Disasters

This section of the Environmental Impact Assessment Report (EIAR) describes the likely significant effects on the environment arising from the vulnerability of the proposed extension of life of the existing Castledockrell Wind Farm (the 'Proposed Development' 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 Project and consequently have potential impacts on the environment. These include accidents during operation and decommission 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, land, soil, water, air and 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, i.e. pre-identified risks identified in County Wexford, is provided in Section 15.3 of this EIAR. The scenario with the highest risk score in terms of the occurrence of major accidents and/or disasters was identified to be Industrial Accidents (Fire/Gas Explosions) and Contamination through spillage of hydrocarbons over the operational and decommissioning phases of the Proposed Development.

The existing Castledockrell Wind Farm was designed and built in line with the best practice measures as set out in its original planning application and Environmental Impact Statement (EIS), and as such mitigation against the risk of major accidents and/or disasters was embedded through the design.

The risk of a major accident and/or disaster during the operation and decommissioning of the Proposed Development is considered low, in accordance with the 'Guide to Risk Assessment in Major Emergency Management' (DoEHLG, 2010). It is considered that when the mitigation and monitoring measures outlined in the EIAR and Decommissioning Plan are implemented and adhered to, there will not be significant residual effect(s) associated with the operational and decommissioning phases of the Proposed Development.

Interaction of the Foregoing

Chapters 5 to 15 of this Environmental Impact Assessment Report (EIAR) identify the potential significant environmental effects that may occur in terms of Population and Human Health, Biodiversity, Birds, Land, Soils and Geology, Water, Air and Climate, Noise and Vibration, Cultural Heritage (Archaeological, Architectural and Cultural Heritage), Landscape and Visual, and Material Assets (Roads and Traffic, Telecommunications and Aviation) as a result of the Proposed Development. All of the likely significant effects of the Proposed Development and the measures implemented to mitigate them were outlined in the relevant sections of this report. However, for any development with the potential for significant environmental effects there is also the potential for interaction amongst these potential significant effects. The result of interactive effects may exacerbate the magnitude of the effects or ameliorate them or have a neutral effect.

A matrix is presented in Table 16-1 of Chapter 16 to identify potential interactions of impacts between the various aspects of the environment already assessed in this EIAR. The matrix highlights the occurrence of potential positive or negative effects of the Proposed Development. The matrix is symmetric, with each environmental component addressed in the previous sections of this EIAR being placed on both axes of a matrix, and therefore, each potential interaction is identified twice.

Potential interactions have been identified between effects on Population and Human Health and effects on Land, Soils and Geology, Water, Air and Climate, Noise and Vibration, Landscape and Visual and Material Assets. Potential interactions have been identified between effects on Biodiversity, Flora and Fauna and effects on Land, Soils and Geology, Water, Air and Climate, Noise and Vibration, and Landscape and Visual. Potential effects have been identified between effects on Ornithology and effects on Water, Air and Climate, and Noise and Vibration. Potential interactions have been identified

between Land, Soils and Geology with effects on Water, Air and Climate, Cultural Heritage, and Landscape and Visual. Furthermore, potential interactions have been identified between effects on Air and Climate and Traffic (Material Assets), and finally potential interactions were identified between effects on Landscape and Visual with effects on Cultural Heritage.

Where any potential interactive negative impacts have been identified in Chapter 16, a full suite of appropriate mitigation measures has already been included in the relevant sections (Chapters 5-15) of the EIAR. The implementation of these mitigation measures will reduce or remove the potential for these effects. Information on potential residual impacts and the significance of effects, is also presented in each relevant chapter.

1. INTRODUCTION

1.1 Introduction

This Environmental Impact Assessment Report (EIAR) has been prepared by MKO on behalf of Castledockrell Wind Group Limited (the Applicant), who intend to apply to Wexford County Council for planning permission to extend the operational period of the existing Castledockrell Wind Farm for an additional 20 years to 2045 after the expiry of its current planning permission in 2025.

The Proposed Development is below the threshold for wind energy as set out in the Seventh Schedule of the Planning and Development Acts 2000 to 2020 and is therefore not considered as a Strategic Infrastructure Development (SID), and as such, Wexford County Council is the appropriate planning authority. Therefore, the application for a proposed extension to the existing Castledockrell Wind Farm, which has a generating capacity of up to 25.3 megawatts (MW), will be sent to Wexford County Council.

1.1.1 References to the Proposed Development

The Proposed Development, which will be described as the 'Castledockrell Wind Farm Extension of Operational Life' is being brought forward in response to local, national, regional 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.

For the purposes of this EIAR:

- Where the 'Proposed Development' is referred to, this relates to all elements being applied for under the current Planning Application and encompasses an area of approximately 97 hectares (ha). The Proposed Development is described in detail in Chapter 4: Description of the Proposed Development of this EIAR.
- Where 'the Site' is referred to, this relates to the primary study area for the EIAR, as delineated by the EIAR Site Boundary in green as shown on Figure 1-1.

1.1.2 Context of the Proposed Development

As detailed below in Section 1.1.3, there are 3 no. planning permissions within the existing Castledockrell Wind Farm site, however, the Proposed Development is made up of 2 no. of these applications, namely WCC Ref 04/4702 and ABP PL26.211725 (11 no. turbines, foundations, hardstands, access roads, internal site cabling and substation, and all ancillary infrastructure), and WCC 2005/3945 (amendment to the substation as permitted under the above application).

Both of these permissions have expiry dates, in which the existing wind turbines and associated infrastructure need to be decommissioned. The expiry dates for these elements are the same, i.e. 2025. In order to set the context and baselines for the Proposed Development, the below is noted.

There are 12 no. Enercon E70 turbines present on the existing Castledockrell Wind Farm site, however, it is proposed to extend the operational life of only 11 no. of these turbines. A figure of the Proposed Development can be seen in Figure 4-1 of Chapter 4 of this EIAR.

The existing Castledockrell Wind Farm became operational in 2011 and is connected to the National Grid via the existing 110kV underground grid connection, which runs from the existing onsite 110kV substation to the existing Lodgewood 220kV Substation. It should be noted that the existing connection to the national electricity grid does not form part of the accompanying planning application and is assessed as a cumulative project only within this EIAR.

No construction activities, alterations to the existing wind farm or works of any kind are proposed as part of this planning application, beyond the continued routine maintenance of the turbines and electrical infrastructure during the operational phase of the Proposed Development.

The existing turbines onsite will have reached the end of their permitted operational life, however, by the end of this period they will have only been operating for a period 14 no. years, as all turbines were commissioned in 2011. The Enercon E70 turbines, of which 12 no. are present and operating on the existing Castledockrell Wind Farm, have an expected operational life of a further 26 years as outlined in a Lifetime Prediction Report included in the EIAR as Appendix 4-1.

In the context of the current energy and climate crises, it is deemed the most environmentally prudent option is to apply to extend the operational life of the existing turbines, rather than allow them to be decommissioned.

1.1.3 Planning History

As stated above, the existing Castledockrell Wind Farm consists of 12 no. Enercon E70 2.3 megawatts (MW) turbines with an overall tip height of 120m. The existing Castledockrell Wind Farm, which became operational in 2011, was permitted under 3 no. separate planning applications:

- 11 no. of the existing turbines, hardstands, foundations, onsite 110kV substation, internal site roads, and all ancillary infrastructure were permitted under planning reference WCC (04/4702), which was subsequently appealed to An Bord Pleanála and permitted in 2005 under Planning Reference PL26.211725;
- Extension and modification to onsite 110kV substation (as permitted in the above planning applications) being permitted in 2005 by Wexford County Council under planning reference WCC 2005/3945; and
- 1 no. turbine permitted by Wexford County Council in 2008 under planning reference WCC 2008/0335.

An Environmental Impact Statement (EIS) was prepared to accompany the original application for the 11 no. turbines (WCC Ref 04/4702 and ABP PL26.211725).

The existing Castledockrell Wind Farm has therefore been operational for about 14 years to date, with the current planning permission set to expire in August 2025. Planning condition no. 7 of the existing permission (PL26.211725) states that:

> "*this permission is for a period of twenty years from the date of this order. The wind turbines and related ancillary structures shall then be removed unless, prior to the end of the period, planning permission shall have been granted for their retention for a further period.*"

Permission was granted to the Castledockrell Wind Farm on the 16th August 2005, therefore 11 no. of the existing turbines are due to be decommissioned in August 2025. By August 2025, the existing turbines will have been in operation for only 14 years.

As previously stated, an extension of operational life for the operation of 11 no. of the 12 no. permitted turbines which make up the existing Castledockrell Wind Farm, as well as the permanent continued use of the existing onsite 110kV substation, is being applied for as part of this EIAR and Planning Application. The 11 no. turbines which comprise the Proposed Development have a total rated capacity of c.25.3 MW.

The planning background for the existing Castledockrell Wind Farm is detailed further in Chapter 2: Background to the Proposed Development of this EIAR.

1.1.4 Proposed Development Site Location

Access to the site for operational traffic, such as maintenance vehicles, is via the current existing entrance at the L2012 Local Road, which runs along the western side of the site boundary.

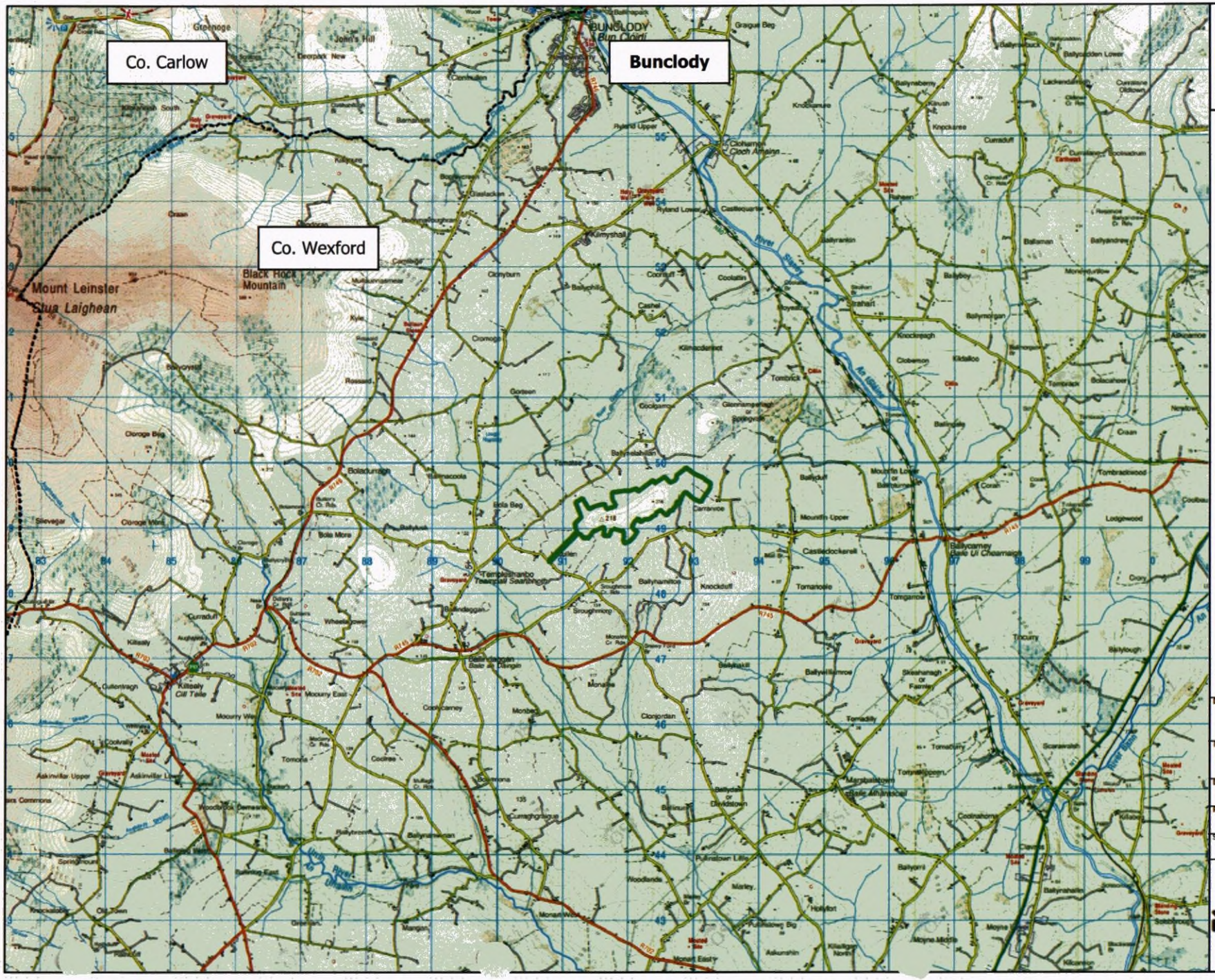
The existing Castledockrell Wind Farm is located 8.1km west of Ferns and 6.5km south of Bunclody, Co. Wexford, in the townlands of Kilcullen, Ballynelahillan, Carranroe, Tomatee, Knockduff and Sroughmore. The existing wind farm is based within agricultural lands, which is split between pastural land and arable land. The approximate grid reference location for the centre of the site is ITM E 692110, N 649395.

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

The townlands within which the Proposed Development and ancillary infrastructure are located are listed in Table 1-1. A site location map is provided as Figure 1-1.

Table 1-1 Townlands within which the Proposed Development is located

Element of Proposed Development	Townland
Wind Turbines, site access roads	Kilcullen, Tomatee, Ballynelahillan, Carranroe, Knockduff, Sroughmore
Wind Farm Control Building and Substation	Carranroe



Map Legend

- EIAR Site Boundary
- County Boundaries

N

Drawing Title

Site Location

Project Title	Castledockrell Wind Farm Extension of Operational Life
Drawn By: KB	Checked By: BT
Project No.: 210847	Drawing No.: Figure 1-1
Scale: 1:75,000	Date: 2025-02-25

MKO
Planning and Environmental Consultants
Tuam Road, Galway, Ireland, H91 VW84
+353 91 735611
info@mkoireland.ie
www.mkoireland.ie

1.2 Legislative Context

1.2.1 Environmental Impact Assessment

The consolidated European Union Directive 2011/92/EU on the assessment and of the effects of certain public and private projects on the environment (the 'EIA Directive'), was transposed into Irish planning legislation by the Planning and Development Acts 2000 to 2019 and the Planning and Development Regulations 2001 to 2022. The EIA Directive was amended by Directive 2014/52/EU which has been transposed into Irish law with recent European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).

Accordingly, this EIAR complies with the EIA Directive as amended by Directive 2014/52/EU. To the extent relevant and necessary, regard has been had to the existing provisions of the Planning and Development Act 2000 to 2022 and the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.

The European Union Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (the 'EIA Directive'), requires Member States to ensure that the competent authority carries out an assessment of the likely significant effects of certain types of projects, as listed in the Directives, prior to development consent being given for the project. The Environmental Impact Assessment (EIA) of the Proposed Development will be undertaken by Wexford County Council as the competent authority. Article 5 of the EIA Directive as amended by Directive 2014/52/EU provides where an EIA is required, the developer shall prepare and submit an Environmental Impact Assessment Report (EIAR). The information to be provided by the developer shall include at least:

a) *A description of the project comprising information on the site, design, size and other relevant features of the project;*
b) *A description of the likely significant effects of the project on the environment;*
c) *A description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant effects on the environment;*
d) *A description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment; and,*
e) *A non-technical summary of the information referred to in points (a) to (d); and (f) any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.*

In addition, Schedule 6 to the Planning and Development Act 2000 to 2022 sets out the information to be contained in an EIAR, with which this EIAR complies.

MKO was appointed as environmental consultant on the Proposed Development and commissioned to prepare this EIAR in accordance with the requirements of the EIA Directive as amended by Directive 2014/52/EU.

The relevant classes/scales of the development that require EIA are set out in Schedule 5 of the Planning and Development Regulations 2001 to 2022. The relevant class of development in this case relates to "*installations for the harnessing of wind power for energy production (wind farms) with more than 5 turbines or having a total output greater than 5 megawatts*", as per paragraph 3(i) of Part 2 of Schedule 5. The Proposed Development exceeds 5 turbines and 5 MW in scale, and therefore is required to be subject to EIA. However, as the Proposed Development is an extension of operational life for an existing wind farm rather than a new installation, paragraph 15(a) has also been considered which relates to "*Any change or extension of development which would:-*

i. *result in the development being of a class listed in Part 1 or paragraphs 1 to 12 of Part 2 of this Schedule, and*

ii. *result in an increase in size greater than-*

- *25 per cent, or*
- *an amount equal to 50 per cent of the appropriate threshold,*

whichever is the greater."

The Proposed Development seeks to extend the operational life of the existing Castledockrell Wind Farm, and no changes to the existing wind farm infrastructure are proposed.

An EIAR has been prepared with respect to paragraph 3(i) of Part 2 of Schedule 5 (i.e., more than 5 turbines and/or a total output greater than 5 megawatts).

The EIAR provides information on the receiving environment and assesses the likely significant effects of the Proposed Development and proposes mitigation measures to avoid or reduce these effects. The function of the EIAR is to provide information to allow the competent authority to conduct the EIA of the Proposed Development.

All elements of the overall project, including the wind turbines and associated infrastructure (substation, site access roads) have been assessed as part of this EIAR.

1.2.2 EIAR Guidance

The Environmental Protection Agency (EPA) published its *'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports'* (EPA, May 2022), which is intended to guide practitioners preparing an EIAR in line with the requirements set out in the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018).

In preparing this EIAR regard has also been taken of the provisions of the *'Guidelines for Planning Authorities and An Bord Pleanála on Carrying out Environmental Impact Assessment'*, published by the Department of Housing, Planning and Local Government (DHPLG) in August 2018 to the extent these guidelines are relevant having regard to the enactment of the revised EIA Directive.

The European Commission also published a number of guidance documents in December 2017 in relation to Environmental Impact Assessment of Projects (Directive 2011/92/EU as amended by 2014/52/EU) including *'Guidance on Screening'*, *'Guidance on Scoping'* and *'Guidance on the preparation of the Environmental Impact Assessment Report'*. MKO has prepared the EIAR with regard to these guidelines also.

1.2.3 Wind Energy Development Guidelines for Planning Authorities

The relevant considerations under the ' *Wind Energy Development Guidelines for Planning Authorities'* (Department of the Environment, Heritage and Local Government (DOEHLG), 2006) (hereafter referred to as the DoEHLG 2006 Guidelines) have been taken into account during the preparation of this EIAR.

The DoEHLG 2006 Guidelines were the subject of a targeted review. The proposed changes to the assessment of impacts associated with onshore wind energy developments were outlined in the document Draft Wind Energy Development Guidelines (December 2019) (hereafter referred to as the Draft DoEHLG 2019 Guidelines). A consultation process in relation to the Draft DoEHLG 2019 Guidelines closed on 19th February 2020. The proposed changes presented in the Draft DoEHLG 2019 Guidelines give certain focus on the setback distance from residential properties (four times the

proposed maximum tip height), along with shadow flicker and noise requirements relative to sensitive receptors.

At time of writing, the Draft DoEHLG 2019 Guidelines have not yet been adopted, and the relevant guidelines for the purposes of section 28 of the Planning and Development Act 2000, as amended, remain to be the DoEHLG 2006 Guidelines. Notwithstanding this, however, due to the timelines associated with the planning process for renewable energy projects and the commitment within the Climate Action Plan 2024 (CAP24) to publish new draft guidelines in 2024 (refer to Section 1.5 below), it is possible that the Draft DoEHLG 2019 Guidelines may be adopted during the consideration period for the current planning application. Should the Draft DoEHLG 2019 Guidelines be adopted in advance of a planning decision being made on this application, the Proposed Development will be capable of achieving the requirements of the Draft DoEHLG 2019 Guidelines as currently proposed in relation to any revised noise and shadow flicker requirements, which can be achieved by implementing mitigation through use of the turbine control systems where necessary.

At the Proposed Development, there are 25 no. residential properties located within 500m of a turbine, 3 no. of which are participating landowners. Letters of support for the Proposed Development are provided from these residents (with the exception of 1 no. property in probate at the time of application). These are included in Appendix 2-2 Community Engagement Report.

A full assessment of relevant setback distances is included in Chapters 5, 11 and 13 of this EIAR.

1.3 The Applicant

The Applicant for the Proposed Development is Castledockrell Wind Group Ltd, which is registered in Wexford, Ireland. Castledockrell Wind Group Ltd is jointly owned by: (i) a number of local landowners who all live in the vicinity of the wind farm; and (ii) Lanber Group which is a Wexford registered investment company active in the renewable energy industry for more than 20 years.

1.4 Brief Description of the Proposed Development

Planning permission is being sought for the continued operation of 11 no. turbines which are operating on the existing Castledockrell Wind Farm as permitted by Wexford County Council under planning ref WCC 04/4702 and PL26.211725 and for a further period of 20 years from the date of expiry (16th August 2025) per Condition no. 7 of the original planning consent issued, with decommissioning of the wind farm at the end of the proposed extension period.

It is also proposed to permanently extend the existing onsite 110kV substation (permitted under WCC 04/4702, PL26.211725 and subsequently amended under 05/3945).

The Proposed Development encompasses:

1. *11 no. existing 2.3 MW wind turbines with an overall tip height of 120m and associated hardstands;*
2. *1 no. existing 110kV Substation including 1 no. single story control building, all associated electrical plant and equipment, security fencing and all ancillary infrastructure;*
3. *All existing underground electrical and communication cabling connecting the existing wind turbines to the onsite Castledockrell 110kV Substation;*
4. *Existing internal access tracks; and,*
5. *All existing ancillary infrastructure.*

The existing grid connection, which travels from the existing onsite 110kV substation via underground 110kV electrical cabling to the existing Lodgewood 220kV substation via the L2009 Local Road, the

R745 Regional Road, the L6742 Local Road, as well as some off-road sections, does not form part of this application, and is instead be assessed cumulatively as part of this EIAR.

There are no alterations to the existing Castledockrell Wind Farm proposed as part of this Planning Application and EIAR.

1.5 Need for the Proposed Development

1.5.1 Overview

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). On this pathway to decarbonisation, the Government published the CAP24[1] reaffirming the renewable electricity target of 80% by 2030, without compromising security of energy supply. To ensure that these 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. The proposed Castledockrell Wind Farm extension of operational life is key to helping Ireland achieve these legally binding climate targets as well as addressing the country's over-dependence of imported fossil fuels.

In July 2024, the EPA published *'Ireland's Provisional Greenhouse Gas Emissions 1990-2023'*[2] which stated a provisional total of national greenhouse gas emissions in 2023 to be 55.01 million tonnes carbon dioxide equivalent ($MtCO_2eq$), which is 6.8% lower (or 4.00Mt CO2eq) than emissions in 2022 ($59.00MtCO_2eq$) and follows a 1.9% increase on 2021 levels reported in 2022. Ireland's emissions in 2023 were the lowest in three decades with reductions in almost all sectors and were below the 1990 baseline for the first time in three decades. The EPA report noted that *'the increase in renewables combined with the increase in imported electricity from interconnectors caused emissions intensity of power generation to decrease by 23.3%, from 332g CO_2/kWh in 2022 to a historic low of 255g CO_2/kWh in 2023'*. The Proposed Development will help to bridge the gap between the reduction in greenhouse gas emissions in 2023 and the further reductions that are needed to meet Ireland's legally binding commitment to achieving net-zero emissions no later than 2050.

In 2023, the energy industries, transport and agriculture sectors accounted for 73.5% of total greenhouse gas (GHG) emissions. Agriculture is the single largest contributor to the overall emissions, at 37.8%. Transport, energy industries and the residential sector are the next largest contributors, at 21.4%, 14.3% and 9.7%, respectively. The report also states that there was a substantial reduction in coal, oil and natural gas used in electricity generation (-44.2%, -78.2% and -7.2% respectively), and renewables increased from 38.6% in 2022 to 40.7% in 2023. The report highlights that whilst emissions are beginning to reduce, transformative measures will be needed to meet National Climate ambitions.

As such, the Proposed Development is critical to helping Ireland address these challenges as well as addressing the country's over-dependence on imported fossil fuels.

The need for the Proposed Development is driven by the following factors:

1. *A legal commitment from Ireland to limit greenhouse gas emissions under the Kyoto protocol to reduce global warming;*
2. *A requirement to increase Ireland's national energy security as set out in Ireland's Transition to a Low Carbon Energy Future 2015-2030.*

[1] *Department of Environment, Climate and Communications (2023) Climate Action Plan 2024*
[2] *Ireland's Provisional Greenhouse Gas Emissions (1990-2023)* <https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/EPA-Provisional-GHG-Report-Jul24-v6.pdf>