Inspector's Report

ABP-315365-22

Development	Wind energy development consisting of 7 wind turbines and all associated works
Location	Ridge, Knocknabranagh and Knockbaun, Baunreagh, and Agharue, Co. Carlow and Coolcullen, Cloneen and Coan East, Co. Kilkenny
Local Authority	Carlow County Council Kilkenny County Council
Type of Application	Strategic Infrastructure, Section 37E.
Prescribed Bodies	Transport Infrastructure Ireland Development Applications Unit Inland Fisheries Ireland Health Service Executive (Kildare)
Public Submissions	1. Seamus Hayden & Others 2. Alice and Denis O'Leary 3. Louise O'Brien Delaney 4. Kathleen Delaney 5. Westley Delaney 6. Majella Kehoe 7. Michael Delaney

8. Timmy & Eileen Carpenter & Family
9. James & Anne Dooley
10. Michele Kirby
11. Lisa O'Neill
12. Patrick Kehoe
13. Liam and Mary Forde
14. Anna Dunphy
15. Selina Gittins and family
16. Patrick Kavanagh & Others
17. Mark O'Brien
18. Castlewarren Group Water Society Limited
19. Stephen Keogh
20. Philip Daly and Claudette O'Connor Daly
21. Thomas Brennan
22. Mark Galvin
23. John Purcell, Chief Executive CK Broadcasting Limited T/A KCLR 96FM
24. Mary and Gerry Hand
25. Gráinne and Francis Kavanagh
26. Sean McMullan
27. Ben Scanlon
28. Eilish and James Kavanagh
29. James Cloney & Val Martin
30. Mr & Mrs Andrew & Ciara Tallon
31. Eileen McDonald
32. Jonathan Elliott & Florence Elliott
33. Shelley Coe, David Brogan, Louise Coe & Isaac Coe
34. Joshua Coe
35. Pat, Mary, Jack & Jane McDonald
36. Carl Giffney
37. Patrick Nolan
38. Brian Nolan
39. Pauline O'Connell
40. David & Deirdre Comerford
41. Eric Dignan
42. Claire Boyle
43. Orla Cloney
44. Patrick & Margaret Lennon

45. Willie Delaney
46. Kevin Carpenter
47. Denis O'Leary
48. Adrian & Sinead O'Neill
49. James Lennon
50. Yvonne & Martin Moseley
51. Old Leighlin SEC
52. Alice O'Leary and Stella Grant
53. Sean and Eilish McDonald
54. Rural Residents Wind Aware and Environmental Group
55. Ellen Whelan
56. Denise Scott
57. Rory Sheerin
58. Willie Lakes
59. George Quirke
60. Fiona Donnelly
61. Agnes Kavanagh/ Kinsella
62. James Kavanagh
63. Bridget O'Neill
64. Sean Whelan
65. Maureen Meehan
66. Raheen Lane Residence Association Committee
67. Michael Lakes
68. Pat and Catriona Nolan
69. Danny Quirke
70. George Gahan
71. Sean Whelan & Joanne Dowling
72. Agnes Kavanagh
73. JJ Lennon
74. Dr. Justine Kane-Smyth
75. Nellie and John Shore
76. Tom Quirke and Ann Quirke
77. Stephen Keogh

Date of Site Inspection	01/06/2023.
Inspector	Auriol Considine

Contents

1.0 Introduction

1.1. Introduction

1.1.1. This is an application to construct a 7-turbine windfarm and all associated works at Ridge, Knocknabranagh and Knockbaun, Baunreagh, and Agharue, Co. Carlow and Coolcullen, Cloneen and Coan East, Co. Kilkenny.

1.2. Project Background

1.2.1. White Hill Wind Limited requested pre-application consultations with the Board under Section 37B of the Planning and Development Act, 2000 (as amended) for the construction of 7 turbine windfarm with a predicted output of 50.4MW (ABP-312224-21). The proposal provided for turbines with a tip height of 185m and a predicted output of 7.2MW each. One pre-application meeting took place with the Board on 13th April 2022. The prospective applicant requested closure of the process and the Board, in a letter dated 25th July 2022, determined that the proposed development would be strategic infrastructure and that an application for permission should be made directly to the Board. The records of the pre-application meetings, copied to the applicants, also contained a list of Prescribed Bodies that copies of the application should be forwarded to. This application comprises the proposed windfarm and ancillary infrastructure.

1.3. Site and location

1.3.1. The proposed wind farm is located across two planning jurisdictions with the western area of the site being located in Co. Kilkenny and the eastern area being located in County Carlow. The site lies approximately 13km to the southwest of Carlow town, 14km to the northeast of Kilkenny City and approximately 4km west of Oldleighlin. This area of both counties can be described as being quite rural with a high proportion of dispersed one-off housing noted in the area. In addition, there are a number of farm holdings, and associated farmyards and buildings in the wider area.

1.3.2. The site has a stated area of 290ha and is located on Castlecomer Plateau - the Killeshin Hills, which extends into Counties Carlow, Kilkenny and Laois to the north of the site. The area is described as being elevated and is characterised by undulating hills and steep slopes and the Killeshin Hills are bound to the west by the River Nore and the River Barrow to the east. Large agricultural fields occupy the

lower areas and include forestry and hedgerows while the higher, upland locations include extensive commercial forestry. The landscape type is described as rolling rough grazing.

1.3.3. The Coolcullen Stream, a tributary of the Dinan River, runs through the proposed development site in proximity to proposed turbines T4, T5 and T6. There are no Recorded Monuments, sites of archaeological interest, protected structures or NIAH features identified within the boundary of the subject site. The closest feature in the wider area is an enclosure, identified as SMR No CW011-006----, in the townland of Ridge, approximately 100m to the east of the site. A second feature in the wider area is identified as SMR No. CW011-005----, in the townland of Ridge, approximately 400m to the north of the subject site. Following an assessment of the site however, it was concluded to be a non-antiquity and is noted to be a redundant record as of the 5th of March 2009. There are many numbers of Recorded Monuments, sites of archaeological interest, protected structures or NIAH features within a 10km radius of the subject site.

1.3.4. With regard to the proposed development, four of the proposed wind turbines will be located within County Carlow with three being located in Co. Kilkenny.

1.3.5. Photographs and maps on file describe the site and location in detail.

1.4. **Pre-Application Consultation**

1.4.1. ABP-312224-21: The Board's Notice to the applicants under Section 37B (4) (a) of the Planning and Development Act 2000 (as amended) confirmed that the proposed development would constitute strategic infrastructure. The records of the preapplication meetings were copied to the applicants. The Board advised a list of prescribed bodies to be notified of the application for the proposed development.

1.5. **Planning history**

1.5.1. Application site: Reg. Ref.

PA ref: 22/68: Carlow County Council granted permission for the construction of sheds.

PA ref: 21/316: Carlow County Council granted planning permission for the retention of the existing 80m meteorological mast, and to increase the height of the mast to 100m for a period of five years.

PA ref: 20/257: Carlow County Council granted permission to retain replacement dormer dwelling house as constructed.

ABP ref: PL01.243364 (PA ref: 14/36): Permission was refused by Carlow County Council, and refusal upheld on appeal, for the erection of 21 no. wind turbines each with a hub height of up to 99m and rotor diameter of up to 82m, maximum tip height of 140m and all associated site development works, at Knocknabranagh and Knockbaun, Ridge, Baunreagh and Lacken, Carlow. The current appeal site comprises the western area of the previously refused development.

The reasons for refusal were as follows:

1. Having regard to the nature and character of the receiving upland "ridge" landscape which forms the backdrop to a vast expanse of low-lying lands, it is considered that a wind farm development of the scale proposed would create a significant visual intrusion in this landscape by reason of the height, spatial extent and configuration of the proposed turbines, some of which are located outside the preferred area for wind energy set out in the Carlow County Development Plan 2009-2015. The proposal would also detract from a designated scenic route in the said development plan. The proposed wind energy development would, therefore, seriously injure the visual amenities of the area, would be contrary to the provisions of the Wind Energy Development Guidelines, Guidelines for Planning Authorities issued by the Department of Environment, Heritage and Local Government in June 2006, and would be contrary to the proper planning and sustainable development of the area.
2. It is considered that there is a deficiency in the information submitted in support of the application including;
    - the absence of a detailed geotechnical assessment,
    - the absence of a full bat survey,
    - inadequate consideration of the impacts on the character of local roads,

- inadequate assessment of the impact on residential amenity, and
- inadequate detail on the protection of surface water in the area.

Having regard to these deficiencies the Board is not satisfied that it has sufficient information to complete an Environmental Impact Assessment. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

1.5.2. Surrounding area: PL10.208178:

PA Ref. 07/1: Permission granted to Meteor Mobile Communications Ltd. for continuance of use of a 25-metre-high monopole structure carrying radio antennas for mobile telephony, palisade perimeter fencing, and equipment container as previously granted under planning reference 00/821 which forms part of Meteors cellular digital communications network at Lacken Townland, Old Leighlin, Co. Carlow.

Permission would appear to have been permitted for a continued use again under PA Ref. No. 12/81.

1.5.3. Windfarm Planning History in the area:

ABP ref: 309306-21: Permission granted for 21-turbine windfarm with tip height of 185m in Co. Kilkenny – Castlebanny area – by the Board on the 26th September 2022. Currently the subject of JR.

PA ref: 04/935: Permission granted for a 7-turbine windfarm at Gortahile, Ardough, Co. Laois approximately 9km to the north of the current proposed site and turbine tip height of 125m.

ABP ref: PL.01.240245 (PA ref: 11/154): Permission granted for five turbines and all associated site works in the townlands of Boolyvannanan and Coolnakiska, Bilboa approximately 4km north-east of the subject site and turbine tip height of 136.5m.

PA ref: 20/180: Carlow County Council granted permission for the installation of approximately 4.6km of underground cables – an additional 2km within Laois Co. Co. also permitted as well as a new substation in Laois for connection to the national grid – associated with the permitted Bilboa windfarm.

PA ref: 21/15: Carlow County Council granted permission for alterations to previously permitted windfarm (Carlow County Council 11/154; An Bord Pleanala PL 01.240245) consisting of increased turbine blade diameter while maintaining the permitted tip height, felling of an additional 6.3ha of forestry - associated with the permitted Bilboa windfarm.

PA ref: 22/340: Permission sought for the erection of 5 turbines with a blade diameter of 117m and an overall height to tip of 136.5m, felling of approximately 18ha of forestry and all associated site works – associated with the previously permitted Bilboa windfarm – and anticipated output of approximately 22.5MW.

Further information was sought by Carlow County Council on the 30th November 2022 and a response was submitted on the 2nd of June 2023, with further public notices deemed required. These notices were received by the Planning Authority on the 1st of August 2023 with a deadline for public submissions by 4th of September and therefore the decision date for the application is the 25th of September 2023.

Carlow County Council issued a grant of planning permission for this development on the 25th of September subject to 32 conditions.

2.0 Proposed Development

2.1. Development Description

The description of the proposed development, as advertised is as follows:

i. 7 no. wind turbines with hub height of 104 metres, a rotor diameter of 162 metres and an overall tip height of 185 metres;

ii. All associated turbine foundations and crane hardstanding areas;

iii. All associated underground electrical and communications cabling;

iv. Construction of internal wind farm access tracks;

v. Construction of a site entrance from the L3037 local road and upgrades to 2 no. existing agricultural entrances from the L7122 local road;

vi. 1 no. guy-wired meteorological mast with an overall height of 30 metres;

vii. 1 no. temporary construction compound;

viii. 3 no. borrow pits which, when exhausted, will be utilised to permanently store excess excavated material;

ix. The storage, as required, of excavated material at 2 no. further dedicated spoil deposition areas;

x. Change of use of existing residential dwelling to wind farm site office;

xi. Felling of 15 hectares of commercial forestry plantation to facilitate the construction of wind farm infrastructure;

xii. The construction of a temporary access track (150m in length) between the N78 national road and L1834 local road;

xiii. Carriageway strengthening works at ‘Black Bridge’ on the L1835 and L3037;

xiv. All associated and ancillary site development, excavation, construction, landscaping and reinstatement works, temporary works to public roads along the turbine component haul route, the provision of site drainage infrastructure and environmental mitigation measures; and,

xv. A 35-year operational life from the date of commissioning of the entire proposed development.

The site of the proposed development has a total area of 290 hectares. An Environmental Impact Assessment Report and Natura Impact Statement have been prepared in respect of the proposed development and accompany this planning application.

The Board will also note the proposal to plant 15ha of commercial forestry on lands in the townland of Drumagelvin, Co. Monaghan, as a replacement to the felling of the 15ha at the subject site location in order to accommodate the proposed windfarm development.

2.2. **Submitted Documentation**

The application included the following accompanying documents:

- Completed application form,
- Planning drawings, relevant particulars and public notices
- Cover Report and description of the proposed works
- Environmental Impact Assessment Report (EIAR)
    - The Non-Technical Summary
    - Volume 1 sets out the main text of the EIAR in 14 Chapters
    - Volume 2 sets out the Appendices to the EIAR chapters, including a Schedule of mitigation measures at Annex 1.10.
- Letters to Prescribed Bodies
- Letters of consent from land and property owners

2.3. **Environmental Impact Assessment Report**

2.3.1. The EIAR described the site and surrounding area; stated that the proposal would comply with EU, national and local planning and energy policy; considered alternatives; and provided a detailed project description.

2.3.2. Volume I: Main Text of the EIAR described the receiving environment; outlined the study methodologies; assessed the potential impacts on the receiving environment under the usual range of headings; proposed mitigation measures for the

construction, operational and decommissioning phases; identified residual impacts and interactions and assessed cumulative impacts; and had regard to climate change and the risk of major accidents and natural disasters.

2.3.3. The EIAR was informed by a visual impact analysis and several technical appendices and includes a Non-Technical Summary. Volume II, Annex 1.10 sets out the Schedule of Mitigation Measures.

2.3.4. The EIAR concluded that environmental impacts, which relate to residential and visual amenity, biodiversity, water quality and aquatic ecology, will be managed by mitigation measures; the proposed development would comply with climate change, renewable energy and planning policy; that it would not adversely affect amenities (residential, visual or heritage) or give rise to a traffic hazard; and that it would be in accordance with the proper planning and sustainable development of the area.

2.4. **Natura Impact Statement**

2.4.1. A Stage 1 AA screening exercise was carried out for the proposed windfarm, substation, grid connection and delivery route, and a Stage 2 Natural Impact Statement was prepared.

Stage 1 AA Screening Report

2.4.2. The AA Screening exercise described the site location and the characteristics of the proposed development, and it identified the European sites within the potential Zone of Influence of the project. It assessed the likely effects on several European sites within a 15km radius of the windfarm site. The report described the individual elements of the project with potential to give rise to effects on these European sites and it described any likely direct and indirect effects on the European sites along with in-combination effects, and it assessed the significance of any effects.

2.4.3. The report notes that with the exception of minor enabling works on the haul route at Black Bridge, the windfarm development is not situated within or immediately adjacent to any Natura 2000 site, and therefore, the potential for direct impacts can be excluded. The AA Screening exercise concluded, however, that 2 of the 3 Natura 2000 sites closest to the wind farm development have hydrological links to the project site and as such, the proposed windfarm development could have likely significant effects, either alone or in- combination with other plans or projects, on the Qualifying Interests and Conservation Objectives of some of the European Sites, and

that progression to a Stage 2 Natura Impact Statement was considered necessary for those sites.

Natura Impact Statement Report

2.4.4. The NIS summarised the background to the report and described the AA methodology. It described the proposed development and the baseline ecology of the site and environs, and it assessed the likely significant effects on 2 x European sites which were screened in after the Stage 1 AA exercise, being the River Nore and River Barrow SAC (Site Code: 002162) and the River Nore SPA (Site Code: 004233). It identified the potential for direct and indirect effects on these European sites and proposed a range of mitigation measures which are contained in the EIAR. It assessed the potential for cumulative effects in-combination with other plans and projects. The NIS was informed by the Stage 1 AA Screening Report, ecological surveys, relevant EIAR Chapters and the Construction & Environmental Management Plan. The NIS report also advises that the replant lands are not located within or adjacent to any designated Natura 2000 site and is located within an area dominated by improved Agricultural Grassland (GA1) with no significant watercourses present. The replanting process will be subject to Forestry Licence assessments and requirements.

2.4.5. The NIS concluded that, in the light of best scientific knowledge in the field, all aspects of the proposed project which, by itself, or in combination with other plans or projects, which may affect the relevant European Sites have been considered, and that the Board is enabled to ascertain that the proposed project will not adversely affect the integrity of any of the European Sites concerned.

3.0 Legislative & Policy Context

3.1. EU Legislation/Policy

3.1.1. Renewable Energy Directive 2018/2001/EU

The Directive sets out a new target for share of energy from renewable sources in the EU to at least 32% for 2030, with a review for increasing this target through legislation by 2023. A major shift within the revised Directive is the way in which Member States will contribute to the overall EU goal. Where previously (for 2020 target) member states had an individual national binding target, the 2030 framework is solely based on an EU-level binding target of 32%. It requires Member States to set national contributions to meet the binding target as part of their integrated national energy and climate plans.

3.1.2. Climate and Energy Policy Framework 2030

The Climate and Energy Policy Framework 2030 was adopted in 2014 and includes EU-wide targets and policy objectives for the period between 2021-2030. It seeks to drive continued progress towards a low-carbon economy and build a competitive and secure energy system that ensures affordable energy for all consumers and increase the security of supply of the EU's energy supply. It sets targets of at least 40% reduction in green-house gas emissions and at least 32% share of renewable energy from all energy consumed in the EU by 2030.

3.1.3. Effort Sharing Regulation (EU) 2018/842

The Effort Sharing Regulation (EU) 2018/842 lays down obligations on Member States with respect to minimum requirements to fulfil the EU's target of reducing its greenhouse gas emissions 30% below 2005 levels in 2030 in the various sectors and contributes to achieving the objectives of the Paris Agreement. A GHG reduction target of at least 30% applies to Ireland.

3.2. National Policy

3.2.1. National Planning Framework – Project Ireland 2040, DoHP&LG 2018

This plan sets out a strategic national planning framework for the entire country. It recognises the need to move toward a low carbon and climate resilient society, and it emphasises that rural areas have a strong role to play in securing a sustainable

renewable energy supply. It seeks to harness the country's renewable energy potential, achieve a transition to a competitive, low carbon, climate-resilient and environmentally sustainable economy by 2050, and promote new energy systems & transmission grids (including on and off shore wind energy).

The following National Policy Objectives (NPOs) are relevant:

- NPO 21: Enhance the competitiveness of rural areas by supporting innovation in rural economic development and enterprise through the diversification of the rural economy into new sectors and services, including ICT-based industries and those addressing climate change and sustainability.
- NPO 54: Reduce our carbon footprint by integrating climate action into the planning system in support of national targets for climate policy mitigation and adaptation objectives, as well as targets for greenhouse gas emissions reductions.
- NPO 55: Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050.

3.2.2. **National Development Plan 2021-2030**

This plan underpins the NPF Plan, and it sets a framework for investment priorities which includes expenditure commitments to secure a wider range of Strategic Investment Priorities.

3.2.3. **National Energy and Climate Plan, 2021-2030**

The National Energy and Climate Plan (NECP) was prepared in accordance with Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action. The EU Governance Regulation is effectively the piece of EU legislation under which Ireland is held accountable in meeting its de-carbonisation targets. This Plan outlines Irelands energy and climate policies in detail for the period from 2021 to 2030 and looks onwards to 2050.

The NECP is a consolidated plan which brings together energy and climate planning into a single process for the first time. It envisages a target of at least 55% renewable energy in electricity by 2030, with specific annual targets for delivery of onshore and offshore wind in order to meet the requirements of Article 4 of the

Regulation. The minimum target for onshore wind in Ireland by 2025 is a total installed capacity for 5900MW, an increase of approximately 1700MW on 2020.

3.2.4. **Climate Action Plan 2021**

This Plan seeks to realise a 51% reduction in greenhouse gas emissions by 2030 and substantially increase reliance on renewables by setting us on a path to reach net-zero emissions by no later than 2050, whilst phasing out fossil fuels. Section 11 deals with electricity supply and demand which could be partly met by on-shore wind capacity. Sections 16 and 17 deal with Agriculture, Forestry, Land Use and the marine. The Plan identifies agriculture as a source of carbon emissions and peatlands as having the potential to sequester carbon and identifies a range of measures to deliver targets for a reduction in greenhouse gas emission.

3.2.5. **Wind Energy Development Guidelines - Guidelines for PAs, June 2006.**

The Guidelines advise that a reasonable balance must be achieved between meeting Government Policy on renewable energy and the proper planning and sustainable development of an area and it provides advice in relation to the information that should be submitted with planning applications. The impacts on residential amenity, the environment, nature conservation, birds and the landscape should be addressed. It states that particular landscapes of very high sensitivity may not be appropriate for wind energy development.

3.2.6. **Draft Wind Energy Development Guidelines, 2019**

The Draft Guidelines propose several key amendments to the original document in relation to noise, visual amenity, shadow flicker and community engagement. The application of more stringent noise limits in line with WHO noise standards together with a more robust noise monitoring system and reporting system is proposed. The mandatory minimum 500m setback from houses is retained but augmented by a setback of 4 x turbine height from sensitive receptors.

3.2.7. **National Landscape Strategy for Ireland, 2015-2025**

This document seeks to integrate landscape into our approach to sustainable development, carry out an evidence-based identification and description of landscape character, provide for an integrated policy framework to protect and manage the landscape and to avoid conflicting policy objectives.

3.2.8. The Planning System and Flood Risk Management, 2009

These Guidelines seeks to avoid inappropriate development in areas at risk of flooding and avoid new developments increasing flood risk elsewhere. They advocate a sequential approach to risk assessment and a justification test.

3.3. Regional Policy

3.3.1. Regional Spatial & Economic Strategy – Southern Region

This document seeks to support the delivery of the programme for change set out in Project Ireland 2040, the National Planning Framework (NPF) and the National Development Plan 2018-27 (NDP), and to ensure coordination between the City & County Development Plans and Local Enterprise & Community Plans. It seeks to facilitate the sustainable development of additional electricity generation capacity throughout the region and to support the sustainable expansion of the transmission network. The Regional Authority seeks to ensure that future strategies and plans for the development of renewable energy, and associated infrastructure, will promote the development of renewable energy resources in a sustainable manner.

The following Regional Policy Objectives (RPOs) 87, 95, 96, 98, 99 and 219 deal with renewable energy.

- **RPO 87 Low Carbon Energy Future:** The RSES is committed to the implementation of the Government's policy under Ireland's Transition to a Low Carbon Energy Future 2015-30 and Climate Action Plan 2019. It is an objective to promote change across business, public and residential sectors to achieve reduced GHG emissions in accordance with current and future national targets, improve energy efficiency and increase the use of renewable energy sources across the key sectors of electricity supply, heating, transport and agriculture.
- **RPO 95 Sustainable Renewable Energy Generation:** It is an objective to support implementation of the National Renewable Energy Action Plan (NREAP), and the Offshore Renewable Energy Plan and the implementation of mitigation measures outlined in their respective SEA and AA and leverage the Region as a leader and innovator in sustainable renewable energy generation.

- **RPO 98 Regional Renewable Energy Strategy:** It is an objective to support the development of a Regional Renewable Energy Strategy with relevant stakeholders.
- **RPO 99 Renewable Wind Energy:** It is an objective to support the sustainable development of renewable wind energy (on shore and offshore) at appropriate locations and related grid infrastructure in the Region in compliance with national Wind Energy Guidelines.
- **RPO 219 New Energy Infrastructure:** It is an objective to support the sustainable reinforcement and provision of new energy infrastructure by infrastructure providers (subject to appropriate environmental assessment and the planning process) to ensure the energy needs of future population and economic expansion within designated growth areas and across the Region can be delivered in a sustainable and timely manner and that capacity is available at local and regional scale to meet future needs.
- **RPO 221 Renewable Energy Generation and Transmission Network:**
    a. Local Authority City and County Development Plans shall support the sustainable development of renewable energy generation and demand centres such as data centres which can be serviced with a renewable energy source (subject to appropriate environmental assessment and the planning process) to spatially suitable locations to ensure efficient use of the existing transmission network;
    b. The RSES supports strengthened and sustainable local/community renewable energy networks, micro renewable generation, climate smart countryside projects and connections from such initiatives to the grid. The potential for sustainable local/community energy projects and micro generation to both mitigate climate change and to reduce fuel poverty is also supported;
    c. The RSES supports the Southern Region as a Carbon Neutral Energy Region.

3.4. **Other Policy Documents**

- EU Energy Directives and Roadmaps and associated national targets for renewable energy by sector.
- National Renewable Energy Action Plan 2010
- Strategy for Renewable Energy 2012-2020
- EU Guidance (2013) Wind Energy Developments and Natura 2000 Sites.
- Ireland's Transition to a Low Carbon Energy Future, DCENR, 2015-2030
- Renewable Energy Policy and Development Framework. DCENR, 2016

3.5. **Carlow County Development Plan**

The Board will note that part of the subject site lies within County Carlow. The Carlow County Development Plan 2022-2028 was adopted by the Council's Elected Members on 23rd May 2022, and came into effect on the 4th July 2022. The following sections of the Plan are considered relevant:

3.5.1. **Core Strategy**

Aim: To direct and facilitate appropriate levels of growth and development throughout the County that promotes sustainable development, a more consolidated urban form, a high-quality living and working environment with supporting infrastructure that meets the needs of all residents, in accordance with the National Planning Framework and the Regional Spatial and Economic Strategy for the Southern Region.

3.5.2. **Climate Action & Renewable Energy**

Aim: To combat climate change and its impacts in the County by promoting and supporting policies and objectives which contribute towards a transition to a low-carbon and climate resilient future, and which focus on reducing greenhouse gas emissions and energy demands through appropriate and effective climate mitigation and adaptation measures.

Policies & objectives: Chapter 7 sets out the Councils approach to climate action and energy in the county. The Plan includes a number of policies and objectives seeking to encourage and support the transition of Carlow to a sustainable county through community engagement, energy efficiency and the sustainable development

of renewable energy, whilst providing environmental and economic benefit at a local and national level, and in accordance with all relevant planning and environmental considerations.

Section 7.10.1 deals with Renewable Energy and the following policies and objectives are considered relevant:

- **RE P1:** Encourage and facilitate the production of energy from renewable sources, such as from wind, solar, bioenergy, hydroelectricity, and geothermal, subject to compliance with proper planning and environmental considerations.
- **RE P2:** Support the co-location of renewable energy technologies on a case-by-case basis subject to compliance with planning and environmental criteria.
- **RE O1:** Seek to achieve a minimum of 130MW of renewable electricity in the County by 2030, by enabling renewable energy developments, and through micro-generation including rooftop solar, wind, hydro-electric and bioenergy combined heat and power (CHP).

Section 7.10.3.1 deals with Wind Energy and the Plan advises that the Council is required to achieve a reasonable balance between responding to overall positive Government policy on renewable energy and enabling the wind energy resources of the County area to be harnessed in a manner that is consistent with proper planning and sustainable development. The subject site lies within an area which is identified as having viable wind speed >7.6m/s and that no significant conflicts arise in relation to the wind strategy designations for neighbouring counties, namely Laois, Kilkenny and Wexford.

The Plan states that windfarm development in the more elevated Uplands Landscape Type, which is identified in the Landscape Character Assessment as having the highest landscape sensitivity rating of 5, will not normally be permissible.

The following Wind Energy policies and objectives are considered relevant:

- **WE P1:** Have regard to the Department of the Environment, Heritage and Local Government's Guidelines for Planning Authorities on Wind Energy Development (or any update to this document).

- **WE P4:** Wind farm development will not normally be permissible in the Uplands Landscape Type as shown in Figure 6 of the Carlow County Landscape Character Assessment included as Appendix VII to this Plan. This provision shall not apply to micro energy generation and community energy projects as provided for in Section 7.10.3.5, where deemed appropriate and subject to compliance with proper planning and environmental considerations.
- **WE O1:** Increase the penetration of wind energy generation in County Carlow at appropriate locations and scale and subject to compliance with proper planning and environmental considerations.

3.5.3. **Landscape & Green Infrastructure**

Aim: To protect, conserve and enhance the character, quality, and value of the County's landscape, in conjunction with recognition and support for the role of green infrastructure as a natural resource in the landscape, capable of delivering a wide range of environmental and quality of life benefits, including climate change adaptation.

The subject site lies within an area which has a landscape sensitivity of 5, within an upland area in the Killeshin Hills, to the west of the county bordering Kilkenny and Laois. The area is bound to the east by the river Barrow Valley with the R448 skirting along the east side of the valley. The lands adjoining the river valley are gently undulating hills which ascend steeply to uplands adjoining County Kilkenny, ie., the Castlecomer Plateau. There are extensive panoramic views of the entire County to be had from the eastern slopes.

The area is almost entirely a rural agricultural landscape with a moderate level of sensitivity and moderate potential capacity to absorb different types of development. Due to its upland character and relative exposure, it has a low potential capacity to absorb rural housing or industrial development. The Killeshin Hills contains the following Landscape Types: uplands, farmed ridges, farmed lowlands and broad river valley.

There are 2 Protected Views in the vicinity of the site as follows:

- No. 31: Vista east, panorama from Killeshin Hills across central plain to Blackstairs at Ridge Cross

- No. 32: Vista east, panorama from Killeshin Hills across central plain to Blackstairs at Tuolcreen Cross

There are 2 Scenic routes to the north and north east of the site as follows:

- No. 6: Route L7123-0 Central Plain Ridge Cross Roads
- No. 7: Route L3037-11 Panorama across central plain Road to the Butts.

Policies & objectives: Chapter 9 sets out the policies and objectives that seek to protect the landscape of County Carlow. The following are considered relevant as they relate to windfarm developments:

- **LA P1:** Protect and maintain the overall integrity of the County's landscape, by recognising its capacity to sustainably integrate and absorb appropriate development, and by ensuring that development protects, retains and, where necessary, enhances the appearance and character of the landscape, and does not unduly damage or detract from those features which contribute to its value, character, distinctiveness and sensitivity e.g. landform, habitats, scenic quality, settlement pattern, historic heritage, amenity, land use and tranquillity.
- **LA P2:** Ensure that development will not have a disproportionate landscape or visual impact in sensitive upland areas of the County (due to siting, layout, design or excessive scale, height and bulk) and will not significantly interfere with or detract from scenic upland vistas, when viewed from the surrounding environment, including nearby areas, scenic views and routes, and from settlements.
- **LA P3:** Adopt a presumption against developments which are located on elevated or visually exposed sites or areas with open exposed vistas, and where the landscape cannot accommodate such development with appropriate mitigation.
- **LA P4:** Ensure that developments on steep slopes or ridges will not be conspicuous or have disproportionate landscape or visual impacts when viewed from the surrounding environment, including from nearby areas, scenic views and routes, and from settlements.

- **LA P6:** Require all developments, having regard to their landscape setting, to be appropriate in siting, layout, design and scale, in order to ensure any potential adverse or landscape and visual impacts are minimised and/or removed where necessary, and that natural site features and characteristics are retained and maintained.
- **LA P7:** Facilitate, where appropriate, developments that have a functional and locational requirement to be situated on steep or elevated sites (e.g. reservoir, telecommunication masts or wind energy structures) where residual adverse visual impacts are minimised or mitigated.
- **LA P9:** Have regard to the potential for screening vegetation when evaluating proposals for development within the uplands.
- **LA P11:** Protect and preserve the established appearance and aesthetic attributes of views and prospects that contribute to the inherent quality of the County's landscape, including views, prospects and scenic routes listed in Tables 9.3 and 9.4, and particularly views to and from mountains, hills, river valleys and river corridors, and views of historical or cultural value (including buildings and townscapes) and views of natural beauty.
- **LA O1:** Ensure that the management and assessment of development throughout the County takes account of the recommendations and assigned Landscape Character Areas, Landscape Types, and Landscape Sensitivity, and the Schedule of Views, Prospects and Scenic Routes, as contained in this Plan, and in accordance with Government Guidance on Landscape Character Assessment and the National Landscape Strategy.
- **LA O2:** Ensure landscape/visual impact assessment will be a key consideration in the assessment of development proposals within the County.

3.5.4. **Heritage**

Aim: To protect, conserve, manage and enhance the natural and built heritage features of the County, to ensure the survival of their intrinsic value for future generations and to ensure they contribute to the future sustainable development of the County.

Policies & objectives: Chapter 9 contains several policies, objectives and development management standards that seek to protect the landscape, views, biodiversity and cultural heritage.

3.5.5. **Cultural heritage**

There are no Recorded Monuments, sites of archaeological interest, protected structures or NIAH features identified within the boundary of the subject site. The closest feature in the wider area is an enclosure, identified as SMR No CW011-006----, in the townland of Ridge, approximately 100m to the east of the site, and noted as follows:

> The following description is derived from the published 'Archaeological Inventory of County Carlow' (Dublin: Stationery Office, 1993). In certain instances, the entries have been revised and updated in the light of recent research. Date of upload/revision: 17 July 2007.
>
> Shown on 1839 'OS 6-inch' map but not on 1908 ed. Barely discernible traces of bank enclosing circular area (diam. 16m).

In addition to the above, a second feature in the wider area is identified as SMR No. CW011-005----, in the townland of Ridge, approximately 400m to the north of the subject site, and being ‘formerly classed as 'Potential site - aerial photograph' in the SMR (1986) based on its appearance on GSIAP R 5/10. Following an assessment of it, it was concluded to be a non-antiquity.’ This is noted to be a redundant record as of the 5th of March 2009.

There are many numbers of Recorded Monuments, sites of archaeological interest, protected structures or NIAH features within a 10km radius of the subject site.

3.6. **Kilkenny City & County Development Plan 2021-2027**

The Kilkenny City & County Development Plan is one of the relevant development plans relating to the subject site. Kilkenny currently has approx. 76 MW of installed wind energy, generated by 39 turbines in 8 windfarms.

On 15th October 2021, the Minister of State at the Department of the Housing, Local Government and Heritage, consequent to a recommendation made to him by the Office of the Planning Regulator under section 31AM(8) of the Planning and Development Act 2000 (as amended), notified Kilkenny County Council of his

intention to issue a Direction to the Kilkenny City and County Development Plan 2021-2027. In accordance with Section 31(4) of the Planning and Development Act 2000, those parts of the Kilkenny City and County Development Plan 2021-2027 referred to in the notice shall be taken not to have not come into effect, been made or amended; namely, Chapter 11, Renewable Energy: -

Section 11.4:	Kilkenny Targets
Section 11.5.1:	Current status and targets
Figure 11.4:	Wind Strategy areas

The Board will note that the Draft CCDP 2021 to 2027 designated the subject site as "Acceptable in Principle" for wind energy developments, and that this area of the County was not altered by the Elected Representatives which instigated the ministerial direction.

The following sections of the Plan are considered relevant:

3.6.1. **Climate change**

Aim: To provide a policy framework with objectives and actions in this City and County Development Plan to facilitate the transition to a low carbon and climate resilient County with an emphasis on reduction in energy demand and greenhouse gas emissions, through a combination of effective mitigation and adaptation responses to climate change.

3.6.2. **Core Strategy**

Aim: To implement the provisions of the National Planning Framework (NPF) and the Regional Spatial and Economic Strategy (RSES) and to promote the compact growth of Kilkenny City, Ferrybank/Belview (as part of WMASP), the District Towns, the other settlements in the hierarchy and to strengthen rural economies and communities through growth and development of rural areas

3.6.3. **Rural development**

Aim: To manage rural change and guide development to strengthen the rural economy and community through the network of towns and villages ensuring vibrant, sustainable and resilient rural areas whilst conserving and sustainably managing our environment and heritage.

Policies & objectives: Chapter 7 contains several policies, objectives and development management standards that seek to protect and promote rural development.

3.6.4. **Renewable energy**

Aim: To generate 100% of electricity demand for the County through renewables by 2030 by promoting and facilitating all forms of renewable energies and energy efficiency improvements in a sustainable manner as a response to climate change in suitable locations having due regard to natural and built heritage, biodiversity and residential amenities.

Policies & objectives: Chapter 11 contains several policies, objectives and development management standards that seek to promote renewable energy.

> **Objective 11A:** To support and facilitate the provision of energy in accordance with Ireland's transition to a low carbon energy future by means of the maintenance and upgrading of electricity and gas network grid infrastructure and by integrating renewable energy sources and ensuring our national and regional energy system remains safe, secure and ready to meet increased demand as the regional economy grows over the period of the plan.

3.6.5. **Heritage**

Aim: To seek the protection and sustainable management of the arts, culture and heritage of Kilkenny for the benefit of current and future generations; to encourage the collection of knowledge to inform its protection; and to promote access to, awareness of and enjoyment of Heritage, Arts & Culture, to further develop the infrastructure and actively support engagement with communities.

Policies & objectives: Chapter 9 contains several policies, objectives and development management standards that seek to protect the landscape, views, biodiversity and cultural heritage.

3.6.6. **Landscape & protected views**

Landscape matters are dealt with in Chapter 9 of the CCDP and specifically section 9.2.12. The following is relevant in this regard:

Landscape Character Assessment Type: Transition Zone

Landscape Character Area: Castlecomer Plateau

Landscape sensitivities: Primarily Contours with Ridgelines noted to the north.

Protected views: None within the vicinity of the subject site. The closest protected view is noted to be:
V13. Views southwest over Kilkenny City and southeast over Carlow on Ballysallagh/Kanesbridge Road No. LP 1851 between the junctions with road nos. LT6654 and LS5886.

3.6.7. **Cultural heritage**

There are no Recorded Monuments, sites of archaeological interest, protected structures or NIAH features identified within the boundary of the subject site. The closest feature in the wider area is identified as SMR No. KK015-071----, in the townland of Reevanagh, approximately 700m to the south of the subject site, and being 'a well and its vicinity was investigated in the field in 1987 and was found to be a natural feature with no evidence of the presence of an archaeological monument'. This is noted to be a redundant record as of the 9th of January 2013.

There are many numbers of Recorded Monuments, sites of archaeological interest, protected structures or NIAH features within a 10km radius of the subject site.

3.7. **Natural Heritage Designations**

The site is not located within any Natura 2000 site. The closest Natura 2000 site is the River Barrow and River Nore SAC (Site Code: 002126) which lies immediately adjacent to the site of the proposed haul route works at Black Bridge, and to the north of the main windfarm site and within 1.7km of the nearest turbine.

In addition to the above, the River Nore SPA (Site Code: 004233) lies approximately 11.5km to the west of the site, approximately 13km from the closest proposed turbine and the Lisbigney Bog SAC (Site Code: 000869) lies 12.2km to the north west, and approximately 19.6km to the nearest proposed turbine.

An NIS has been prepared for the proposed project.

4.0 Submissions

4.1. Carlow County Council

4.1.1. Chief Executive's Report:

The report sets out the detail of the proposed development and the policy background. The report is summarised as follows:

- Having regard to the specific land use policy associated with upland areas, the proposed development is contrary to the provisions of the Renewable Energy Strategy for County Carlow as adopted in the CDP 2022.
- The proposal is contrary to the provisions of Policy WE P4 of the CDP.
- The potential for impact on the sensitive landscape is significant and contrary to policies and objectives of the CDP.
- Issues raised in terms of the NIS and that the proposed development will not adversely impact on the River Barrow and River Nore SAC. Mitigation measures should be definitive in nature.
- The Chief Executive's Report concludes as follows;
    - The proposed development is contrary to the policy provisions of the Carlow CDP.
    - In terms of Visual and Cumulative Impact, the development would have an adverse visual impact on the sensitive landscape given the nature and topography of the landscape, the height of the proposed wind farm together with siting and location, in conjunction with the Bilboa Windfarm c4.5km and the Gortahile Windfarm c 5.5km to the north east (with a potential for 20 turbines).

      The cumulative impact would be significant and contrary to the policies of Chapter 9 of the Carlow CDP.
    - Turbine design
    - Impact on residential amenities
    - Community gain.

- Should consent be forthcoming, the report provides details in terms of development contributions and a Special Development Contribution in terms of road conditions. Conditions are also recommended.

4.1.2. Interdepartmental Reports:

Municipal District Engineers Report:

- Inadequate sight lines onto the L-7112. A Road Safety Audit is required to justify a reduction in sight distances.
- Proposed Aco Drain a concern due to maintenance difficulties. This details to be revisited.
- Pre-construction Condition Survey to be carried out.
- Resurfacing of the L-7112 between the two entrances will be required once development complete.
- Construction Management Plan, to include Traffic Management Plan and Pre-Construction Condition Survey to be submitted.
- Conditions to be attached to any grant of permission to ensure any damage to public road is rectified by the developer.

Transport Engineer:

- Satisfied with the carriageway strengthening works at Black Bridge. Construction plan / method statement required.
- Details in respect of the proposed entrance via the L-7117 are lacking.
- Details of how the development will connect to the electric distribution network to be submitted.
- The requirements of the Municipal District Engineers Report restated.

SEE – Environmental Report:

- Notes the submission of the NIS and accepts the mitigation measures proposed are satisfactory.

- Consideration of the EIAR, including mitigation measures is noted. Recommended additional measures / conditions are included as they relate to each aspect of the environment.

4.1.3. Elected Members Meeting:

At a meeting of the Council, Monday 13th February 2023 at 2pm, the members of Carlow County Council considered the proposed development and requested that the Board take into account the following issues:

- That ABP consider the pre and post noise studies, reports and findings prepared for Offaly County Council regarding Meenwaun Wind Farm Co. Offaly, granted on appeal in 2015 and for turbine size 2.75MW.
- Further investigations need to be carried out regarding the protection and monitoring of private and co-operative water schemes. Waste water wash areas and drainage systems for machinery and lorries in not clearly identified in the proposal. The proposed development is close to two SACs.
- Fully consider conservation and habitat of rare species in the County. The deforestation of the county is noted when Carlows CDP encourages more forestation. Forestation should not be removed from the county to another county.
- Inclusive public participation has not been successful with the application. Only a small percentage of residents in the area took part in workshops provided.
- No proper consideration has been given to property devaluations, considering other applications in the area.

4.2. **Kilkenny County Council**

4.2.1. Acting Chief Executive's Report:

The report sets out the detail of the proposed development and the policy background. The report notes the policy status and the Ministers Draft Direction which issued on the 15th of October 2021 but remains unresolved such that the Sections 11.4 and 11.5.1 of Chapter 11 of the 2022 CDP have been suspended and

cannot be relied upon. The Council must instead rely on the Ministerial Guidelines on Wind Energy, published in 2006 and amended in 2017 for policy guidance.

The report is set out in eight parts and is summarised as follows:

- The PA has concerns in relation to the scale of development, the number and height of turbines, cumulative visual impacts, viewpoints presented and how the sensitivities of the landscape have been addressed.
- The impact of 7.5km of new access tracks, grid connection, soil deposition area and the felling of 15ha of forestry has not been adequately mitigated.
- Impact on roads during the construction phase will be a significant interference, including the construction supply routes.
- The 15km grid connection will form part of a separate application. Concerns in terms of the potential for multiple wind and solar farm grid connections as the existing roads are unlikely to be sufficient to accommodate multiple cable runs.
- The development requires crossing a number of watercourses and is hydrologically connected to the River Barrow and River Nore Natura 2000 site. Further detail is required in relation to a number of areas including potential impacts on ground and surface water quality and excavation depths in the borrow pits relative to the water table level.
- Cumulative impact of shadow flicker noted as a potential in the EIAR. The potential impact on residential amenity or traffic have not been adequately addressed.
- In terms of the EIAR, the report submits that:
    - The scale of the turbines with reference to the separation distance could give rise to negative impacts on residential amenities.
    - There is potential for impacts on designated sites due to receiving surface water runoff.
    - the visual impact assessment is lacking and that the photomontages and associated sensitivity ratings are inaccurate for a number of viewpoints. Issues also raised regarding the cumulative visual impact.

- Impacts on bridges to accommodate the development – 2 recorded on the NIAH.
- The impact of shadow flicker associated with turbine no. 7 is a concern.

- Should the Board grant permission, conditions are recommended.

Ultimately, the CEs report concludes that the development as currently presented should be redesigned in terms of extent and scale as the developer has not robustly demonstrated that the proposed development would not have negative impacts on the visual and residential amenities of the local and wider area.

4.2.2. Interdepartmental Reports:

Parks Department:

- No great detail or impact assessment is provided in relation to the construction phase and soil deposition area to include soft landscape treatments of same.
- Further detail should be sought with specific reference to the impact such soil deposition areas will have, both in the broader sense that being size, scale and nature through the soft landscape treatment of such areas.
- This would address the nursery treatment for soil stabilisation of such areas in the transition phase until landscaping becomes established.

Environment Section:

- Clean storm/surface water should be required to be managed during the construction, operation and decommissioning stages. All matters relating to surface water management required prior to the commencement of development.
- Applicant should be required to design and undertake so as to facilitate the minimisation of waste production, prepare a Waste Management Plan.
- All tank and drum storage areas should be impervious and bunded.
- Applicant to be required to ensure that all operations are carried out in a manner such that noise, dust, reflectance, shadow flicker, air emissions and /

or odours do not result in significant impairment of or interference with amenities or the environment beyond the site.

- Details of wastewater disposal from the house to be used as office.
- A Site Works Plan to be required for both construction and decommissioning stages.
- A vehicle inspection and maintenance plan is required.
- Project Liaison Officer to be appointed.
- CEMP and all other plans developed for the application are to be considered as live documents.

Road Design Section:

- Main roads related issues will arise during the construction phase and ducting route for the preferred grid connection.
- Shadow flicker effects on road users to be assessed.
- Mitigation measures are noted, with specific aspects considered in relation to:
    - Construction haulage routes and impact on local roads.
    - Issues in relation to the wind farm entrances – noted to be located in County Carlow.
    - Maintenance access route to be confirmed.
    - Photographic and Falling Weight Deflector (FWD) survey of the public roads to be provided prior to construction.
    - Detailed traffic management plan for delivery of concrete for foundations.
    - Notification system for local residents to be developed.
    - The turbine delivery route to be confirmed and relevant consents secured.
    - In terms of works to local road and Black Bridge, the applicant has not submitted design calculations and assessments to confirm that solution proposed is appropriate.

- The RSA exclusively deals with the main site entrance. The scope should be widened to include consideration of the significant temporary works proposed on the N78 at Railyard. References to the potential future use of temporary access routes entrances raised as a concern. The applicant should be required to fully reinstate both the temporary access road in addition to the roadside boundary on the national road.
- Grid connection matters.

- From a roads' perspective, significant concerns are raised that multiple wind and solar farms can propose connection to the same ESB substations and proposed routes may and in all likelihood will coincide. Consideration to co-ordinate and amalgamate may need to be considered as the existing road may be insufficient to accommodate multiple cable runs.

4.2.3. Elected Members Meeting:

At a special meeting of the Council, Monday 27th February 2023 at 4pm, the members of Kilkenny County Council considered the proposed development and the Chief Executives Report. The members raised a number of concerns as follows:

- That ABP refuse outright the proposed development.
- Lack of consultation
- Issues with SID process
- Scale of windfarms and other forms of renewable energy should be prioritised.
- Concern for local communities and issues with the proposed community fund.
- Images omitted from the application.
- Impact on SACs, roads and landscape as well as property values.
- Issues raised around the failure of Government to adopt Wind Guidelines.
- Requests that ABP have an oral hearing.
- Conditions of permission to be adhered to.

Ultimately, the members of Kilkenny County Council agreed the following resolution:

- That the Board refuse permission due to the following:

- The members have concerns in relation to the scale of the project and how the sensitivities of the landscape have been addressed in the EIAR.
- It is the members view that the LVIA has not adequately addressed the full extent of the visual impact of the proposed windfarm and the cumulative visual impacts with other existing, permitted and proposed windfarms in the area.
- Impact on residential amenity.
- Cumulative shadow flicker effects and impact on residential amenity have not been adequately taken into account, particular reference to Turbine 7.

4.3. **Prescribed Bodies**

4.3.1. **Health Service Executive**

- Temporary Construction Compound:
  - No direct emissions to ground or surface water of foul waste water from the temporary construction compound.
  - Any water used for drinking or the preparation of food at the temporary compound should meet the requirements of S.I. No. 122/2014 – EU (Drinking Water) Regulations 2014.
- Noise:
  - The EIAR makes a reasoned case for adoption the criteria of daytime 40dB LA90, 10-min and night time of 43dB LA90, 10-min.
  - The EIAR assesses the background/existing noise environment but doesn't report on the predicted changes from the development, which is an omission in the information.
  - 2006 Guidance relates to turbines half the size of the ones now proposed.
  - The 'balance' between the national need for power generation and noise exposure is not an element of an assessment of the likely

significant effects from noise. The EIAR should not be advocating in this manner.

  - The likely significant effect from noise with regard to sleep disturbance or nuisance is not mitigated by a financial interest in a development.
  - The draft revised Wind Energy guidelines, which seeks to impose the lower 35dB(A) limit as a default, is based on consultation that identified that the increase in noise exposure from the existing noise environment is the most significant effect of operational noise from wind energy development.
  - There are no tables in the body of the EIAR that show exactly the predicted increase in noise exposure at noise sensitive locations.
  - It is difficult to reconcile the conclusion in 11.7.3.1 – predicted increases of up to 20dB(A) LA90 cannot be considered 'slightly higher noise levels'. The EIAR does not tabulate the predicted increases to show what 'slight increases' actually mean in the development context.
  - Compliance with an absolute noise exposure does not automatically mean the likely effect is slight.

- Shadow Flicker:
  - With current technology, there should be no shadow flicker exposure to any sensitive dwelling from wind energy development. A condition should be included if consent is given.
- Dust Minimisation during construction:
  - Providing mitigation measures as identified are implemented, there is adequate protection of Public Health from potential dust emissions.
- Protection of Surface and Ground Water:
  - Particular concern is the protection of the quality of drinking water sources, including private wells and group water schemes.
  - The EHS agrees with the position taken by the applicant when considering the protection of drinking water supplies.

- Providing mitigation measures as identified are implemented, there is adequate protection of ground and surface water with regard to Public Health.

- Planning Stage CEMP:
  - Recognises that the CEMP should be updated to specific site situations if consent is given.
  - The EHS accepts the opinion in the EIAR is adequate protection of Public Health in terms of construction phase.
  - All complaints are to be recorded and corrective action identified and recorded.

- Population & Human Health and Potential Health Gain:
  - The EHS notes the outlined financial contribution proposed to the local community and further afield.
  - Development of this nature have successfully incorporated recreational land use around the turbine development, particularly walking routes and nature trails and have identified opportunities to support local biodiversity and educational programmes.
  - The potential for positive health gain should be considered as part of the development.

4.3.2. **DHLG&H – Development Applications Unit**

- The Department advises conditions to be included in any grant of permission in relation to archaeological requirements.

4.3.3. **Inland Fisheries Ireland**

- The site of the development is in the catchment of the Dinan (South)_020 surface water body, which has a current ecological status of Good.
- The waterbody is an important salmon spawning tributary of the Nore River and is hydrologically connected to the Barrow – Nore SAC.
- The grid connection also crosses a number of other surface water bodies.
- All mitigation measures outlined must be adhered to and implemented in full.

- The applicant must comply with IFIs Guidelines on Protection of Fisheries during Construction Works in and adjacent to Waters 2016.
- Any watercourse on or bordering the site to be maintained in its original state and there shall be no interference with the watercourse without prior notification and agreement of IFI.
- Method statements for any new water crossings to be submitted, including works to Black Bridge to be submitted for written approval.
- 50m buffer zones for aquatic areas to apply and should be clearly marked. Silt curtains to be used in the vicinity of aquatic zones.
- Pre-cast concrete should be used where possible. Concrete delivery trucks should be precluded from washing out within buffer zones.
- No run-off of fuels, oils, concrete or from stockpiles of materials or from work areas.
- Tree felling licence to be referred to IFI for consideration.
- Precautionary principle to be applied and records should be kept of any surface water monitoring undertaken during works.
- Details for the Ecological Clerk of Works to be provided to IFI before works commence.

4.3.4. **Transport Infrastructure Ireland**

- The submission cites official policy noting that the DoECLG Guidelines seek to avoid the creation of additional access points from new development, or the generation of increased traffic from existing accesses to national roads, to which speed limits greater than 50kph apply.
- The proposed development proposes the construction of a temporary access at the N78 national road to the L1834 local road, for the transportation of oversized turbine components and in an area where 80-100kph speed limits apply. It is critical that the strategic capacity and safety of the national road network is maintained.
- Operational issues related to the windfarm noted and are required to be resolved relating to network maintenance and road safety.

- Haulage route noted including proposed works to the national road network. Applicant / developer required to consult with all PPP companies, MmaRC contractors, motorway maintenance and renewal contracts and local road authorities. All works to the national road network are required to comply with TII Publications and shall be subject to Road Safety Audit as appropriate.
- Issues regarding proposed works to Crettyard Bridge – the extent of the works proposed are not outlined in detail. Any works to the national road structure require Technical Acceptance. TII are not aware of works to the bridge having been agreed and requires clarification prior to any decision.
- Notes matters around 'abnormal weight' loads on the roads including capacity of roads to accommodate.
- Matters relating to cabling / trenching also noted.

4.4. **Public Submissions**

4.4.1. 77 valid third-party submissions, including one with 100s of signatures, were received by the Board in relation to the subject application. The issues raised are summarised as follows:

- Size, scale, design and layout. There are no turbines of the height proposed on land in Ireland.
- Impacts on communications – internet and mobile phone connectivity – which will impact residents and local businesses.
- Impact on the broadcast signal of KCLR – accepted will occur in the EIAR. Mitigation measures are insufficient to protect the broadcast signal. If permission is granted, it should be a condition of permission that KCLR be required to agree with measures to prevent impacts.
- Impact of the turbines on local residents and future potential residents – planning permission will not be granted for one off houses' due to proximity to the turbines – resulting in less children in the area to fill schools.
- Impact on the natural and physical environment, including birds, bats, and other animals as well as habitats.
- Impacts on personal relationships – those for and against the development.

- Lack of public consultation.
- The land is not suitable for turbines – too wet, bog.
- Evidence of sinkholes in the area of the proposed development would suggest that the area is not suitable for the development.
- Impact on private water supplies / wells.
- Impact on architectural heritage, including St. Lazarians Cathedral and biodiversity in Old Leighlin.
- Noise and shadow flicker impacts and impacts on the quality of life of residents. References to experiences in Offaly are noted with regard to noise.
- Impacts on value of property.
- Lack of regulation around turbines
- Roads and traffic impacts. The local roads are not capable of accommodating the construction traffic. Impacts of construction traffic causing delays to residents, particularly those with health issues.
- Issues with the lack of traffic volume assessment and details contained in Table 13.6 of the EIAR are out by a factor of 2 as it only accounts for the movement of vehicles in one direction.
- No traffic monitoring has been presented and no traffic plan has been prepared.
- Details of substation, storage batteries or pylon routes not discussed with residents.
- EIAR issues:
    - Lack of detail in the EIAR with regard to mammal field surveys – 4 dedicated walkover surveys of an application are noted but the site area is approx. 1850 acres.
    - It is impossible to cover this area within the time indicated.
    - There are no spatial records of the walkover and concern is raised in terms of the lack of surveying for mammals outside the application boundary.

- Evidence submitted that otter use the area is submitted by third-party. Other protected habitats and fauna have been excluded from assessment and ignored.
- Lack of statistical analysis to assess the potential impacts of the development.
- EIAR notes in chapter 3 that geotechnical assessment will be carried out post consent. This should be carried out pre application.
- Chapter 3 underestimates the volumes of excess soil and soil handling. The EIAR proposes a spoil/soil management plan post consent which is inadequate.
- Concerns regarding the consideration of landslides – chapter 6 of the EIAR – due to the presence of shale bedrock.

- Details lacking in Chapter 4 of EIAR with regard to Population and Human health, with the omission of the community organic vegetable garden, recreational enterprises in the area – pottery, willow weaving, artist – and tourism accommodation.
- With regard to water supplies, the Castlewarren GWS Co-Operative Society ltd., require that it be noted that its wells and infrastructure provide vital services to the local community, and it is crucial that these are protected. The Zone of Contribution report, compiled in 2018, was provided to the applicant of the wind farm as part of their EIA – Chapter 7 of EIAR.
- No reference to microplastic pollution control in the EIAR.
- Wind turbines are not a green alternative to fossil fuels.
- The Irish guidelines are unlawful and cannot be used to justify or guide decision making process as no SEA was undertaken.
- The EIAR is invalid as no SEA has been carried out.
- The developer must produce evidence that the turbines are exactly as described as per High Court ruling.
- Loss of forestry.

- Lack of appropriate or adequate assessment of the 15km grid connection. While not part of the application, but considered in the EIAR, the nature and extent of the grid connection is large and requires further information to be provided. Cumulative impact also needs to be considered.
- Planning history of the site for wind farm development – the Board refused permission for a 21-turbine wind farm in 2014.
- A grant of permission will set a precedent for turbines of the size proposed to be installed within densely populated rural settings.
- The Community are endeavouring to move forward with plans to run a solar farm in in the area to meet energy needs. They do not accept the industrial windfarm proposed, owned and operated by a foreign company.
- Many environmental and sustainable projects have been implemented in the area over the years, with Old Leighlin establishing a Sustainable Energy Community Group in 2017. Other projects include tree planting and biodiversity actions.
- Proposals to reforest in Monaghan will have no impact in restoring Carlows ecological balance following the removal of 16ha of existing forestry to accommodate the turbines.
- Issues raised in terms of the community fund breakdown.
- Applicant has used the 2006 guidelines for noise only, using the 2019 draft guidelines for all other chapters of the EIAR.
- Bone fides of applicant should be considered as they sell planning permissions to other wind farm developers. Application is financially motivated.
- All residents do not support the development as suggested by the applicant – 3 letters of support have been provided, 2 of which are financial beneficiaries. It is noted that the applicant has sought terms with landowners to extend the windfarm in the Coon area. This information has not been disclosed showing disregard to local residents.

All submissions request that permission be refused.

4.5. **Oral Hearing**

4.5.1. Following a recommendation to the Board on the 30th of June 2023, the Board decided not to hold an oral hearing as it considered there was sufficient information contained within the file to allow the Inspector to make an informed recommendation as to whether permission should or should not be granted.

4.6. Further Submissions

4.6.1. On the 26th of July, the Board advised all parties that an Oral Hearing would not be held and by the same letter, invited the applicant to make a submission on the observations received in relation to the application. The closing date for receipt of said submission was the 23rd of August 2023.

4.6.2. A response was received by the Board on the 18th of August 2023. The response seeks to address the issues raised in the submissions to the Board in relation to the proposed development. The report highlights each issue raised by the third-parties, including both Carlow and Kilkenny County Councils, with regard to principle of the development, noise, visual impacts, impacts on water supplies and management of the water environments, perceived omissions from the EIAR, roads and traffic matters and works to Black Bridge.

4.6.3. The report includes a number of appendices including supplementary residential dwelling data, a site suitability assessment and a structural assessment and design proposal for Black Bridge.

5.0 Planning Assessment

5.1. Introduction

5.1.1. Having undertaken a site visit and having regard to the relevant policies pertaining to the subject site, the nature of existing uses on and in the vicinity of the site, the nature and scale of the development the subject of this application and the nature of existing and permitted development in the immediate vicinity of the site, I consider that the main issues pertaining to the proposed development can be assessed under the following headings:

- Compliance with National & Regional Policy
- Compliance with local policy
- Roads & Traffic Issues
- Landscape & Visual Amenity
- Residential & General Amenity Issues
- Biodiversity
- Other issues
    - Public Consultation
    - Replanting Lands & Loss of Forestry
    - Archaeological & Heritage
    - Land suitability
    - Impact on Water Supplies
    - Impact on Communications

5.1.2. The Board will note that Environmental Impact Assessment and Appropriate Assessment are presented in separated sections of this report. There is reference to similar issues across all three assessments and therefore all three assessments should be read together.

5.2. **Compliance with National & Regional Policy**

5.2.1. In terms of the principle of the proposed development, I would accept that the proposed windfarm would be compatible with the wide range of international, European and National policies, protocols and agreements as they relate to the reduction of greenhouse gas emissions (Kyoto Protocol), to limit the global average temperature rise to below 2° Celsius (Paris Agreement) and the promotion of renewable energy in the efforts to address climate change. The suite of climate change and renewable energy policies considered as part of my assessment are summarised above in section 3.0 of this report.

5.2.2. The proposed development will contribute to Irelands 2030 renewable energy target and climate action commitments, will improve energy security for the country and will assist in reducing our current dependency on imported energy. In addition, the proposed development is considered to be compatible with national planning policy as set out in the National Planning Framework Plan 2018-2040, which identifies the need for the country to move towards a low carbon and climate resilient society, with a sustainable renewable energy supply.

5.2.3. The proposed development will contribute, in particular to the achievement of the objectives of the Climate Action Plan 2021 (updating the 2019 Plan) which seek to realise a 51% reduction in greenhouse gas emissions and increase reliance on renewables from by 2030. The Plan, while identifying that off-shore wind energy developments has the potential to provide for a significant contribution to reaching this target, acknowledges that achieving this target will also include on-shore windfarms. In addition, the Plan also identifies a range of measures to deliver targets for a reduction in greenhouse gas emissions which will be addressed under a number of headings in the assessment of the proposed development below, including under the relevant sections of the Environmental Impact Assessment section of this report. However, any proposed development needs to be considered in terms of balancing the carbon emissions from construction activities, the potential loss of carbon storage capacity in the soils where the development is taking place and the generation of renewable energy from the proposed turbines.

5.2.4. The 2021 Climate Act was prepared for the purposes of giving statutory effect to the core objectives stated within the CAP, and to provide for the approval of plans ‘for

the purpose of pursuing the transition to a climate resilient, biodiversity rich and climate neutral economy by no later than the end of the year 2050'. The Act provides for carbon budgets and a decarbonising target range for certain sectors of the economy.

5.2.5. The proposed development is for 7 turbines with a total rated output of 50.4MW for a period of 35 years. The EIAR identifies that the current land use associated with the site is predominantly commercial forestry and agricultural pastures and arable land, with small pockets of transitional woodland scrub. The GIS Soil Maps indicate that the wind farm site is mainly overlain by deep poorly drained mineral soils and to a lesser extent, shallow well drained mineral soils of acidic nature. Pockets of blanket peat and poorly drained mineral soils with a peaty topsoil are also mapped to the north of the site. The EIAR advises that no infrastructure is proposed to be located within any mapped areas of Blanket Peat.

5.2.6. The submitted EIAR highlights the importance of forests in the context of the global carbon cycle and that effective management at a regional scale can help to reduce GHG concentrations. While the proposed development will see the loss of 15ha of forestry to accommodate the proposed windfarm, and an associated GHG emissions of 326 tonnes of CO_2, it is noted that the project provides for the planting of an equivalent area of forestry to offset the loss of carbon sink.

5.2.7. In terms of national guidance, the 2006 Wind Energy Development Guidelines (and 2019 Draft amendments) advise that a reasonable balance must be achieved between meeting national policy on renewable energy and the proper planning and sustainable development of an area. The Guidelines also state that projects should not adversely affect any European sites, have an adverse impact on birds, give rise to peat instability or adversely affect drainage patterns, cultural heritage, sensitive landscapes, the local road network or residential amenity. These matters will be further addressed in the relevant sections of the Environmental Impact Assessment and Appropriate Assessment sections of this report.

5.2.8. In terms of Regional Planning Policy, the Board will note that the subject site lies within the area covered by the Regional Spatial and Economic Strategy for the Southern Region, 2020. In this context, I can confirm that the proposed windfarm would be compatible with regional planning policy as set out in the RSES for the

Southern Region, which seeks to facilitate the sustainable development of additional electricity generation capacity throughout the region and to support the sustainable expansion of the transmission network.

5.2.9. I have no objection to the proposed development in the context of compliance with national and regional policy. I am satisfied that the principle of the proposed development adequately accords with the provisions of said policies which seeks to promote the development of renewable energy projects in the efforts to address Irelands renewable energy target and climate action commitments.

5.3. **Compliance with Local Policy**

5.3.1. In terms of local planning policy, the Board will note that the subject site crosses two Planning Authorities, being Carlow and Kilkenny County Councils.

5.3.2. In terms of **Carlow County Council,** I refer the Board to the provisions of the Carlow County Development Plan 2022-2028. The Plan includes a number of policies and objectives pertaining to climate action and the transition of the County to a competitive, low carbon climate-resilient economy, through the encouragement and facilitation of the production of energy from renewable sources, including wind, with Objective RE O1 seeking to achieve a minimum of 130MW of renewable electricity in the County by 2030. The subject site lies within an area which is identified as having viable wind speed >7.6m/s and that no significant conflicts arise in relation to the wind strategy designations for neighbouring counties, namely Laois, Kilkenny and Wexford.

5.3.3. However, the Plan also states that windfarm development in the more elevated Uplands Landscape Type, which is identified in the Landscape Character Assessment as having the highest landscape sensitivity rating of 5, will not normally be permissible. The subject site lies within an area which has a landscape sensitivity of 5, within an upland area in the Killeshin Hills, to the west of the county bordering Kilkenny and Laois, and with a moderate capacity for wind farming (Table 9.2 of the CDP). The lands adjoining the river valley are gently undulating hills which ascend steeply to uplands adjoining County Kilkenny, the Castlecomer Plateau. Due to its upland character and relative exposure, the Plan identifies that it has a low potential capacity to absorb rural housing or industrial development. The Killeshin Hills

contains the uplands, farmed ridges, farmed lowlands and broad river valley landscape types.

5.3.4. I would also note that Carlow County Council have included in Volume 2b of the CDP, Appendix VI Renewable Energy Strategy. This strategy provides a Wind Opportunity and Constraints figure which essentially identifies areas with viable wind speeds >7.6m/s, are >500m from housing, have a land area of >5km^2 and takes into account environmental, heritage and amenity constraints. The mapping exercise does not however, take into account landscape or visual capacity constraints. The areas identified as 'available', correlate with landscape character areas which include uplands and where the CDP advises that windfarms are not normally permissible. The Killeshin Hills, the area of the current subject application and also identified as Uplands, is identified as having a moderate capacity for wind farming, subject to appropriate mitigation measures. However, the constraints mapping suggests that it may be difficult to meet separation distances between wind turbines and dwellings, due to the dispersed settlement pattern in the area.

5.3.5. In terms of the Chief Executives Report, I note that it is the opinion of the Council that the proposed development is contrary to the provisions of Policy **WE P4** which states that –

> Wind farm development will not normally be permissible in the Uplands Landscape Type as shown in Figure 6 of the Carlow County Landscape Character Assessment included as Appendix VII to this Plan. This provision shall not apply to micro energy generation and community energy projects as provided for in Section 7.10.3.5, where deemed appropriate and subject to compliance with proper planning and environmental considerations.

In terms of Visual and Cumulative Impact, the CEs Report concludes that the development would have an adverse visual impact on the sensitive landscape given the nature and topography of the landscape, the height of the proposed wind farm together with siting and location, in conjunction with the Bilboa Windfarm c4.5km and the Gortahile Windfarm c 5.5km to the north east (with a potential for 20 turbines). The cumulative impact would be significant and contrary to the policies of Chapter 9 of the Carlow CDP.

5.3.6. The Board will also be aware that a previous application for a wind energy development on lands which include part of the subject site and extend to the east, was refused in 2014 on the grounds of visual impacts including impacts on designated scenic routes, ABP ref: PL.01.243364 refers. The refused wind energy project proposed 21 turbines with a tip height of 140m and were refused on the grounds of seriously injuring the visual amenities of the area as well as being located outside of a preferred area as described in the CDP 2009-2015.

5.3.7. I consider that there may be some conflict between the landscape policies and the renewable energy strategy in the 2022 Carlow County Development Plan, which is noted to accord with regional and national policies and objectives in terms of climate action and was evaluated by the Office of the Planning Regulator for such compliance. On one hand, the subject site area is identified as an area with viable wind speeds in the RE strategy, but this does not take into account landscape or visual capacity constraints. The Plan would further advise that wind energy projects in the uplands landscape in which the site lies would not normally be permissible. While the area of Killeshin Hills is noted to be uplands, the CDP also acknowledges that subject to appropriate mitigation measures, the area is described as having a moderate capacity for wind farming. In this context, I am satisfied that the Board can conclude that the principle of the proposed development at this location does not, as suggested, materially contravene the principle of policy WE P4 of the recently adopted Carlow County Development Plan.

5.3.8. Having regard to the provisions of the current CDP, together with all submissions made to the Board on this matter and further assessment below in terms of visual impacts arising, I would be satisfied that the principle of the proposed development can be considered acceptable and to be generally in compliance with the policies and objectives of the current Carlow County Development Plan as it relates to the wind farm developments. A full assessment of visual impacts is considered further at Section 5.5 of this report.

5.3.9. In terms of **Kilkenny County Council,** I would note that there are no specific local planning policies pertaining to renewable energy following a Ministerial Direction dated 15th October 2021. This Directive stated that those parts of the Kilkenny City and County Development Plan 2021-2027 referred to in the notice served on the Council shall be taken not to have not come into effect, been made or amended,

namely, Chapter 11, Renewable Energy Section 11.4 Kilkenny Targets, Section 11.5.1 Current status and targets and Figure 11.4 Wind Strategy areas.

5.3.10. The Board will note that the Draft CCDP 2021 to 2027 designated the subject site as "Acceptable in Principle" for wind energy developments, and that this area of the County was not altered by the Elected Representatives which instigated the ministerial direction. I would also note, and notwithstanding the Ministers Direction, that the Kilkenny City and County Development Plan 2021 still includes a number of policies and objectives which can be applied to the current proposed development. The Plan includes aspirations in the context of climate change and renewable energy which seek to promote sustainable development, including projects which reduce greenhouse gas emissions and energy demand, and will facilitate the adaptation to climate change.

5.3.11. In terms of the Chief Executives Report, I note that it is the opinion of the Council that the proposed development as currently presented should be redesigned in terms of extent and scale as the developer has not robustly demonstrated that the proposed development would not have negative impacts on the visual and residential amenities of the local and wider area. I note that the Elected Members requested that the Board refuse the proposed development outright on the basis of lack of consultation, the SID process, scale of the development, impact on SACs, roads and landscape as well as property values and issues around the failure of Government to adopt Wind Guidelines. It is the members view that the LVIA has not adequately addressed the full extent of the visual impact of the proposed windfarm and the cumulative visual impacts with other existing, permitted and proposed windfarms in the area.

5.3.12. Overall, and having regard to the PAs submission, I am satisfied that the principle of the proposed windfarm is compatible with the general climate change and renewable energy provisions of the 2021 Kilkenny City & County Development Plan. I am further satisfied that the application of these policies and objectives, in the context of the Ministerial Direction is appropriate in the absence of specific policies relating to renewable energy.

5.4. **Roads & Traffic Issues**

5.4.1. The Board will note that the subject site lies across two planning jurisdictions with the western area of the site being located in Co. Kilkenny and the eastern area being located in County Carlow. The site lies approximately 13km to the southwest of Carlow town, 14km to the northeast of Kilkenny City and approximately 4km west of Oldleighlin. This area of both counties can be described as being quite rural with a high proportion of dispersed one-off housing noted in the area. In addition, there are a number of farm holdings, and associated farmyards and buildings in the wider area.

5.4.2. Chapter 13 of the submitted EIAR sets out the detail of the transport and access needs associated with the proposed development while Chapter 3 describes the turbine component haul route and associated upgrade works. The road network in the vicinity of the site generally comprises local roads, with the closest regional road, the R448, located 6.5km to the east. The local road network, including the L1834, L1835 and L3307, have speed limits of 80kph, and provide for two-way traffic with grass verges. Given the rural nature of the area, the traffic volume might be considered low, however, given the connectivity afforded to the N78 and centres of population including Leighlinbridge and Bagenalstown, the EIAR advises that a notable volume of traffic use these local roads. Access to the proposed replant lands in Co. Monaghan will be provided using existing agricultural entrances from the L3710, and access over the national, regional and local road network likely comprising the use of the N2, N53, R135, R181, and R182.

5.4.3. The EIAR identifies that off-site and secondary elements of the proposed development will include the construction of a temporary access track (150m in length) between the between the N78 and L1834, and carriageway strengthening works at ‘Black Bridge’ on the L1835 and L3037. In addition, a total of c.7.5km of on-site access tracks will be required for construction purposes and for site access during the operational phase and a total of 3 no. bellmouth site entrances will be required to facilitate access throughout the proposed wind farm site. 2 no. existing agricultural access points adjoining the L7122 will be upgraded to accommodate construction traffic and abnormal HGV loads while a further 1 no. new site entrance will be constructed from the L3037.

5.4.4. The EIAR advises that the final turbine component haul route has not been selected and will be entirely dependent on the turbine supplier and the chosen port of entry. However, it is determined that the turbine components will most likely enter via the Port of Waterford and from here, the turbines will be transported along the N29, N25, N9, M9, N78, L1834, L1835, and L3037 before accessing the site via a proposed site entrance. A total of 12 locations along this route have been identified as requiring some works, including 11 temporary and 1 permanent works locations. A full description of the necessary works at each location along the route between the Port of Waterford and the project site is provided at Annex 3.5. In addition, a summary of the location of the works required, are provided at Table 3.4 and Table 3.5 in the body of the EIAR.

5.4.5. The proposed substation will be accessed from an entrance from the L7117 and the grid connection infrastructure, from the proposed substation to the existing Kilkenny 110kV Substation, will be located within the carriageways of the L7117, L5892, L5893, L1851, L6656, L6657, and R712.

5.4.6. The EIAR submitted in support of the proposed development indicates that while there will have a direct impact on the road network through the installation of the grid route trenches, and increased construction traffic volumes, this is a temporary impact which will be managed by a Traffic Management Plan which will incorporate all of the mitigation measures set out as part of the CEMP. The grid connection works will also include a full reinstatement of the carriageway and hard shoulder of the affected roads. In addition, the proposed transportation of the turbine components and other construction materials and equipment, will have an effect on the local road network for a stated period of 15-18 months.

5.4.7. The EIAR has concluded that the existing local road network, subject to certain improvement works, has sufficient capacity to accommodate the construction traffic which will result in a total of approximately 488 loads per month or an average of 21no loads per day. During peak construction period comprising the 7 days for pouring of turbine foundations – 1 day per turbine - however, a realistic estimation of deliveries to the site will be 110-120, amounting to 220-240 traffic movements per day on such days. With regard to the delivery of the turbine components, the EIAR advises that approximately 105 loads of turbine components and crane parks will be delivered during a 4-9 week period. The grid connection, as extrapolated from the

figures presented in Table 13.6 of the EIAR, will result in approximately 12 one-way HGV movements per day. Much of the excavated material will be removed from the grid route and appropriately disposed of. Once operational, maintenance traffic is expected to be low.

5.4.8. In terms of cumulative effects, the EIAR advises that these are only likely to occur during the construction and decommissioning phases of the development, with other existing, permitted or proposed developments, including other windfarms. Other such projects are identified in the EIAR, and it is assessed that as the Bilboa (recently permitted by Carlow CC)(5km NE) and Pinewood (17km NW) windfarms are likely to commence construction in the short-term, the construction of the subject proposed development will not occur concurrently, and therefore, cumulative impacts in terms of roads and traffic are unlikely to arise. In terms of the Seskin (2km NE), Freneystown (4.5km SW), Ballynalacken (14km NW) and Coolglass (18km N) Wind Farms, it is noted that these projects are in the early stages of their development cycle and their construction phases could, potentially, overlap with the current proposed development. It is concluded that, due to the distances and low likelihood of similar construction haul routes being utilised, cumulative impacts are unlikely to arise in terms of the Freneystown, Ballynalacken and Coolglass Wind Farms. Should the Seskin Wind Farm be constructed at the same time as the proposed White Hill Wind Farm, cumulative effects on the local road network and increased disruption to local residents/landowners could, in the absence of mitigation and traffic management measures, be likely, significant and direct. No cumulative effects are envisaged during the operational phase of the development.

5.4.9. I would acknowledge the concerns raised by the local residents in terms of the potential impacts on the community during the construction phase of the development. I further note the submission of TII with regard to the proposals for the construction of a temporary access at the N78 to the L1834 local road for the transportation of oversized turbine components. In addition, I note the comments regarding proposed works to bridges and in particular, that any works to the national road structure requires Technical Acceptance. In this regard, I would accept that the need for the proposed temporary access at the N78 has been reasonably addressed by the applicant and in the event of a grant of planning permission, a condition should be included to require the full closing of this temporary access, on both roads,

following the completion of the construction phase. In addition, no development shall commence without the full agreement of TII on matters relating to the national road network and associated infrastructure.

5.4.10. With regard to the local Road engineers' requirements, I note that Carlow County Council Engineers have raised no significant concerns regarding the proposed development subject to the provision of a Road Safety Audit with regard to the L7112, pre-construction surveys and submission of a CEPM. I am satisfied that the matters raised can be appropriately dealt with by way of condition of permission.

5.4.11. The Road Design Section of Kilkenny County Council raise concerns in terms of the multiple wind and solar farms proposing to connect to the same ESB Substation and the fact that gird connection routes will likely coincide. Concerns are raised that the existing road may be insufficient to accommodate multiple cable runs. The Board will note that the actual grid connection element of the windfarm development, while included for assessment for the purposes of EIA, does not form part of the application for determination here. The applicant has advised that further engagement with relevant bodies, Eirgrid and / or ESB Networks, will be required.

5.4.12. It is acknowledged that the construction phase of the development will have a significant, but temporary, impact on local residents living in the vicinity of the site. Overall, I am generally satisfied that the construction phase, and associated impacts, will be temporary in nature and that the proposed development, taken in combination with other developments in the surrounding area would not give rise to a significant traffic hazard, or endanger the safety of other road users, subject to the full implementation of the EIAR mitigation measures – detailed further below in section 6.0 of this report - and compliance with the Traffic Management Plan prepared as part of the Construction and Environmental Management Plan for the site.

5.5. **Landscape & Visual Amenity**

5.5.1. The proposed development seeks the construction of 7 no. wind turbines a hub height of 104m, a rotor diameter of 162m and a maximum tip height of 185m on a site which covers a stated area of approximately 290ha. The levels at the proposed turbine locations range from 250mAOD to 276mAOD There are 129 dwellings identified as being located within 1.85km of a proposed turbine and the closest settlements are the small village of Coan, 3.5km to the north and Oldleighlin, located

along the foothills of the Castlecomer Plateau, approximately 4km to the east of the site. The Board will note the previous decision to refuse permission for a wind energy project comprising 21 turbines on part of the subject site and to the south and east, on the grounds of visual impact. As such, the matter of visual impact requires to be clearly addressed.

5.5.2. In terms of **visual impacts**, Chapter 9 of the EIAR deals with landscape and includes a Visual Impact Assessment. Having regard to the nature, scale and location of the proposed development, within in an elevated rural landscape, it is accepted that the proposed windfarm development has the potential to give rise to visual impacts associated with the existing residential properties in the vicinity, as well as the wider area. In terms of the two jurisdictions associated with the site, I have considered above, that the subject site might reasonably be considered acceptable for the proposed development subject to normal planning considerations.

5.5.3. The EIAR describes the receiving landscape as an area of elevated rolling hills and ridges known as Castlecomer Plateau, which is bound to the east by the River Barrow and to the west by the River Nore. The highest point of Castlecomer Plateau rises to approximately 340mAOD, between 64m and 90m above the ground level of the proposed turbines. An assessment of the landscape character of the area of the site, and the potential impacts associated with the proposed development is provided in Chapter 9 of the EIAR, and includes Counties Carlow and Kilkenny, as well as Laois. A consideration of each CDP Wind Energy strategy is also noted.

5.5.4. The EIAR includes an assessment of the likely significant impacts, and the Zones of Theoretical Visibility were prepared over a distance of 20km. Table 0.5 of the EIAR sets out the scenic designations within the Carlow County Development Plan 2022 including the identified views and scenic routes within a 20km radius of the site. Of the 20 Scenic Views designated in the Carlow CDP, 3 are considered relevant in terms of visual impact appraisal, while of the 8 Scenic Routes identified, 4 are considered relevant. A similar exercise in relation to Kilkenny found that of the 6 scenic views identified, 1 is considered relevant in terms of visual impact appraisal. County Laois has 1 scenic view located within the study area, but this is located outside of the ZTV and orientated away from the proposed windfarm site.

5.5.5. Section 9.3.5 of the EIAR considers the cumulative baseline for the proposed development, noting that there is 1 operational windfarm (8 turbines) and 2 no. operational single turbine developments within the study area. In addition, there are 2 consented wind farm developments to the north (comprising 5 and 11 turbines) and a further 4 proposed windfarms which are currently in the early stages of planning process (2 comprising 9 and 13 turbines between 14.5-18km from the site and Freneystown Wind Farm – 10 turbines 4.5km SW and Seskin Wind Farm – 7 turbines 1.5km NE of the site).

5.5.6. The visual impacts associated with the proposed development were assessed at 26 no. visual receptors throughout the study area. The highest magnitude of visual impacts is noted to occur at viewpoints VP10, VP13 and VP18 which are associated will local community views and those nearest to the site, and within the central study area. The turbines in this context are considered to be dominant, but not incongruous in the heavily vegetated landscape. Annex 9.1, provided as a standalone document, presents a suite of Photomontages in support of the proposed development. A set of cumulative montages were also generated for a number of viewpoints – VP1, VP5, VP7, VP9, VP13 and VP17 in order to show the potential for cumulative visibility between the wind farm and all other permitted and proposed wind farm developments within the study area.

5.5.7. The EIAR concludes that the proposed development will have a notable cumulative visual impact with other wind energy developments within the central and wider study area. Visual impacts are concluded to range from imperceptible to substantial-moderate, and potential cumulative impacts High-Medium. I accept and agree with this conclusion.

5.5.8. The nature of the proposed development means that the turbines will be visible in the landscape, and that the visibility will vary in terms of proximity to the site. I have had full regard to the third-party submissions, as well as the Chief Executive reports, with regard to visual impacts arising. Having considered all of the information on the file, including the visual impact assessment and photomontages submitted as part of the EIAR, and in the context of the wider wind energy developments present in this landscape, I am generally satisfied that the visual impacts associated with the proposed wind farm development are not so significant as to warrant a refusal of permission and can be considered acceptable in this landscape.

5.6. **Residential & General Amenity Issues**

5.6.1. The Board will note that there were 77 third party submissions in relation to the subject appeal. In terms of impacts associated with the proposed development, I would note that there are a number of one-off houses located along the haul routes in the vicinity of the subject site and there are a number of clusters of houses, small villages and settlements located proximate to the site. Many of the third-party submissions raise concerns in relation to impacts on existing residential amenity. I have addressed roads and traffic as well as potential visual impact matters above, but other potential impacts on residential amenity include noise, shadow flicker and impacts on future residents of the area. In terms of the visual impacts of the proposed development in terms of residential amenity, the EIAR submits that the impact at local community level receptors varies from low-negligible to high at near distant locations and viewpoints, while roads and traffic impacts will be significant but temporary during the construction phase, reducing to negligible during the operational phase.

5.6.2. The submitted EIAR, at Chapter 11, considered the impacts of the development in terms of **noise and vibration**. In assessing the impact of noise, the EIAR has used the sound power levels for the Vestas V162-7.2 turbine and the applicant has considered the cumulative effect on the proposed Seskin Wind Farm, which lies in proximity to the current proposed development site. All noise sensitive properties within 1.85km of the wind turbines were assessed and were afforded a Category A status in terms of threshold values. The EIAR concludes that the predicted noise level at the nearest noise sensitive receptor during the construction phase of the development will be below the 65dB threshold. In terms of the closest location in terms of site entrance / access track construction, H7, the predicted noise levels are noted to be slightly higher than 65dB however any exceedance is calculated to be for a limited period of 5 days in a 2-3 week period. The cumulative impact of all aspects of the proposed development, including construction traffic, roads construction and spoil deposition is predicted to be below the 65dB threshold, save for the instances as described for short periods during the construction phase.

5.6.3. The EIAR, Table 11.11, presents the various derived $L_{A90, 10min}$ noise levels for each of the monitoring locations for daytime quiet and night time periods. 40dB $L_{A90, 10min}$ is noted to be the lowest possible noise limit and is considered to protect the amenity

of nearby receptors. It is intended to adopt this daytime level for low noise environments during the operation of the wind farm, with a higher level of 40dB $L_{A90, 10min}$ at properties that have an involvement in the development. Noise predictions were undertaken using noise prediction software to quantify the impact of the proposed development as a standalone development and cumulatively in terms of the potential Seskin Wind Farm. The operational phase, and when considered cumulatively with other wind farm projects in the area, will be below the noise criteria curves adopted for the assessment.

5.6.4. In terms of vibration, it is concluded that the construction of the development will give rise to transient and short-term potential for vibration which will be imperceptible to the relevant NSLs. The EIAR also notes that given the distances from the nearest NSLs to any proposed turbine, the level of vibration during the operational phase of the development will be significantly below any thresholds for perceptibility. It is concluded that significant levels of vibration are not assessed as likely.

5.6.5. I am satisfied that the EIAR has adequately considered and addressed the issue of noise impact and that the proposed development will not give rise to any significant noise disturbance at noise sensitive receptors during the operational phase of the development.

5.6.6. In terms of **shadow flicker**, Chapter 12 of the EIAR is relevant. WindPro software, a detailed computer software model which can estimate the likely occurrence of shadow flicker, was used to predict the likely effect of the project. The prediction model assesses the likelihood of shadow flicker occurring at receptor locations relative to the wind turbine locations and with long term average sunshine hours. The results of the modelling predicted shadow flicker will be at H007 which is predicted to experience 1-hour and 18-minutes of shadow flicker in a 'worst case scenario – hours per day'. The 'expected' scenario suggests that the total hours per year will be 22 hours and 27 minutes per year. 110 no. dwellings are predicted to experience less than 10- hours of shadow flicker per year, while 36 no. dwellings are not predicted to experience any effects whatsoever.

5.6.7. In terms of cumulative impacts including the proposed Seskin Wind Farm, the model shows that in combination, while there will be increases from the effect of shadow flicker at a number of dwellings, the increases are not assessed as likely to result in

significant effects. Under 'worst-case' conditions, the greatest level of shadow flicker remains 1-hour and 18-minutes at H007; while the greatest level of 'expected' conditions is calculated to be 26 hours and 41 minutes, again, at H007.

5.6.8. Mitigation measures, relating solely to the current proposed development, are proposed in section 12.6 of the EIAR and subject to the implementation of appropriate mitigation strategies, I am satisfied that the proposed development will not give rise to any significant additional shadow flicker effects at the identified sensitive receptors. A condition to this effect should be included in any grant of planning permission.

5.6.9. In terms of **residential and general amenity**, the Board will note the detail of the third-party submissions. It is clear that the construction phase of the proposed development will give rise to disturbances in relation to the construction traffic, including times of delivery of turbine components, as well as the noise and dust associated with such traffic, particularly during dry weather. I have considered issues in relation to shadow flicker, noise, vibration and visual impacts above, and will address further under the EIA section of this report. However, overall, I am generally satisfied that the proposed development is acceptable at this location and that the EIAR provides for acceptable measures to protect residential and general amenities in the area.

5.6.10. Prior to the commencement of development on the site, the developer will be required to agree a Traffic Management Plan for the construction phase of the development. All mitigation measures to deal with potential fugitive dust arising from construction traffic should form part of this Plan and will be included in the CEMP for the site. The timing for the delivery of the turbine components will also be addressed as part of the plan which should be clearly communicated to the local residents in advance of delivery. Subject to the implementation of the stated mitigation measures, I am satisfied that the impacts in this regard will be temporary and therefore acceptable.

5.6.11. In terms of **public consultation**, the Board will note that residents have raised concerns regarding the level of communication in relation to the proposed development. Section 1.10 of the submitted EIAR includes details of the consultations undertaken to date, with Section 1.10.4 dealing with Community

Consultation and Participation. Annex 1.9 includes a Community Report which sets out the public consultation process undertaken by the applicant. It is noted that the consultation during the scoping and EIAR process occurred during the Covid-19 pandemic and that the applicant sought to facilitate public consultation through remote means including written or telephone correspondence. When able, the applicant advises that door to door visits occurred, and a number of consultation clinics held where the project was discussed.

5.6.12. I further note that a dedicated Community Liaison Officer Team (comprising 2 people) has been employed to engage with the local community. Section 2.4 of the Community Report, included at Annex 1.9 Volume II of the EIAR) notes that the team have remained available for engagement with the public. In addition, the report advises that the development has complied with all statutory and regulatory obligations, as well as complying with the Code of Practice for Wind Energy Development Guidelines. In terms of Community Benefit, it is noted that the applicants will offer a 'Neighbourhood Scheme' which will offer electricity bill payers living within 1km of a turbine an annual contribution of €1,000 towards their electricity usage. In addition, a Community Benefit Fund in accordance with Wind Energy Ireland best practice and will be available to the community at a rate of €2 per megawatt hour generated. This will result in an investment of approximately €260,000 per year for a period of 15-years.

5.6.13. I note the third party, and indeed, the submission from the CE of Kilkenny County Council who raised the concerns of the Elected Members with regard to the negative impact of the development on **property values**. In this context, I would note that international studies have found that there is no evidence to suggest that the presence of wind energy projects has a negative effect on proximate residential properties. I note that the proposed turbines are to be located at the minimum required distance from properties, other than those financially associated with the project and as such, I am satisfied to conclude that the proposed development, if permitted is unlikely to result in any significant impact on property values in the area.

5.6.14. Overall, I accept that there will be some impacts arising in relation to residential and general amenity during the construction phase due to increased traffic, noise and dust. However, given that this will be temporary and for a short period of time, I am satisfied that the proposed development would not give rise to any significant

additional adverse impacts on residential amenity by way of noise, shadow flicker or visual intrusion, subject to the full implementation of the mitigation measures set out in the EIAR.

5.7. **Biodiversity**

5.7.1. The Board will note the submission of a NIS in support of the proposed development. In addition, chapter 5 of the EIAR deals with biodiversity. The site does not lie within any designated site, and no Annex I habitats were recorded within the project site, study area, haul route work locations or along the grid connection route. The proposed works to the Black Bridge as part of the haul route works, is noted to cross the Dinin River which comprises part of the River Barrow & River Nore SAC. Table 5.7 of the EIAR identifies all designated sites within 25km of the subject site. Table 5.8 of the EIA includes details of the qualifying features of conservation interest and the distance from the proposed development site for the 3 identified designated sites within the 15km of the site.

5.7.2. The primary uses of the land the subject of the proposed development comprise commercial conifer forestry or improved agricultural grassland. Other habitats include artificial surfaces associated with the roads and infrastructure already constructed, and permitted, which serve the forestry. No protected Annex I habitats were identified. In terms of flora identified within the site during the ecological walkover surveys, no protected species under Annex II or IV were identified. In addition, no invasive plant species were recorded within the site.

5.7.3. In terms of impacts on **birds**, the EIAR lists a total of 59 bird species recorded within the survey area, across the 5 survey seasons including wintering and breeding seasons, identifying 6 species which are of conservation concern - Kestrel, Meadow Pipit, Grey Wagtail, Redwing, Golden Plover and Snipe. A further 14 no. of the species recorded locally are currently Amber-listed, including Skylark, House Martin, Swallow, Willow Warbler, Starling, Spotted Flycatcher, Goldcrest, House Sparrow, Tree Sparrow, Greenfinch, Linnet, Mallard, Lesser Black-backed Gull and Herring Gull. Annex 5-4 of the EIAR summarises the results of all the surveys undertaken.

5.7.4. With regard to **bats**, 3 species have been recorded in the 10km grid square in which the proposed wind farm is to be located. The overall bat activity at the site is noted to be moderate with the site given a low-to-moderate suitability for bats in general. No

significant roosts were identified during the bat surveys, with 2 minor roosts discovered. A total of 7no. bat species were recorded, with a possible 8th species as Whiskered Bats and Brandt's Bats are indistinguishable through ultrasonic detection. Table 5-29 of the EIAR presents the results of the passive bat monitoring undertaken and a total of 19,818 individual bat registrations were recorded during this monitoring, with the Autumn survey period registering the highest activity with an average of 83 registrations per detector per night. Leisler's Bat was the most commonly recorded species, accounting for 45.3% of all registrations. The Common Pipistrelle accounted for 41.9% and Soprano Pipistrelle accounting for 7% of all registrations. Roosting was confirmed at the B_38 Structure – existing farm house – during the emergence survey on 1 June 2022 where a single Soprano Pipistrelle was observed emerging from the gable. There was no evidence that this location represents a significant roost such as a maternity roost.

5.7.5. As the subject site does not lie within any designated site, the EIAR concludes that direct effects will not occur. Indirect effects during the construction phase relate to impacts on water quality which could adversely affect the breeding or foraging activities of QIs associated with SACs, SPA and features of interest of NHAs and pNHAS. Construction works could also cause disturbance and could lead to a temporary displacement of some fauna during the site construction. During the operational phase of the development, the EIAR acknowledges that there is potential for collision of birds and bats, however, given the distance between the site and the nearest designated sites, collision mortality is not assessed to affect the conservation objectives of Natura sites in the wider area. In particular the Coolcullen pNHA which is designated for a maternity Natterer's Bat colony, is located 1.9km from the nearest turbine, and therefore within the zone of influence for bats. However, the EIAR concludes that as there was little evidence of the study site being an important foraging area or a regular commuting route for the species, and as such, there is no reason to indicate that the project will adversely affect the Natterer's Bat population. Mitigation measures are included to minimise such impacts and are discussed further below in the EIA section of this report.

5.7.6. With regard to **fauna** using the study area, a wide range of terrestrial mammals are recorded to use the 10km grid squares associated with the proposed development, Table 5.24 refers. 6 non-volant mammal species were identified with two outlier

Badger setts recorded in proximity to access tracks to be constructed as part of the development. These 2 setts were monitored by a trail camera between 22 December 2021 and 4 April 2022 and were found to be used infrequently. No breeding or resting places of protected non-volant mammals were recorded along the grid connection route or at Black Bridge on the haulage route. The likely construction phase effects on the non-volant mammal community present at the site is assessed to be non-significant, localised, short-term to temporary negative. Section 5.5.1.3 of the EIAR sets out the details of mitigation measures to be employed to minimise impacts on Mammals.

5.7.7. In terms of the aquatic environment, the Coolcullen Stream runs through the project site and the site survey included walking stretches of the Knocknabranagh & Knockbaun Stream as well as the Coolcullen Stream. In addition, stretches of the Dinin River Sought, downstream of the project site, were also walked, to assess the aquatic habitat. A biological assessment of water quality of watercourses affected by the proposed development were rated as Q4-5 and the three sampling sites have been afforded unpolluted status with a high or good Water Framework Directive Status.

5.7.8. Electrofishing on the watercourses resulted in the recording of brown trout, salmon and eel in the Coolcullen River, and brown trout and salmon in the both the Coolcullen Stream and Knocknabranagh & Knockbaun Stream water courses. 11 sites were surveyed in the Dinin River catchement with 6 species recorded. While brown trout and salmon were most abundant, no lamprey species were captured. A freshwater pearl mussel survey did not result in any being observed. A total of 4 reaches were surveyed with 20 no. cross river transects carried out at each reach. The streams affecting the subject site are noted to be too small to support a population of FPM and for spawning adult salmon, while the Knocknabranagh & Knockbaun Stream is considered to have a reasonable eel habitat. There were no signs of Otter recorded at watercourse crossings, including Black Bridge, but the EIAR acknowledges that it is likely that they occur locally, at least on occasion.

5.7.9. Changes to water quality due to sedimentation of accidental spillages of pollutants during the construction phase and early operational phase have the potential to impact on water habitats and the species the watercourses support. Mitigation measures are included to minimise any effects on the aquatic environment, including

the provision of a 5m buffer around watercourses and the design and implementation of a highly functional site drainage system or surface water management system, with integrated silt management and flow attenuation management. In addition, mitigation measures will include the appointing of an Ecological Clerk of Works during the construction phase of the development. This project ecologist should be awarded a level of authority to stop construction activities if there is a potential for adverse environmental effects other than those predicted and mitigated in the EIAR. A Construction and Environmental Management Plan will be implemented and will take cognisance of Construction Industry Research and Information Association CIRIA, technical guidance on water pollution control.

5.7.10. The Board will note the concerns raised by third-parties in relation to the presence of protected species within the development site, including birds, bats, Otter and the loss of forestry. I am generally satisfied that the submitted information adequately addresses the potential impacts to biodiversity. Although the construction works could give rise to habitat loss, species disturbance and displacement, it is likely that species displaced during this phase would return to the site when the works are completed, subject to the implementation of mitigation measures. I am satisfied that the proposed development would not give rise to any additional significant adverse impacts on biodiversity, including birds and bats, as well as mammals using the site.

5.8. **Other Issues**

Replanting Lands & Loss of Forestry

5.8.1. The development notes that in order to facilitate the proposed turbines, a total area of tree felling is approximately 15ha, which will be the subject of a felling licence application to the Forestry Service. Following a consideration of alternatives, the EIAR notes that the replanting of felled trees will occur at Drumagelvin, Co. Monaghan. The site is noted to be located approximately 3.5km to the east of Castleblayney Co. Monaghan and comprises a network of small to medium sized fields with a stated area of 15ha. The land largely comprise improved agricultural grassland bound by mature hedgerows, interspersed with trees and access to the site will be via the existing agricultural entrance which will be upgraded as necessary. The site is not noted to be of particular ecological significance. The

replanting will include commercial forestry to replace that to be removed to accommodate the proposed windfarm.

5.8.2. The replant lands are not located within or adjacent to any designated site or within any sensitive habitat. The loss of improved agricultural grassland to facilitate this plantation is considered to have non-significant negative, and highly localised short-term effects and as the forestry matures, the effect on the local habitat are likely to be neutral non-significant and highly localised in the medium to long term. I would note that there is an abundance of similar well-connected improved grassland habitat in the area of the proposed replacement planting site and therefore disturbance to species is considered to be temporary slight negative impact. I am satisfied that this is acceptable.

Archaeological & Heritage

5.8.3. Chapter 10 of the EIAR deals with cultural heritage. It is noted that there are no recorded monuments, or statutorily protected archaeological features, identified within the limits of the study area. There is 1 Recorded Monument within 1km of the wind farm site, RMP-CW011-006: Enclosure, which is approximately 80m south of the proposed access track at Site Entrance 1 in Ridge townland, Co. Carlow. The EIAR notes that there is a barely discernible trace of a bank enclosing a circular area measuring 16m in diameter. The site is recorded on the First Edition 1:10,560 OS map, but not on later editions. Further to the above, there are 14 RMs within 100m of the grid connection route, details of which are provide in Section 10.4.2 of the EIAR.

5.8.4. With regard to the proposed replanting lands in Drumagelvin, Co. Monaghan, there are no RMs noted within the proposed replant site. There is a ringfort, RMP MO020-012, located approximately 25m north of the northern boundary of the replant lands and is recorded as a sub-circular grass and scrub-covered area measuring 33m northeast / southwest x 29m northwest / southeast. The perimeter is planted with trees and there is a ramp entrance at the east. Several small structures are recorded on historic cartographic sources within the replant area, with three appearing to survive above ground. A condition requiring pre-construction / planting archaeological testing in the area of the ringfort, and monitoring in the wider planting site, during the preparation of the site for planting should be included in any decision to grant permission.

5.8.5. There are 3 Protected Structures recorded within 5km of the wind farm site within Co. Carlow and 5 Protected Structures within 5km of the site in Co. Kilkenny. The Board will note that one Protected Structure, Black Bridge (RPS no. D84), is associated with the proposed development. This bridge is also recorded on the National Inventory of Architectural Heritage (Reg. No. 12401111).

5.8.6. Black Bridge is identified as having a regional rating in the Categories of Special Interest Architectural, Technical dated 1865-1885, and is described as follows:

> Single-arch rubble limestone road bridge over river, c.1875, on site of earlier bridge, pre-1840. Irregular coursed squared rubble limestone walls with battered piers having rock-faced dressed limestone quoins, cut-limestone stringcourse supporting parapet having cut-stone date stone/plaque, and part ivy-clad cut-limestone coping. Single segmental arch with rock-faced cut-limestone voussoirs, and tooled limestone ashlar soffits. Sited spanning Dinin River with overgrown grass banks to river.

Appraisal:

> Representing an important element of the mid to late nineteenth-century civil engineering legacy of County Kilkenny a small-scale low-slung bridge reminiscent of contemporary railway bridges displaying a traditional construction in unrefined locally-sourced stone makes a picturesque, if subtle impression in the rural landscape.

5.8.7. The proposed development will include works to Black Bridge comprising the placement of a 175mm layer of concrete across the carriageway over a distance of c18m – the entire span of the bridge archway – to increase the structural integrity of the bridge to accommodate the delivery of wind turbine components.

5.8.8. In addition to the proposed permanent works to Black Bridge, the development will also require temporary works to a second NIAH structure – Crettyard Bridge (Reg. No. 12400605) by way of the temporary removal of the pier caps on the northern parapet wall for the duration of the turbine component deliveries. The pier caps will be fully reinstated post-construction. The Crettyard Bridge has a regional rating in the Categories of Special Interest Architectural, Technical dated 1815-1835, and is described as follows:

Single-arch rubble stone road bridge over river, c.1825. Repaired, c.1975. Random rubble stone walls with unpainted rendered parapets having unpainted roughcast panels, and unpainted rendered piers having cut-limestone chamfered capping supporting remains of iron lamp standard. Single segmental arch with rendered voussoirs, and rendered soffits. Sited spanning tributary of Dinin River with part-overgrown banks to river.

Appraisal

A pleasant, if unassuming small-scale bridge representing an element of the early nineteenth-century civil engineering heritage of County Kilkenny.

5.8.9. The EIAR advises that post-consent, a pre-construction Architectural Impact Assessments of Black Bridge and Crettyard Bridge shall be carried out by a suitably qualified historic building consultant/Conservation Architect. That said, the EIAR assesses that the effect on Black Bridge will be permanent, direct and imperceptible and that as the pier caps of Crettyard Bridge are assessed to be of limited architectural value, the effects will be temporary, reversible and imperceptible. I accept this conclusion and recommend that a condition requiring the preparation of an Architectural Impact Assessment of both Black Bridge and Crettyard Bridge prior to the commencement of any development works at the site be included in any grant of permission.

Impact on Water Supplies

5.8.10. Chapter 7 of the EIAR addresses the issue of water and sets out the potential impacts on the hydrological regime. Having regard to the nature of the proposed development, the EIAR has sought to address the potential effects associated with the construction phase of the development on ground or surface water quality. Of particular note is the third-party submissions with regard to the protection of the local private water supplies as the majority of homes and businesses in the vicinity of the site are served by either private wells or the Castlewarren GWC Co-Operative Society Ltd. I note that the source protection area for the GWS lies to the south of the proposed development site, and the EIAR notes that the GWS is supplied from 5 boreholes and one spring source, across four separate sites, north of the village of Castlewarren. All locations lie to the south of the subject site and between 400m and 1.85km outside the site boundary. Approximately 850m of the proposed grid

connection route lies within the source protection area and approximately 270m from the nearest borehole.

5.8.11. In addition, the EIAR considers the potential effects on the Paulstown PWS Water Supplies, given the location of the Monefelim River Catchement Inner Protection Zone within 600m of the windfarm site. This catchment is known to supply a small proportion of water to the Paulstown PWS, with the higher proportion coming from the Acore Catchment. In terms of potential effects on the Group Water Schemes in the area, the EIAR concludes that subject to appropriate mitigation measures including in terms of the storage of hydrocarbons during the construction phase of the development, the local groundwater wells/springs will not be impacted. As such, and due to the setback distance from the Monefelim River Inner Protection Zone to the windfarm site, and to the shallow nature of the works proposed with regard to the grid connection works, with other mitigation measures, no effects on the Castlewarren GWS is assessed as occurring.

5.8.12. I also note that the HSE has agreed with the position taken by the applicant with regard to the protection of drinking water supplies. As such, I have no objection to the proposed development in this regard.

Impact on Communications

5.8.13. The Board will note the submission of Mr. John Purcell, CE of CK Broadcasting Ltd T/A KCLR 96FM, and other third parties who have raised concerns in terms of the impact of the development on both the broadcast signal of KCLR and other communications as a result of the proposed development. I note that a number of third parties have advised that they work from home and / or operate businesses in the local area and concerns are raised that any impacts to their broadband / communications would adversely impact them.

5.8.14. With regard to the potential effects on the broadcast signal of KCLA, I note that Section 13.3 of the EIAR specifically deals with Telecommunications, and I note the detail of consultations described in this chapter. While no effects are assessed as likely to occur during the construction phase, the EIAR submits that following the initial consultations, with Enet, Vodafone Ireland, 2rn (RTE Transmission Network) and KCLR Radio, the location of turbines were revised, and technical solutions were identified and agreed with the service providers. Solutions include the re-routing of

the affected microwave link to avoid the proposed windfarm site, with the cost to be borne by the developer. The re-routing shall be implemented and operational prior the erection of the proposed turbines and shall be carried out in consultation with each provider.

5.8.15. I note the submission of KCLR that the proposed location of the development between two broadcasting signals, critical to the delivery of its business, is incompatible with the ability of KCLR being able to continue their broadcast operations properly. The proposed mitigation measures to re-route KCLRs transmission link is considered by KCLR to be insufficient and does not provide sufficient assurance. I note that a technical solution has been developed by Radio Services Ireland to address the issues arising and it is requested that if permission is granted, it should be a condition of permission that KCLR be required to agree with measures to prevent impacts. I consider it reasonable that such a condition of permission be included in any grant of permission to protect the telecommunications services in the local area.

Development Contributions:

5.8.16. The Carlow County Council Development Contribution Scheme, 2017-2021, revised 1st January 2023, is the relevant scheme for the subject proposed development. Section 19 of the Scheme sets out the schedule of contributions and no. 16 relates to Windfarms. The level of development contribution in the Scheme is indicated at €3,48000 per turbine.

5.8.17. The development is a Renewable Energy Development and is a class of development which is identified in the Development Contribution Scheme, 2016 of Kilkenny County Council. The level of development contribution in the Scheme is indicated at €10,000 per megawatt.

5.8.18. In this regard, should the Board be minded to grant planning permission, a condition requiring the payment of a development contribution under the development contribution scheme, should be included.

5.9. **Planning Conclusion**

The development accords with European, national, regional and local planning policies and objectives as they relate to the provision of renewable energy and will not have an unacceptable impact on the landscape or ecology, it would not seriously injure the visual or residential amenities of the area or of property in the vicinity, and it would be acceptable in terms of traffic safety and convenience. Overall, I consider that the proposed development is acceptable and will be an acceptable form of development in the context of proper planning and sustainable development.

6.0 Environmental Impact Assessment

6.1. Introduction

6.1.1. The proposed strategic infrastructure development would comprise the construction of a 7-turbine windfarm, which would have a generating capacity in excess of 50.4MW. The development includes all associated and ancillary works and off-site works, and secondary elements are included for assessment in the submitted EIAR. These works include temporary and permanent upgrade works to be undertaken to the haul route, and connections to the national grid. The full development includes proposals for replanting of forestry to be felled to accommodate the proposed turbines.

6.1.2. The application was submitted under Section 37A of the Planning and Development Act 2000 (as amended) and it was accompanied by an EIAR, as required for any application made under this section of the Act.

6.1.3. I am satisfied that the EIAR has been prepared by competent experts to ensure its quality and completeness. The qualifications, memberships and competencies of the EIAR contributing authors is set out in each chapter where relevant in Volume 1 – Main Text of the EIAR. I am further satisfied that the information contained in the EIAR and supplementary information provided by the developer, adequately identifies and describes the direct and indirect effects of the proposed development on the environment, is up to date and complies with article 94 of the Planning and Development Regulations 2001-2019.

6.2. Environmental Impact Assessment Report

6.2.1. The EIAR submitted with the planning application is presented in two volumes including Volume 1- Main Text and Volume 2 - Technical Annexes. Photomontages and STV Maps are also included while the Non-Technical Summary is also provided as a separate and self-contained document.

6.2.2. The EIAR seeks to:

- Describe the proposal, including the site, and its surroundings, as well as the development's design and size:
- Describe the likely significant effects of the project on the environment:

- Describe the features of the project and measures envisaged to avoid, reduce and, if possible, remedy significant adverse effects:
- Describe the main alternatives studied and the main reasons for the choice of site and development, taking into account the effects on the environment:
- A non-technical summary is also provided:
- The EIAR also includes details of the EIAR Project Team Contributors involved in the preparation of the document.

6.2.3. Volume 1 of the EIAR provides 14 chapters, with Chapter 1 including an introduction to the development and setting out the scoping, format and structure of the document while noting that no general difficulties or limitations, including technical deficiencies or lack of knowledge, were encountered in the compiling of information in the preparation of the EIAR. The EIAR, in Chapters 2 to 14, seek to address alternatives and all environmental matters associated with the proposed development in a grouped format. The EIAR is advertised in the public notices, and I have read this EIAR in its entirety.

6.2.4. Details of consultations engaged in by the applicant in preparation of the EIAR are also set out in the document and are considered acceptable. I am further satisfied that the application has been made accessible to the public through electronic means, as well as hard copies being available.

6.2.5. The Non-Technical Summary provides an introduction and seeks to describe the proposed development, as well as provide a summary of the findings about each of the environmental topics that are examined in the EIAR. The information presented is in clear and non-technical language. I am satisfied that the NTS is acceptable.

6.2.6. Volume 1 of the EIAR is presented under the following chapter headings:

1. Introduction
2. Assessment of Project Alternatives
3. Description of the Project
4. Population & Human Health
5. Biodiversity
6. Land & Soils
7. Water
8. Air Quality & Climate
9. Landscape
10. Cultural Heritage
11. Noise & Vibration

12. Shadow Flicker
13. Material Assets
14. Interactions of the Foregoing

6.2.7. The EIA identifies and summarises the likely significant effects of the proposed development on the environment with respect to a number of factors. It identifies the main mitigation measures and residual impacts following mitigation, it assesses cumulative impacts, and it reaches a conclusion with respect to each of the factors. Chapter 14 also considers the interactions of each factor. Mitigation measures are set in each chapter and summarised in Annex 1.10 in Volume II. The content and scope of the EIAR is considered to be acceptable and in compliance with Planning Regulations. No likely significant adverse impacts were identified in the EIAR following mitigation.

6.2.8. Article 3(2) of the Directive require a consideration of the vulnerability of the project to risks of major accidents and/or disaster that are relevant to the project concerned. The EIAR addresses this issue in section 4.5 and within the Population & Human Health Chapter. It notes that given the location of the site, together with the nature of the proposed project, the risk of natural disasters is limited to fire and flooding (addressed in Chapter 7 of the EIAR). It is concluded that the risk of such disasters occurring, affecting the project and causing it to have significant environmental effects is limited.

6.2.9. The wind farm site is not regulated or connected to or lies in proximity to any SEVESO site which is regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations. Therefore, there is no likelihood for cumulative effects or interactions which such sites arising. There are unlikely to be any effects deriving from major accidents and or disasters and I am satisfied that this issue has been addressed in the EIAR.

6.3. **Consideration of Alternatives**

6.3.1. In terms of the requirements to consider alternatives, the following is relevant:

- Article 5 (1) (d) of the 2014 EIA Directive requires:

  “(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;"

- Annex (iv) (Information for the EIAR) provides more detail on 'reasonable alternatives':

  "2. A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for electing the chosen option, including a comparison of the environmental effects."

6.3.2. Chapter 2 of the EIAR seeks to address the assessment of project alternatives considered. These include the 'Do-Nothing' Alternative where it was concluded that due to the critical importance of on-shore wind energy in the transition to a low carbon economy, a do-nothing scenario was not considered a viable option. Given the context of the subject site, the main alternatives considered, relate to locations, technologies, design and layouts, grid connections, haul routes and forestry replant lands. All alternatives were considered against a number of key environmental criteria and planning considerations.

6.3.3. In terms of alternative locations for the proposed turbines, the applicant considered the subject site and a second site to the north west of Kilkenny City. Table 2.1 if the EIAR sets out an overview of the comparative assessment of environmental constraints and opportunities for both locations with the preferred location based on each environmental factor. The currently proposed development emerged as the preferred location. In terms of technology, the EIAR considered solar PV as an alternative, concluding that wind energy is very effective due to the large available wind resource and mature cost-effective technologies. Also, given the land take required to provide the equivalent output for PV solar, it was concluded that a solar energy project would be significantly less competitive in an auction process in obtaining a grid connection offer from the CRU.

6.3.4. Following the identification of the subject site as the preferred location, a number of alternative designs and layouts were evaluated, including the specific turbine technology to be installed. Key criteria used in this regard included visual impact, inter-visibility / visual clutter, avoidance of TE links and set back to existing/permitted

residential dwellings. Consideration was also given the size and height of turbines including numbers of turbines depending on overall height and MW output. Larger and fewer turbines were determined to be the most appropriate for the site in terms of significant environmental effects, impacts on landscape, noise and shadow flicker impacts and availability of land. Table 2.2 of the EIAR presents an overview of the environmental constraints and opportunities associated with the two proposed designs and layouts considered. I also note that the issues raised by third parties are advised to have been a factor in the decision-making process in terms of consideration of alternative design and layout.

6.3.5. With regard to the description of the proposed development, the Board will note that turbines with a hub height of 104m, rotor diameter of 162m and overall tip height is sought. Details of the turbines is discussed in section 3.4.1 of the EIAR, and I refer the Board to page 3:9 where the EIAR assessment is based on the Vestas V162-7.2MW turbine model. It is submitted that the EIAR also assesses the likely significant environmental effects of the named turbine model, incorporating an assessment of any immaterial deviations in terms of hub height and rotor diameter. Any proposal to deviate from the identified dimensions will be subject to a future planning application process. A micro-siting of 20m for the turbines is proposed.

6.3.6. Two alternatives for grid connections have been presented in the EIAR. Both options include the construction of a 38kV substation at the wind farm site and the installation of a 38kV underground electricity line within the carriageways of local and regional roads. In terms of connection to the grid, option 1 proposed the Kilkenny 110kV substation 11km to the southwest of the site and option 2 considered a connection to the Kellistown 220kV substation located 20km to the northeast. 3 other substations were discounted as unreasonable alternatives due to lack of capacity to accommodate the development of the scale proposed. The proposed connection to the Kilkenny 110kV substation emerged as the preferred option following an assessment of the likely environmental effects.

6.3.7. Section 2.4.6 of the EIAR considers alternative Haul Routes for the development and considers both the turbine components as well as the construction materials. In terms of the turbine components, it is submitted that a number of ports of entry can be considered and that the final selection, and exact haul route, cannot be confirmed until the completion of the turbine tendering process. However, given the proximity of

the site to the N78 and the M9, it is confirmed that this will be the haul route for the turbine components. I also note that the Port of Waterford was selected for the purposes of assessment and the proposed route was considered to be appropriate. With regard to construction materials, the EIAR presents details of local stone aggregates and concrete suppliers from Carlow and Kilkenny. It is submitted that the supplier will be determined following a competitive tendering process prior to the commencement of the development. The final haul route in this regard cannot be determined, however, the selected supplier will be instructed to use the motorway, national and regional roads and to avoid local roads where possible and practicable.

6.3.8. With regard to the alternative forestry replant lands, the EIAR identifies two landbanks located in County Monaghan, both of which extend to 15ha. It is noted that the identified sites are approximately 1km apart and located to the east and north east of the town of Castleblaney. The EIAR considers that either option would be acceptable in terms of environmental effects, Option RP2 is deemed to be the preferred option due to the habitats present and the increased separation from designated scenic viewpoints.

6.3.9. The EIAR concludes that the final project assessed has adopted the combination of design and layout options that strike the best balance between the avoidance of any likely significant environmental effects and achievement of the objectives of the project. I am satisfied that the issue of alternatives has been addressed in the submitted EIAR.

6.4. **Environmental Impact Assessment**

6.4.1. This assessment has had regard to the application documentation, including the Environmental Impact Assessment Report, and all other supporting reports submitted, as well as all written submissions. In accordance with the requirements of Article 3 of the EIA Directive and Section 171A of the Planning and Development Act, 2000 (as amended), the environmental assessment is carried out against the following factors:

(*a*) population and human health,

(*b*) biodiversity, with particular attention to protected species and habitats protected under the Habitats Directive and the Birds Directive,

(*c*) land, soil, water, air and climate,

(*d*) material assets, cultural heritage and the landscape,

(e) the interaction between the above factors.

6.5. **Population and Human Health**

6.5.1. The Board will note the concerns of the third parties with regard to the impact of the proposed development, and the negative associated impacts, on human health in terms of environmental impacts, quality of life, increased stress, noise and air quality impacts due to traffic. The EIAR, Chapter 4, seeks to address impacts associated with the development on population & human health and considers impacts on factors such as economic activity and employment, social considerations and potential changes to patters and types of activity and land uses, land use, tourism and amenities and health and safety. I further note the concerns raised by third-parties who consider that there are omissions in this chapter of the EIAR with regard to the presence of the community organic vegetable garden, recreational enterprises in the area – pottery, willow weaving, artist – and tourism accommodation.

Population

6.5.2. I note that impacts on population and human health as a result of the proposed development have also been considered in other chapters of the EIAR including Air Quality & Climate (Chapter 8), Landscape (Chapter 9), Noise and Vibration (Chapter 11), Shadow Flicker (Chapter 12) and interactions between the environmental factors and population and human health (Chapter 14). The EIAR notes that the site is located across both County Carlow and County Kilkenny with Old Leighlin being the closest notable settlement at 4km to the east. The report acknowledges the presence of nucleated clusters at crossroads at The Ridge and The Butts. There are a total of 129 residential properties noted within 1.85km of a proposed turbine with two houses noted to be within '4-times tip height'. All third-party properties who are not involved with the development are located more than 500m from a turbine. The EIAR does not anticipate any significant effects on the population of the area due to the proposed development.

Economic Activity and Employment

6.5.3. An assessment of the 2016 census of population statistics for the study area, the workforce is employed in a diverse range of industries, with Skilled Trades Occupations', 'Professional Occupations', and 'Elementary Occupations' having the

highest percentage of the work force. 'Not Stated' comprises almost 21% of the workforce. Oldleighlin, the closest village to the development site, contains an ecclesiastical heritage feature with national significance known as the St. Laserian's Medieval Cathedral, which is likely to play a role in the visitor economy of the Local Study Area.

6.5.4. The EIAR submits that the proposed development is likely to give rise to potential beneficial effects on the local economy, including employment opportunities and increased spend on local services during the construction phase. It is envisaged that the construction phase of the project will take 15-18 months and may employ approximately 100 people at the peak construction period. This will have a positive impact on employment and will create short-term employment at local and national levels. During the construction phase, it is envisaged that resources and labour will be sourced within the region. The procurement of goods and services is likely to have a significant positive effect on the local economy, with the local contract spend (within the Wider Study Area) considered to be in the region of €14 million (c. 25%) over the development and construction period. The potential effects on the tourism economy during the construction phase in terms of individual businesses through expenditure on accommodation, food, drink, fuel etc, is considered likely to be substantial, but cannot be quantified until contracts are agreed.

6.5.5. Potential adverse effects are noted to include restrictions on farming operations, neighbouring businesses or general disruption to the amenity of the local area, including in respect to road traffic, which may indirectly impact on its recreation and tourism value. Once operational, effects are likely to be primarily related to the visual impact and potential noise effects from the wind farm.

6.5.6. During the operation phase, it is envisaged that 4 permanent jobs will be created locally in the form of engineer and technician personnel. The development will have a slight positive impact on employment in the area. In terms of the tourism economy, the EIAR considered that the development is located in an area where there is little evidence of significant visitor economy activity with a negligible impact resulting in a negligible effect on tourism likely to occur. The operation of the Community Benefit Funds and community investment by the windfarm development will result in financial benefit to both the local and wider study areas. No likely significant adverse effects have been identified in respect of socio-economic receptors arising from the

operation of the project and therefore no mitigation measures are required to reduce or remedy any adverse effect.

Land Use

6.5.7. The land to be developed comprise primarily agricultural land and forestry. The EIAR submits that it does not provide for notable recreational use. The legal agreements which have been signed by the landowners include measures to facilitate the safe continuation of agricultural operations during the construction phase, with use of the proposed access tracks by landowners during the operational phase of the project.

6.5.8. The development will require the felling of 15ha of existing commercial forestry in the vicinity of the proposed turbines. The EIAR does not consider that the development will have any significant, negative impact on either the existing or other potential land uses or development in the area.

Tourism

6.5.9. Counties Carlow and Kilkenny are noted to be part of the 'South East' Failte Ireland Region, with both Councils County Development Plans including policies which focus on developing the counties as tourism destinations. The appeal of Failte Irelands promotion of the 'Ancient East' brand is noted to encompass the rich heritage and cultural assets that this region, including Carlow and Kilkenny, have to offer. The EIAR identifies the small number of tourist related offers in the local study area, and concludes that the proposed development, in the construction phase, will benefit the tourism sector in terms of expenditure on accommodation, food, drink, fuel etc. The EIAR concludes that as the sensitivity of all tourism/recreational receptors within the LSA is assessed to be low, and the magnitude of adverse effects would also be low, the effect on receptors in the LSA would be negligible (adverse) and not likely to be significant.

Amenities

6.5.10. The development is located in a rural area and of the 129 houses identified with 1.85km of the site, 2 are located within 500m of a turbine. In terms of population and human health, the EIAR submits that residential amenity can be affected by nuisance such as noise, visual amenity and shadow flicker. In addition, I consider that there are likely potential effects arising due to increased traffic on the local road network which may also increase potential for dust emissions affecting air quality.

Once operational, effects are likely to be primarily related to the visual impact and potential noise effects from the wind farm. The interaction with other environmental topics is addressed further under separate chapters in the EIAR and are summarised as follows:

- Air Quality & Climate – Chapter 8 (See also Section 6.10 of this report)
  There is potential for dust nuisance to occur during the construction phase. The dominant sources of greenhouse gas emissions as a result of the project arising from construction traffic and embodied energy for turbine construction. A range of mitigation measures are proposed to minimize the emissions and a Dust Management Plan prepared to ensure that significant levels of dust are not generated. Any impact is not considered significant during the construction phase and once operational, there will be no negative residual impacts regarding air quality.

- Visual Impacts – Chapter 9 (Landscape) (See also Section 6.13 of this report)
  A suite of photomontages were submitted as part of the EIAR seeking to depict the proposed development from a number of vantage points in the wider area. The EIAR describes the site as a productive rural landscape and notes the strong historical association with industrial uses including the presence of the Leinster coalfield within the Castlecomer Plateau. Overall, the central and wider study area is described as having a combined 'Medium-low' landscape sensitivity, with some of the heritage features in Kilkenny City and the wider Carlow area having localised pockets of high and even very high landscape sensitivity.
  The magnitude of the landscape impact is deemed to be 'Medium' within the central study area, and beyond 5km from the site, the magnitude of landscape impact is deemed to reduce to Low and Negligible at increasing distances. Visual impacts were assessed at 26 no. visual receptor locations throughout the study area where sensitivity ranged widely from 'High' to 'Low'. The highest magnitude of visual impact occurs at viewpoints VP10, VP13 and VP18. However, the EIAR concludes that the turbines do not appear over-scaled, and it is assessed that the wind farm can be well assimilated into this robust working landscape context without any significant visual impacts. Some cumulative impacts will arise and are assessed to be in the order of

Medium. No specific mitigation measures are proposed as given the highly visible nature of the development it is not feasible to screen them from view. While the magnitude of cumulative visual impacts is assessed as 'High-Medium', it is submitted that as a number of the wind farms are pre-planning, it may not become a reality.

- Noise and Vibration – Chapter 11 (See also Section 6.11 of this report)
  There are two potential sources of noise from the project – temporary, short-term construction noise and long-term operational noise from the turbines. The noise assessment show that guideline noise limits will not be exceeded for construction or during the operational phase of the project at the nearest noise sensitive receptor. No mitigation measures will be required.

- Shadow Flicker – Chapter 12 (See also Section 6.12 of this report)
  The EIAR includes a shadow flicker assessment and notes that the expected results suggest that shadow flicker could occur at H007 for 22 hours and 27 minutes per annum. 110 of the 129 houses assessed are predicted to experience less than 10 hours of shadow flicker per year, while 36 dwellings are not predicted to experience any effects. When considered cumulatively with the Seskin Wind Farm, the effects of shadow flicker increases as a number of dwellings. The 'worst-case' conditions indicate that H007 will experience 26 hours and 41 minutes.
  Mitigation measures will include automated turbine shut down software to reduce/eliminate the occurrence of shadow flicker. This automated process will ensure that no shadow flicker, whatsoever, is experienced at any dwelling, place of work or school. The EIAR concludes that there will be no significant impact to residents from shadow flicker.

- Traffic and Road usage – Chapter 13 (Material Assets) (See also Section 6.14 of this report)
  The EIAR identifies the haul route to be followed and provides details of the number and size of vehicles associated with all stages of the proposed development. Traffic studies indicate that while there will be increased construction traffic volumes during stages of the construction phases, this is a temporary impact which will be managed by a Traffic Management Plan. The heavy goods vehicles have the potential to cause nuisance to those using the

local roads and upgrades will be required at 12 locations along the route, 11 of which will be temporary. The permanent upgrade relates to works at Black Bridge to reinforce the structural integrity of the bridge. Most of the rock required for the construction of the turbines will be sourced on site at existing and new borrow pits. No significant traffic impact is envisaged from the project and turbine components will be delivered via an agreed plan. Any residual nuisance will be temporary and considered slight negative impact, with long term positive effects.

- Telecommunications – Chapter 13 (Material Assets) (See also Section 6.14 of this report)

  Consultation with Enet advised that a microwave link would be affected by the project. A technical solution has been agreed to avoid disruption to Enet services.

  With regard to Vodafone, Turbine T2 was relocated to increase the separation distance to a link which had potential to be disrupted.

  RTE Transmission Network advised that there was potential for localised interference with the terrestrial TV network. It has been requested that the developer enter into a protocol arrangement to ensure the appropriate remediation of any adverse effects which may be experienced.

  Radio Services & Building Limited (KCLR Radio) advised that the location of turbines T6 and T7 poses a risk of interference to an existing transmission link between Johnswell (Co. Kilkenny) and Rathmore (Co. Laois)[1].

  Mitigation measures proposed include the re-routing of affected microwave link and transmission links relating to Enet and Radio Services & Building Limited (KCLR Radio) at the developers' expense. If significant signal interference in any form is identified and is directly attributed to the project, appropriate remedial measures will immediately be undertaken. It is concluded that, based on a desktop assessment and consultation, the project will not result in likely significant effects on the telecommunications network.

[1] The Board will note the objection to the proposed development submitted from Radio Services & Building Ltd. which indicates that the mitigation measures proposed are insufficient to protect the broadcast signal.

Human Health

6.5.11. Impacts to human health arising from the proposed windfarm relate to sensitivities to significant levels of nuisance such as noise, shadow flicker or air quality. The EIAR concludes that noise levels during the construction and operational phases are not likely to occur so as to induce hearing damage or sleep disturbance. I note the third-party submissions with regard to concerns that as the proposed turbines are larger than any already constructed, there are questions around the noise impact assessment conclusions in the EIAR. Other potential issues arising relate to lightning strikes, ice fall, electromagnetic interference and shadow flicker, all of which are considered unlikely to impact on human health as a result of the proposed development, subject to mitigation measures as appropriate.

6.5.12. While health and safety issues are a matter for the HSA, the Board will note that a number of third parties and local residents have raised concerns regarding the health effects arising from the proposed development on people living in the area. The Wind Energy Planning Guidelines make specific reference to shadow flicker and noise, and I note the submission from a number of parties with regard to sensitivities to such effects for a number of local residents. I am generally satisfied that the EIAR considers the potential impact of the turbines to human health in the context of the relevant vectors such as noise, air quality and traffic in further chapters of the EIAR.

Cumulative Effects

6.5.13. This chapter of the EIAR considers the potential cumulative effects associated with existing, permitted or currently proposed developments within the wider and local study areas. No in-combination or cumulative impacts are likely to arise in terms of socio-economic or population and human health during the operational phase of the project.

Mitigation Measures

6.5.14. Mitigation measures are proposed in terms of the various phases of the development and include measures which are embedded in other chapters of the EIAR as they relate to specific aspects of the environment. No specific mitigation is proposed in relation to the socio-economic receptors arising from the construction or operational phases of the development. Measures have been agreed with the involved

landowners regarding the management of agricultural activities during the construction stage.

Residual Impacts

6.5.15. No significant residual impacts are envisaged in terms of population or human health. I have considered potential impacts on general and residential amenities above in the Planning Assessment section of this report.

Conclusion

6.5.16. In terms of population and human health, I would acknowledge that the proposed development will give rise to a significant investment in the local area with employment opportunities arising. Indirect benefits, including the provision of accommodation, food and drink, as well as other service providers in the local economy may also benefit from construction phase. The applicant also advises regarding the Community Benefit Funds and Community Investment packages which will be provided to communities across both local authorities in the area of the site. Such measures will present a positive socio-economic benefit to the local communities in the area.

6.5.17. In terms of human health, I would advise that I have addressed matters relating to noise, shadow flicker, air quality, water etc elsewhere in this report. Other matters raised by third-parties are also addressed under the Planning Assessment above, Section 5 of this report, including impacts on property values, roads and traffic and public consultation. Consideration of Major Accidents is also addressed above in this report. With regard to the issue of landslides, I have addressed this in the Land and Soils section of my report – Section 6.8.

6.5.18. I have read and considered all of the submissions made in relation to population and human health. I am satisfied that the impacts identified will be avoided and managed through specific proposals identified in the EIAR. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of population and human health. I am also satisfied that cumulative effects are not likely to arise.

6.6. **Biodiversity – Excluding Birds**

6.6.1. Chapter 5 of the EIAR deals with biodiversity and the Board will note that a Natura Impact Statement (NIS) was submitted in support of the proposed development application. The NIS is dealt with in section 7 of this report below but there will also be a degree of overlap. The methodology employed to prepare this chapter of the EIAR is set out and included a desk top study including a review of available information and field studies which were carried out between autumn 2019 and August 2022. This chapter of the EIAR also includes details of the personnel involved in the preparation of the chapter and sets out the scoping and consultations which were undertaken by the applicant.

6.6.2. Surveys undertaken included:

- Botanical surveys and Habitat mapping;
- Invasive species surveys;
- Aquatic and fisheries assessments including electrofishing under licence, biological water quality assessment and Freshwater Pearl Mussel surveys;
- Dedicated non-volant mammal survey walkovers and deployment of wildlife trail cameras. Checks along the grid connection route and points of interest on the turbine haul route;
- Multi-season bat surveys including:
    - Active surveys;
    - Passive detector surveys (including deployment at height);
    - Identification of Potential Roost Features;
    - Roost Emergence surveys; and
- Other taxa surveys including checks of areas with Devil's Bit Scabious for signs of Marsh Fritillary larvae.

6.6.3. The importance of the habitats and species present is evaluated using the guidance document Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal, and Marine published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018, updated 2019) and Good Practice Guidance for Habitats and Species (CIEEM 2021).

Existing Environment

6.6.4. The existing environment is set out in the EIAR and while there is no designated site within the proposed development site, it lies immediately adjacent to the River Barrow and River Nore SAC, Site Code 002162. The proposed works to the Black Bridge lie upstream of the river and the closest turbine to the SAC is noted to be 1.7km away. Table 5.7 of the EIAR sets out the distances to designated nature conservation sites within 15km of the project site. In addition to the River Barrow and River Nore SAC, the EIAR notes that there are 2 further Natura 2000 sites, 17 no. pNHAs and 1 NHA within 15km of the project site.

6.6.5. A desk top study of **habitats and flora** identified the historical presence of three Red Listed 'near threatened' species as being recorded within the grid squares that overlap the project site. In terms of invasive species, the NBDC database and BSBI database for grid squares overlapping the site hold records for 13 species listed under the Third Schedule Part I under Regulations 49 and 50 of the European Communities (Birds and Natural Habitats Regulations) 2011. Table 5.9 of the EIAR sets out the rare or protected plant species and Table 5.10 sets out the non-native invasive plant species recorded from the S66 grid square.

6.6.6. Habitats present across the site are noted in Section 5.3.2.2 of the EIAR where it is advised that no Annex I habitats were recorded within the project site, study area, haul route works locations or along the grid connection route. In addition, no Annex II or IV species were recorded and no Bryophytes protected under the Flora (Protection) Order 2022 were documented for the study area. The main habitats present on the site are listed in Table 5.11 of the EIAR. Habitats present on the site primarily include improved agricultural grassland and conifer plantation with small areas of spoil and bare ground noted in the form of access tracks.

6.6.7. The development footprint will also be located within an area of higher value semi–natural grassland classified as Wet Grassland, in the vicinity of proposed turbine T3 and a portion of the habitat which supports a relatively diverse species assemblage will be lost as a result of the proposed development. The EIAR notes that this area of Wet Grassland had a higher ecological value than other wet grassland areas due to the diversity and abundance of species within the grassland sward, with the area approaching Annex I Molina meadows status with good representation of positive

indicator species for this Annex I habitat. A similar higher value type wet grassland was also recorded on either side of the Knocknabrannagh and Knockbaun stream in the northwest of the site.

6.6.8. Other habitats recorded within the site include dry meadows and grassy verges with field boundaries comprising treelines and hedgerows, some of which are mature and long established, dating back to the 1830s. a number of eroding upland streams traverse the study area all of which comprise tributaries of the Dinin South which is a tributary of the River Nore. Both form part of the River Barrow and River Nore SAC. A habitat map is included at Figure 5.12 and the EIAR includes a full description of all habitats within the site.

6.6.9. The EIAR notes that the habitats along the circa 15km grid connection route follows the public roads and primarily include roads, roadside verges and stone walls and other stonework – bridges, improved agricultural grassland, conifer plantation, scrub, arable crops, mixed broadleaved woodland, hedgerows and / or treelines and residential properties. There will be no disturbance to habitats as the cables will be buried within the existing paved surface. Horizontal Directional Drilling will occur at 3 locations to avoid trenching/excavations within bridging structures crossing two unnamed watercourses and the Kilderry Stream.

6.6.10. In terms of **mammals**, the EIAR notes the presence of a wide range of species, detailed in Table 5:24, which includes a number of non-native species such as American Mink, brown rat, Eastern Grey Squirrel, European Rabbit and Greater White-toothed Shrew. Protected species recorded at the site include badger, Eurasian Red Squirrel, Irish Hare, Irish Stoat, Otter, Pine Marten and west European Hedgehog. Other mammals include red fox and wood mouse. Two outlier Badger setts were recorded in proximity to access tracks to be constructed as part of the development and signs of badger activity were frequently encountered throughout the site and consisted of foraging signs and latrines. While there were no signs of Otter recorded at watercourse crossings, including Black Bridge, the EIAR acknowledges that it is likely that they occur locally, at least on occasion along watercourses.

6.6.11. The overall **bat** activity at the site is noted to be moderate with the site given a low-to-moderate suitability for bats in general. No significant roosts were identified during

the bat surveys, with 2 minor roosts discovered. A total of 7no. bat species were recorded, with a possible 8th species as Whiskered Bats and Brandt's Bats are indistinguishable through ultrasonic detection. Table 5-29 of the EIAR presents the results of the passive bat monitoring undertaken. Leisler's Bat was the most commonly recorded species, accounting for 45.3% of all registrations. The Common Pipistrelle accounted for 41.9% and Soprano Pipistrelle accounting for 7% of all registrations. Roosting was confirmed at the B_38 Structure – existing farm house – during the emergence survey on 1 June 2022 where a single Soprano Pipistrelle was observed emerging from the gable. There was no evidence that this location represents a significant roost such as a maternity roost.

6.6.12. In terms of **other taxa**, it is noted that a variety of species were recorded, including the near threatened Gooden's Nomad Bee and Dingy Skipper butterfly. Marsh Fritillary has been recorded in the 10km Grid Square S56 (National Biodiversity Data Centre – NBDC) which lies to the west of the subject site, but there are no records from S66. The subject site lies entirely within grid square S66. With regard to amphibians, common frog and smooth newt have been recorded within S66.

6.6.13. In terms of the replant lands, the EIAR advises that the dominant habitat is improved agricultural grassland with hedgerows, drainage ditches and treelines. No evidence of burrows or resting places associated with protected mammal species were found and the replant lands are noted to be intensively managed at present.

Likely Significant Impacts

6.6.14. In terms of designated sites, I refer the Board to Section 7 of this report which deals with the Natura Impact Statement and deals with impacts to SACs and SPAs. The EIAR addresses the potential impact to other designated sites, including 1 NHA and 17 pNHAs which are located within 15km of the site. The subject site does not lie within any designated European site and the EIAR identifies all habitats present on the site, along the proposed haul route and along the proposed grid connection route. The proposed development and associated infrastructure will be located primarily within the commercial forestry plantation and improved agricultural grassland. I also note that an area of higher value semi–natural grassland classified as Wet Grassland has been identified in the vicinity of proposed turbine T3. A portion

of the habitat, which supports a relatively diverse species assemblage, will be lost as a result of the proposed development.

6.6.15. Two main streams flow through the study area including the Knocknabrannagh and Knockbaun stream and the Coolcullen Stream. Both streams drain in a northerly direction and join together to become the Coolcullen River, before flowing into the River Dinin (South). The River Dinin is a tributary of the River Nore, forming part of the River Barrow and River Nore SAC (Site Code: 002162). The streams are notably small and shallow. In addition to the streams, there is a network of drainage ditches present across the site, installed as drainage measures for agricultural land improvements. The Eroding Upland River habitat has the potential to be adversely affected by the project due to indirect hydrological / water quality effects resulting from nutrient releases, siltation and / or contaminated run-off. As part of the proposed development, there will be 5 stream crossings within the windfarm site, and a further 4 watercourse crossings as part of the grid connection works.

6.6.16. The proposed excavation and construction works could result in the loss or disturbance to parts of the habitats located within the overall development site. The windfarm site and environs are used by several animal species including mammals, amphibians and invertebrates, some of which are protected. The EIAR identifies that the site has commuting, foraging and roosting potential for several species, including badgers and bats, and the proposed works could result in disturbance, displacement, and loss of support habitat. The proposed works therefore have the potential to affect several habitats and species.

6.6.17. In terms of **designated sites**, the proposed development site does not lie within any proposed NHA or NHA sites. There are 17 NHAs and 1 pNHA identified within 15km of the site with the closest being Mothel Church, Coolcullen pNHA, Site Code 000408. This proposed NHA is a nursery colony of Natterer's Bats (*Myotis nattereri*) located in the loft of the Church of Ireland, Mothel, Coolcullen, Co. Kilkenny. Over 100 bats were counted at the site in 1993 making it one of the biggest in the country. As the national population of Natterer's bats is estimated to be only several thousand, this nursery roost is of both National and International Importance. This site is located near the southern edge of the survey site and is unlikely to be affected by any of the selected routes. This site lies approximately 1.6km from the project site, and 1.9km from the nearest turbine.

6.6.18. Having regard to the survey information submitted, I am satisfied that the EIAR has adequately considered the potential impact of the development on the Natterer's Bat, noting that while present within the proposed development site, and where suitable, but sub-optimal habitat exists for this species, this bat species comprised a very small proportion of registered bat calls, amounting to 4.5% of the total figure. I further note that no Natterer's Bat calls were recorded during the summer survey period. As such, I am satisfied that if permitted, the proposed development is unlikely to have any significant effect on the Mothel Church, Coolcullen pNHA, Site Code 000408.

6.6.19. While I note that there are several other NHAs in the wider area (incl. bogs, quarries, woods, caves and eskers), they do not have the potential to be affected by the proposed works because of the nature and characteristics of the heritage site, the absence of an aquatic connection with the development site, and the extent of the separation distances.

6.6.20. In terms of impacts on **habitats and flora**, the EIAR notes that while the total site area extends to 290ha, the direct footprint of the infrastructure is small, with the actual permanent land take amounting to 9ha, approximately 3% of the total site area. The majority of habitat loss will involve improved agricultural grassland and conifer plantation which are of low importance, leading to a neutral-imperceptible impact on existing semi-natural habitat and flora species.

6.6.21. In terms of **habitat loss**, a small area of relatively high quality and diverse wet grassland will be permanently removed at the location of turbines T1 and T3, and their associated infrastructure. This semi-natural habitat is of local importance with a higher value and its loss is considered to be a significant negative impact in the local context. It is further noted that, in the absence of mitigation, the wet grassland habitat surrounding these proposed turbine locations may also be damaged by inappropriate trafficking during the construction phase as well as the installation of drainage systems.

6.6.22. In addition, the development will result in the permanent loss of sections of hedgerow and treeline habitat. The locations of such loss do not include any Annex I habitats or rare protected plant species and the removal of the sections of hedgerow and treelines is assessed as likely having a significant local negative impact, with the habitats having a local importance, higher value. In the absence of mitigation, further

damage may occur to trees and hedgerows during the construction phase, including root damage and potentially machines damaging tree limbs.

6.6.23. In terms of other habitats impacted by the proposed development and within the study area, I would note that the dry meadows and grassy verges and scrub are considered to be of local importance, higher value and the exposed rock habitat local importance low value. Recently felled woodland, immature woodland, stonewalls and other stone work all considered to be of local importance, ranging from lower to higher value, are located outside the project footprint and will not be directly affected.

6.6.24. In terms of the construction phase of the development, the works will be carried out in accordance with the provisions of a detailed Construction Environmental Management Plan. In addition, I note the proposals to plant new hedgerows and native woodland trees to offset the effects of the proposed loss of this habitat, and away from the proposed turbines. This measure will avoid attracting bats to the turbine locations. No protected plant species were recorded within the site during the surveys and as such, no adverse impacts are anticipated.

6.6.25. Overall, I am satisfied that, subject to the implementation of the mitigation measures as detailed in the submitted EIAR to minimise the risk of adverse impacts associated with the proposed development, the impacts on habitats and flora would not be significantly adverse. The impact of the loss of agricultural grassland and conifer plantation is considered minimal. Having regard to the presence of existing hard surfaced tracks through the site, I am satisfied that there would be no significant loss of or damage to any other habitats, subject to the implementation of mitigation measures and adherence to best construction practices.

6.6.26. In terms of **fauna**, the EIAR considers the potential impacts associated with the construction phase and operational phase, and the potential impacts on a number of species. In the preparation of the EIAR, ecological site walk over surveys were carried out from 2019 to 2022 as well as a desk top review of ecological data available for the study area. In this regard, the following is relevant:

Badgers: The ecological site walkovers surveys identified two outlier Badger setts in proximity to access tracks to be constructed as part of the development. These 2 setts were monitored by a trail camera between 22 December 2021 and 4 April 2022 and were found to be used infrequently, and

are assessed to have a local importance, higher value. The Board will note that the location of these Setts is not identified in the EIAR but will be located within 10 and 20m of proposed tracks associated with the proposed development. Signs of badger activity were frequently encountered throughout the site and given the habitats present on the site, it is considered that the area represents good foraging habitat for badgers.

There is a likelihood of indirect disturbance to the 2 Setts identified due to noise and vibration from increase human presence. With increased traffic, there is also a risk of road casualties. The development may result in displacement of badgers locally, with overall impacts noted to be localised, and temporary.

The mitigation measures included in the EIAR as they relate to Badgers include a further survey of the two identified outlier setts to confirm activity ahead of any works, including vegetation clearance. The advice of NatureScot 2017 in terms of applying a minimum exclusion zone of 30m from active sett entrances, increasing to 50m of the sett during breeding season and 150m for blasting or pile driving activities. A suitably qualified ecologist will be employed to assess the evidence of activity at the setts and if required will discuss the need for NPWS Derogation licences if required.

I am satisfied that this range of measures would protect Badgers and overall, I am satisfied that the development would not result in a significant negative impact on badgers, subject to the full implementation of mitigation measures as detailed in the EIAR.

Other mammals: Other mammals noted at the site include fox, pine martin, red squirrel, Sika deer, wood mouse, brown rat and pygmy and Greater White-tooth shrew. The proposed development is likely to rise to temporary disturbance and displacement during the construction phase, including along the grid connection route. However, it is assessed that the effects of the construction would not be significant with regard to mammals due to the availability of further agricultural land in the area.

The site surveys noted no evidence of otters within the site or in the wider area. The EIAR presumes that the species forages / commutes along the

water course network. The construction phase of the development is anticipated as having a temporary localised non-significant negative impact. Notwithstanding this conclusion, a pre-construction survey for mammals should be carried out before works commence on the site.

Bats: 3 species have been recorded in the 10km grid square in which the proposed wind farm is located. The overall bat activity at the site is noted to be moderate with the site given a low-to-moderate suitability for bats in general. No significant roosts were identified during the bat surveys, with 2 minor roosts discovered. A total of 7no. bat species were recorded, with a possible 8th species as Whiskered Bats and Brandt's Bats are indistinguishable through ultrasonic detection. The Leisler's bat was the most frequently recorded species, accounting for 45.3% of all registrations. The Common pipistrelle accounted for 41.9% and Soprano Pipistrelle accounting for 7% of all registrations.

Roosting was confirmed at the B_38 Structure – existing farm house – during the emergence survey on 1 June 2022 where a single Soprano Pipistrelle was observed emerging from the gable. There was no evidence that this location represents a significant roost such as a maternity roost.

The lesser horseshoe bat was not recorded at the site during the survey period. Given the ecological context of the site, and the general lack of optimal roosting opportunities, the EIAR gives the project site a low value, locally important rating for bats.

During the construction and operational phases of the development, the most likely impacts to bats will be:

- collision mortality
- the loss or damage to commuting and foraging habitat,
- loss or damage to roosts and
- displacement of individuals or populations.

The result of construction works will see a reduction in the foraging and commuting habitat locally through the removal of hedgerows and treelines, which may result in the displacement of some bats. The EIAR notes however

that the loss of this section of commuting habitat will be in the vicinity of the proposed turbines which is preferrable to reduce the potential for collision. While one bat roost was confirmed within a building on the site, and it is acknowledged that individual bats or groups may roost in trees or existing structures, no ideal roost locations were noted. Construction lighting will be limited in extent as standard construction work will be carried out during daylight hours. With the application of mitigation measures construction phase impacts on bats is assessed to be localised, temporary to short-term and slight negative.

With regard to the operational phase of the development, collision risk and barotrauma resulting from close contact with blades are identified as issues for bats at windfarms. The EIAR conducted a Collision Risk Assessment for the three species considered to be a high collision risk - Leisler's Bat, Common Pipistrelle and Soprano Pipistrelle. In the absence of mitigation measures, the overall effects on bats during the operational phase of the windfarm is assessed to be slightly negative and localised in the long-term.

In terms of mitigation measures, the development will apply a buffer distance of 100m from turbines to forestry / hedgerows / treelines. In addition, operational mitigation is proposed to further minimise the risk of collision fatalities. Section 5.5.2 of the EIAR sets out the specific mitigation measures associated with the operational phase of the wind farm which predominantly relate to birds and bats including the automatic feathering of idling blades, monitoring of bat activity and the potential implementation of a curtailment strategy and the creation of bat buffers in the vicinity of the turbines.

In terms of potential effects of the proposed grid connection works and the replant lands on bats, I would accept that none are likely to arise.

Having regard to the information available, I am generally satisfied that the development is acceptable in terms of the protection of bats.

Amphibians & Invertebrates: Except for Common frog and Smooth Newt, the desk top studies and field surveys did not record any evidence of amphibian or reptilian species within the site. The smooth newt was not recorded within the site but has previously been recorded at a location 1km to the south west

of the site and small areas of suitable habitat are present within the application site. Although Common Frog was recorded within the wet grassland habitat in the study area, no breeding signs were recorded for this species.

No rare or protected invertebrates were recorded during surveys.

In the absence of mitigation, the construction phase is assessed as likely to result in temporary slight negative localised effects on habitats of importance for amphibians or invertebrates. No effects are predicted during the operational phase.

In terms of potential effects of the proposed grid connection works and the replant lands on amphibians or invertebrates, I would accept that none are likely to arise.

Invasive Species: No invasive plant species were recorded within the site. A condition should be included in any grant of permission requiring a pre-construction survey by an appropriately qualified person to confirm that no Third Schedule Plant species are present within the project site, including along the grid connection route and replant lands. Should it be required, an Invasive Species Management Plan shall be prepared and submitted for the written agreement of the Planning Authority prior to any construction works, including clearance or site preparation works.

6.6.27. In terms of **decommissioning impacts,** the Board will note that the EIAR considers said potential impacts for each biodiversity heading. Ultimately, it is concluded that the effects will be similar to those assessed for the construction phase and Section 5.5.3 of the EIAR sets out the mitigation measures for the decommissioning phase of the development. A decommissioning phase EMP will be prepared and if permission is granted it should be a condition that the EMP be submitted for the written agreement of the Planning Authority at that time.

Cumulative Impacts

6.6.28. With regard to cumulative impacts, the EIAR notes the permitted and proposed wind farms in the vicinity of the site as well as the other associated electricity developments. The closest operational windfarm is located at Gortahile in Co. Laois, approximately 5.5km to the north east of the subject site. The majority of applications

in the vicinity of the site pertain to one-off houses or farm structures, which do not give rise to any significant in-combination or cumulative effects arising with the proposed development. With regard to cumulative effects arising due to other wind energy projects, the EIAR concludes that effects on bird species through cumulative loss of habitat, displacement effects, collision morality and barrier impacts are considered. In addition, cumulative effects on surface water quality have been assessed.

6.6.29. Given the spatial arrangement of the respective wind farms and the separation distances, the EIAR considers that there is no likelihood of cumulative collision risk on avian or bat species or barrier effect. There is some potential for cumulative disturbance and displacement effects, but cumulative impacts are considered unlikely to be significant.

Mitigation Measures

6.6.30. Section 5.5 of the EIAR sets out the mitigation measures. It is noted that the development has been considered in terms of mitigation by design with the siting of turbines and associated infrastructure being informed by the environmental constraints on the site. In this regard, and having read the EIAR in full, it is accepted that the development has been designed to avoid ecologically sensitive areas.

6.6.31. I further note the intention to appoint an Ecological Clerk of Works during the construction phase of the development who will oversee the full and proper implementation of the ecological mitigation strategy throughout the construction and commissioning phases of the development. This project ecologist should be awarded a level of authority to stop construction activities if there is a potential for adverse environmental effects other than those predicted and mitigated in the EIAR. A Construction and Environmental Management Plan will be implemented and will take cognisance of Construction Industry Research and Information Association CIRIA, technical guidance on water pollution control.

6.6.32. The EIAR sets out the relevant mitigation measures as they relate to habitats, birds, mammals, aquatic ecology, other taxa for the construction phase while Sections 5.5.2 and 5.5.3 set out the mitigation measures for the operational and decommissioning phases.

Residual Impacts

6.6.33. The significance of residual impacts is considered to range between imperceptible to non-significant negative, short-term and highly localised subject to the appropriate mitigation measures and best practice methodologies recommended are provided in the CEMP and implemented.

Conclusion

6.6.34. I have read and considered all of the submissions made in relation to biodiversity, including habitats, flora and fauna. Overall, I am satisfied that the EIAR has adequately considered value of the development site and surrounding area for said biodiversity. I am satisfied that any potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions including monitoring conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects in terms of biodiversity.

6.7. **Biodiversity - Birds**

6.7.1. Chapter 5 of the EIAR deals with biodiversity including Birds. For the purposes of my report, I have separated out birds from the wider biodiversity considerations and the Board will note that bird surveys carried out in preparation of the EIAR include-

- Five seasons of vantage point (VP) watch surveys from 2019-2021 covering the wind farm site and surrounding lands;
- Winter and breeding season transects and point count surveys to record the general avian community present;
- Breeding and wintering hinterland surveys encompassing the proposed grid route and wider surrounding area;

In terms of birds, the EIAR notes that 3 winter and 2 breeding VP survey seasons were completed by March 2022, with 36 hours of observations per breeding VP achieved and 30 hours coverage per VP in the first winter survey period. The details of the survey schedule, including weather details, are provided in Annex 5.1 of the EIAR.

Winter Season 2019-2020

6.7.2. A total of 118 no. flightlines of target bird species were recorded in the survey period November 2019 to March 2020 which recorded 5 species of raptor including Buzzard, Kestrel, Sparrowhawk and Hen Harrier with 2 sightings of Ringtail and a single observation of a Peregrine Falcon. A further species during this survey period was identified as a probable Goshawk. The majority of the sightings occurred outside of the boundary of the proposed windfarm, with Buzzards recorded in flight for a period of over 38 minutes, Kestrel c 5 minutes and Hen Harrier for 1 minute. Peregrine Falcon did not occur within the application site during the winter VP watches in this season.

6.7.3. In addition to the above, 10 flightlines were observed for Golder Plover, with the largest flock observed being c300 birds. Of the 50-minute total observation period, only 2 minutes and 10 seconds was spent within the windfarm site. 1 flightline of Snipe was observed, who did not overfly the windfarm site, and there was 1 sighting of a lesser Black-backed Gull in the study area, but not within the application site. Great Spotted Woodpecker was also recorded on several occasions and table 5-13

of the EIAR provides details of the Flightline Summary for this survey period. Table 5-14 presents details of the casual bird observations for the period.

Breeding Season 2020

6.7.4. A total of 186 flightlines of targeted bird species were recorded in the survey period March 2020 to August 2020. 3 species of raptor were recorded during this breeding season with Buzzard dominating with a total of 108 flightlines recorded. Both young and adult Buzzards were recorded confirming local breeding pairs and over 78-minutes of the flightlines observed – over 4 hours in total - were over the wind farm site. A small number of Kestrel and Sparrowhawk were noted during the breeding season with Kestrel present over the windfarm site for 50-seconds and Sparrowhawk for 165-seconds.

6.7.5. 7 flightlines for Golden Plover were noted with the largest flock noted to have 269 birds. A number of the flightlines crossed the application site with this species spending 14 minutes and 5 seconds over the site in this survey period. There were 2 sightings of Curlew in the observation area but not over the windfarm site. 4 flightlines for Lesser Black-backed Gull and 1 flightline for Herring Gull were observed as were several flightlines for Grey Heron overflying the windfarm site for a total of 40 seconds. Table 5-15 of the EIAR provides details of the Flightline Summary for this breeding season and table 5-16 presents details of the overall bird observations for the period.

Winter Season 2020-2021

6.7.6. A total of 186 flightlines were recorded in the survey period October 2020 to March 2021. The survey results recorded 4 species of raptor including Buzzard, Kestrel, Sparrowhawk and Peregrine Falcon, all of which were recorded in the previous seasons survey. Buzzard and kestrel species dominated with the Sparrowhawk recorded more often in the 2020-2021 period. 2 flightline observations of Peregrine Falcon were noted, neither over the application site. The majority of the sightings occurred outside of the boundary of the proposed windfarm, with Buzzards recorded in flight for a period of over 83 minutes in total and 20 minutes over the windfarm site. Kestrel flightlines were also consistent with the previous survey and Sparrowhawk was recorded to have spent a greater cumulative period flying within the application site during the winter survey of 2020-2021 at over 9-minutes.

6.7.7. The most notable difference between the two winter season surveys is the number of flightlines observed for Golder Plover, rising from 7 in the 2019/2020 season to 52 in the 2020/2021 season[2].Of the 10.5 hours of total observation period for Golden Plover, 2 hours was spent within the windfarm site. 7 flightlines of Snipe was observed, who flew over the windfarm site for 1-minute and 35-seconds and there was 1 flightline for Herring Gull who did not overfly the application site and 5 flightlines for Grey Herron who spent 1-minute and 20-seconds over the application site. Table 5-17 of the EIAR provides details of the Flightline Summary for this survey period and Table 5-18 presents details of the casual bird observations for the period.

Breeding Season 2021

6.7.8. A total of 221 flightlines of targeted bird species were recorded in the survey period March 2021 to August 2021. 5 species of raptor were recorded during this breeding season with Buzzard again dominating with a total of 155 flightlines recorded. Both young and adult Buzzards were recorded confirming local breeding pairs and over 76-minutes of the flightlines observed – over 3.5 hours in total - were over the wind farm site. Again, a small number of Kestrel (21 flightlines) and Sparrowhawk (14 flightline) were recorded during the breeding season with Kestrel present over the windfarm site for 2 -minutes and 45-seconds and Sparrowhawk for 4-minutes and 40-seconds. There was 1 flightline each recorded for Peregrin Falcon and Hen Harrier with the Hen Harrier sighting being of a Ringtail.

6.7.9. 4 flightlines for Golden Plover were noted with a number of the flightlines crossing the application site and this species spending 4 minutes and 50 seconds over the site in this survey period. There were no sightings of Curlew or Herring Gull noted in the area during this survey period. 21 flightlines for Lesser Black-backed Gull (7-minutes and 35-seconds in the application site) and 4 flightlines for Grey Heron (5 seconds over the application site) in the area were recorded. Table 5-19 of the EIAR provides details of the Flightline Summary for this breeding season and table 5-20 presents details of the overall bird observations for the period.

[2] The Board will note that the text of the EIAR page 5:58 indicates 52 flightlines (34 in Oct-Nov 2020 and 18 in March 2021) while Table 5.17 indicates 53 flightlines for this species during the full period.

Winter Season 2021-2022

6.7.10. A total of 202 flightlines were recorded in the survey period October 2021 to March 2022. The survey results recorded the same 4 species of raptor during this period with the Buzzard (80 flightlines) and Kestrel (61 flightlines) dominating again. Sparrowhawk was recorded more often with 27 flightlines and 2 flightline observations of Peregrine Falcon were noted where the species spent a total of 40-seconds over the application site. The majority of the sightings again occurred outside of the boundary of the proposed windfarm, with Buzzards recorded in flight for a period of over 3 hours in total and 47-minutes and 25-seconds over the windfarm site. Kestrel flightlines were also consistent with the previous survey with 16-minutes and 35-seconds (of a total of 3-hours, 12-minutes and 20-seconds) and Sparrowhawk 15-minutes and 30-seconds (of a total of 39-minutes and 35-seconds) flying within the application site during the winter survey of 2021-2022.

6.7.11. The most notable difference between this survey and the previous two winter season surveys is the significant reduction in observations of Golder Plover with 5 flightlines and a single observation in November 2021, January and March 2022 recorded. Of the 9-minutes and 35-seconds of total observation for Golden Plover in this Winter Season survey, no time was spent within the windfarm site. Table 5-21 of the EIAR provides details of the Flightline Summary for this survey period and Table 5-22 presents details of the casual bird observations for the period.

Summary of Survey findings

6.7.12. A total of 59 bird species were recorded across the 5 survey seasons including both winter and breeding seasons. 6 of the species recorded are on the Red List including Kestrel, Meadow Pipit, Grey Wagtail, Redwing, Golden Plover and Snipe. A further 14 species are Amber-listed including Skylark, House Martin, Swallow, Willow Warbler, Starling, Spotted Flycatcher, Goldcrest, House Sparrow, Tree Sparrow, Greenfinch, Linnet, Mallard, Lesser Black-backed Gull and Herring Gull. In addition, there were 2 sightings of Barn Owl at 500m to the south-south west and 6km to the southeast of the site and Wintering Woodcock were recorded approximately 400m to the southeast of the windfarm site.

6.7.13. In terms of the wider elements of the proposed development, the EIAR presents details of surveys carried out along the grid connection route, replant lands and at

the haul route works locations. Very few waterbird sites are located in the vicinity of the grid connection route and of the 13 species recorded at the replant lands, the Rook was the most abundant, with some nesting Rooks noted in the mature trees on the site. In terms of the haul route works locations, no birds were recorded nesting on or under Black Bridge, with a pair of Mallard observed downstream of the bridge on one occasion.

Likely Significant Impacts

6.7.14. In terms of impacts on birds, the EIAR notes that there are a number of likely construction phase effects arising including habitat loss or degradation and disturbance. An overall assessment of the project as a whole is also included. The closest SPA to the site is the River Nore SPA which is located 11.4km overland from the application boundary and which is so designated for the Kingfisher only. While likely effects on the SPA are dealt with in the Appropriate Assessment Section of this report, it is noted that potential impacts on water quality and prey availability of the Kingfisher due to surface water run-off in the absence of mitigation measures, may arise.

6.7.15. In terms of likely effects to the birds using the survey area, the EIAR submits that the bird communities recorded reflects the nature of the dominant habitats present on the site. The effects on the target species observed to occur at the windfarm site, and in particular, the Golden Plover and Kestrel are a key consideration of the EIAR assessment. While a number of other Annex I species were observed on or in the vicinity of the application site, the study area is not considered to be of any ecological significance for the species, and they do not regularly occur in the area.

6.7.16. With regard to **Habitat Loss**, the proposed construction works will give rise to the loss of habitat within the footprint of the project. In addition, the construction phase is likely to disturb and / or displace birds occurring in the immediate vicinity of the works. In addition, the construction phase is likely to give rise to impacts associated with increased movement and activity of both plant and machinery as well as personnel. The loss of habitat may result in reduced feeding, nesting and roosting opportunities for birds. The EIAR submits that habitat loss / changes associated with the project is unlikely to have an impact on the occurrence of Kestrel in the area as there will be a relatively small loss of foraging and nesting habitat for the species.

Other identified species are noted not to breed in the area and are present infrequently and in low numbers. The Golden Plover was the most commonly recorded wading bird species in the winter VP surveys. They did not appear to rest or forage within the site and there is no indication that the habitats present on the application site are of importance to the local populations.

6.7.17. In terms of **Disturbance / Displacement**, the EIAR notes that the existing habitats at the site lack the upland features typical of many onshore windfarms and is dominated by managed habitats. In terms of the target avian species, Buzzards were recorded most frequently with several pairs believed to have bred locally. As this species typically nest in the canopy of trees, in the absence of mitigation measures, disturbance and displacement of breeding pairs may occur during the construction phase of the project. Similar displacement could occur for nesting sparrowhawk and kestrel. A neutral imperceptible effect on waterbirds and waders is assessed as a result of the construction phase given the pattern of occurrences of such species in and around the subject site. Construction activity may also result in some disturbance / displacement of wintering / migrating bird species but given the availability of similar open habitat in the environs of the site, it is considered that the construction phase of the development will likely have a temporary slight negative effect.

6.7.18. Birds associated with the plantation habitat are noted to be the most affected group as this nesting habitat will be subject to the greatest local loss. That said, there will remain a significant area of similar conifer plantation and open agricultural habitats in the area which will avoid displacement beyond the immediate environs of the site. The loss of habitat and construction related disturbance will have a slight negative and highly localised impact on the general bird populations at the wind farm site.

6.7.19. In terms of the operational phase of the development, it is acknowledged that wind farms can cause disturbance to birds through displacement related to increased human presence, turbine presence and noise. In addition, turbines can create a barrier effect to migration or local flight paths which may result in disruption of links between feeding, breeding and roosting areas. Collision risk and impacts on nest success for certain species is also cited as a potential issue.

6.7.20. No nest sites or breeding activity was recorded within the study area during the 5 survey seasons for Golden Plover, Peregrine Falcon, Hen Harrier and Kestrel. Buzzards and Sparrowhawk are believed to have bred in the area. The EIAR submits that while there will be some highly localised disturbance/displacement effects around operational turbines, it is not anticipated that the use of the site by these species will change significantly during the operational phase.

6.7.21. Apart from Golden Plover, activity levels of target species were low in both breeding and winter seasons, with no regular flight paths or areas of high importance identified. Likely operational effects on Hen Harrier and Peregrine Falcon are assessed to be neutral and non-significant. While Golden Plover were recorded in the study area during all surveys, they were not found to feed or roost within the windfarm site. The presence of turbines may result in displacement initially, studies have found that the species may become habituated to operational wind farms, with evidence from 3 years of post-construction monitoring at 15 upland windfarms suggesting that there was no significant decline in the population. Likely operational effect on Golden Plover is assessed to be slight negative in the short to longer term. All other bird species recorded at the site and not considered to be sensitive to disturbance/displacement, and/or barrier to movement effects arising from the proposed turbines. I would note that the surveys carried out were extensive and did not result in any evidence of significant movements of birds across the wind farm site that would be susceptible to barrier effects.

6.7.22. In terms of collision risk, no flight lines of protected wildfowl species such as the Whooper Swan or Greenland White-Fronted Goose were recorded in the study area. There is no evidence to suggest that the site is located within a regular commuting or migration route for these species. Other than the Golden Plover, the overflying rate of species across the site is low, and it is concluded that the likely collision risk for the target bird species is low, with effects concluded to be slight neutral. Kestrel is considered to be at risk of collision, and during the surveys, was recorded in flight at proposed rotor swept height for a total of 4 minutes and 20 seconds over the total 5 survey periods, each with an observation period of 36 hours.

6.7.23. Golden Plover were also observed at rotor swept height for approximately 1 hour and 47 minutes over the over the total 5 survey periods, although their activity at the site is considered to be variable from winter to winter. Much of the activity occurred

outside of the wind farm site and as such, the flightlines observed would not be affected by the proposed development and would not be at risk of collision. The EIAR concludes that the potential for significant collision risk is non-significant negative and localised in the short to longer term.

6.7.24. The proposed grid connection infrastructure will not pose any collision risk for avian species.

6.7.25. In terms of **decommissioning impacts,** the Board will note that the EIAR advises that this phase will involve far less intrusive work than at construction stage, with some limited potential for surface water run-off which could affect bird species that feed and nest along the watercourses. It is concluded that the works are unlikely to cause significant disturbance or displacement for avian species. Section 5.5.3 of the EIAR sets out the mitigation measures for the decommissioning phase of the development. A decommissioning phase EMP will be prepared and if permission is granted it should be a condition that the EMP be submitted for the written agreement of the Planning Authority at that time.

Cumulative Impacts

6.7.26. With regard to cumulative impacts, I refer the Board to my comments above in Section 6.6.28 – 6.6.29 of this report. Given the spatial arrangement of the respective wind farms and the separation distances, the EIAR considers that there is no likelihood of cumulative collision risk on avian species or barrier effect. There is some potential for cumulative disturbance and displacement effects, but cumulative impacts are considered unlikely to be significant.

Mitigation Measures

6.7.27. With regard to mitigation measures for biodiversity topics, I refer the Board to my comments above in Section 6.6.30 – 6.6.32 of this report. Section 5.5.1.2 of the submitted EIAR sets out the specific mitigation measures for birds which include construction working hours, management of lighting at the site, timings for tree felling and removal of mature vegetation and the appointment an Ecological Clerk of Works during the construction phase of the development who will oversee the full and proper implementation of the ecological mitigation strategy throughout the construction and commissioning phases of the development.

6.7.28. In addition, VP monitoring will be carried out between March and August during the construction phase, extending into the winter season should construction activity occur in this period. Bird boxes will also be erected within the wind farm site during construction. In terms of the proposed monitoring, and should the Board be minded to grant permission for the proposed development, I recommend that a condition be included requiring that bird surveys / monitoring be carried out prior to and during the construction stage, continuing into the operational phase. Fatality searches should also be carried out.

Residual Impacts

6.7.29. The significance of residual impacts on birds is considered to be non-significant negative, short-term and highly localised subject to the appropriate mitigation measures and best practice methodologies recommended are provided in the CEMP and implemented.

Conclusion:

6.7.30. I have read and considered all of the submissions made in relation to birds. Overall, I am satisfied that the EIAR has adequately considered value of the development site and surrounding area for said biodiversity. I am satisfied that any potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions including monitoring conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects in terms of birds.

6.8. **Land & Soil**

6.8.1. In terms of likely significant impacts arising with regard to land, soils and geology, I refer the Board to Chapter 6 of the submitted the EIAR. The chapter provides a baseline assessment of the environment in terms of land, soils and geology and is prepared by Hydro-Environmental Services. The assessment is based on a desk top study, baseline monitoring and site investigations. In addition, a Spoil Management Plan was prepared for the planning stage detailing the treatment and management of material excavated during the construction phase of the project.

6.8.2. The published soils map and site investigations indicate that the site is mainly overlain by deep poorly drained mineral soils and to a lesser extent, shallow well drained mineral soils of acidic nature. Pockets of blanket peat occur on the northern area of the wind farm site, in the vicinity of proposed turbine T7. No infrastructure is proposed to be located within this area mapped as Blanket Peat. GSI subsoils maps show that Till derived from Namurian sandstones and shales is the dominant subsoil type at the site with bedrock outcrop or subcrop on the more elevated central and eastern areas of the site.

Site Investigations

6.8.3. In terms of site investigations, 40 soil probes were carried out with peat/peaty topsoil depths of 0.0-0.8m recorded with an average depth of 0.12m recorded. 70% of the probes did not record peat. Trial pits were undertaken at all turbine locations with the exception of T4 and T7 due to the locations being in dense coniferous forestry. Peat probes and soil gouges were carried out at these locations. No known areas of soil contamination are noted within the site or within the immediate vicinity and there are no known licenced waste facilities in the area.

6.8.4. The local bedrock geology of the site includes Westphalian shales and Westphalian sandstones consisting of the Coolbaun Formation and the Swan Sandstone Member. 7 of the 9 trial pits met bedrock at depths between 0.5 and 2.9m and was typically soft weathered shale. No element of the proposed development is located within a geological heritage site or designated site, with the closest site being the Ballyfoyle Channels (Site Code: KK005) consisting of a series of deeply incised channels, located approximately 7km to the west of the site. Two geological heritage

areas are located to the south of the grid connection route and the existing 110kV substation, both at distances of 2-2.5km from the proposed works.

Peat Stability

6.8.5. In terms of peat instability, the Board will note that this refers to a significant mass movement of a body of peat that would have an adverse impact on the proposed development, proposed construction access road and the surrounding environment. The EIAR notes that a peat stability analysis was carried out as part of the EIAR process. It is noted that no peat failures / landslides are recoded at the wind farm site which suggests that conditions do not pre-dispose themselves to failures/landslides. Walkover and drive surveys of the site, haul route and grid connection route did not identify any peat stability issues and as such, there was no requirement to carry out a detailed analysis. The EIAR advises that the subject site has an acceptable margin of safety, is suitable for the wind farm development and is considered to be at low risk of peat failure or ground stability.

Likely Significant Effects

6.8.6. In terms of likely significant effects on land and soils, the Board will note that I have had regard to all written submissions and concerns raised by third parties and prescribed bodies. I accept that the location of the proposed windfarm is hilly to undulating, with the existing site levels ranging from 220m to 290mOD. The elevations along the proposed grid connection route reduce to 65mOD and the proposed substation will be located at 280mOD. The GSI Landslide Susceptibility Map indicates that the risk of landslides at this location range between low to moderately high in the area of proposed T2. I note however, that no peat was encountered in the area of proposed T2 and as such, I do not consider that the development, if permitted will give rise to landslides or peat failure.

6.8.7. The proposed development will require the removal and movement of large quantities of soil, subsoil and bedrock across the proposed development site during the construction phase. The site investigation works noted the presence of significant quantities of rock resources within the site which will be used as part of the construction process, with 3 suitable borrow pits identified as a back up where sufficient rock is not extracted from excavation elsewhere on the site. Overburden and spoil will be utilised for reinstatement of excavated areas and for landscaping

purposes and all suitable spoil generated will be retained within the site. The excavation and relocation of materials across the site is an inevitable part of construction and it is assessed that the impact of the exposure of soils and subsoils will not be significant, given the small footprint of the proposed excavations.

6.8.8. In terms of effects on land and land use, the overall loss of agricultural land will amount to 5.5ha and 15ha of commercial forestry. In the context of the overall site area of 290ha, together with the abundance of similar land use areas in the immediate vicinity, I am satisfied that no significant effects on land use or adverse effects on soils are likely to arise during the construction phase of the development. I would note that the developed areas will be unavailable for current uses during the operational lifetime of the project but could be reinstated following the decommissioning phase.

Cumulative Effects

6.8.9. In terms of cumulative effects, the EIAR concludes that significant effects are unlikely to arise due to the localised and near surface nature of the construction works. In combination effects are unlikely to arise in terms of the proposed substation or other off site proposed works relating to the haulage route and grid connection. Significant cumulative effects are assessed as not arising in terms of other wind farm projects in the vicinity of the site due to the separation distances and having regard to the geological environment and the general absence of sensitive soil types / conditions.

Mitigation Measures

6.8.10. Section 6.5 of the EIAR sets out the mitigation measures proposed to reduce the potential impact of the development as described. The measures include design and construction measures for the project across the total site, including proposals to reduce erosion effects at excavation and spoil storage areas and to prevent contamination of soils and subsoils during all phases of the development. During decommissioning, the EIAR submits that it may be possible to reverse or reduce some likely effects caused during construction by rehabilitating construction areas, subject to a reinstatement plan.

Residual Impacts

6.8.11. No significant negative residual impacts are envisaged in terms of land and soils following the development and operation of the project.

Conclusion

6.8.12. I have read and considered all of the submissions made in relation to land and soils. The EIAR has presented adequate information in relation to the proposed development in terms of land, soils and geology, including mitigation and monitoring proposals. I am satisfied that the potential impacts identified, will be avoided and managed through specific proposals identified in the EIAR and I am satisfied that the development would not or give rise to slope or soil/peat instability. The mitigation measures presented are detailed and represent best construction practice. Although the excavation of bedrock and soil would have a permanent direct impact on soils and geology, the impacts on the environment would not be adverse.

6.8.13. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of land and soil. I am also satisfied that cumulative effects in combination with other wind farm proposals in the area, grid connection route or other plans and projects in the wider area are not likely to arise and no significant residual impacts are anticipated.

6.9. **Water**

6.9.1. In terms of likely significant impacts arising with regard to the water environment including the hydrological and hydrogeological regimes, I refer the Board to Chapter 7 of the submitted the EIAR, which has sought to address the potential effects associated with the development on ground or surface water quality. The chapter provides a baseline assessment of the water environment and is prepared by Hydro-Environmental Services. The assessment is based on a desk top study, baseline monitoring and site investigations. In addition, field hydrochemistry measurements were taken, and surface water sampling carried out to determine the baseline quality of the water.

6.9.2. The subject site, including the grid connection area, is located predominantly within the River Nore surface water catchment, with a small area in the vicinity of the proposed substation within the regional River Barrow surface water catchment. At a local scale, the majority of the site lies within the Dinin River sub-catchment and the southern area of the site lies within the River Barrow catchment. The primary drainage feature within the application site is the Coolcullen River, which flows mainly through the forestry. The secondary drainage feature comprises a tributary of the Coolcullen River and is referred to as the Coolcullen Stream and the area includes a network of forestry and field drains. The proposed development will require 6 watercourse crossings within the windfarm site and a further 10 watercourse crossings along the grid route which comprise 3 bridge crossings and 7 culvert crossings. In all cases, the watercourses to be crossed are 1st or 2nd order streams.

6.9.3. In terms of surface water, the EIAR notes no recurring flood incidents within the project site boundary, along the grid connection or haul routes or forestry replant lands. All project infrastructure will be located above the mapped 1000-year flood level, and as such, all elements are located within Flood Zone C. The proposed development is designed to ensure that all surface water runoff is treated and attenuated prior to diffuse discharge at pre-existing greenfield rates. The biological water quality ratings for the rivers in the vicinity of the site, including the Dinin River and the Monefelim River, are identified in Table 7.11 of the EIAR and range from Good to High (Q4-Q5). The Q-rating of the Dinin River downstream of the haul route works near the N78 are noted to be Q3-4 – Moderate.

6.9.4. In terms of groundwater, the underlying bedrock is predominately Westphalian Shales and Westphalian Sandstones. The underlying aquifers are classified as a 'poor aquifer which is generally unproductive except for local zones' (Pl) and a Locally Important Aquifer, which is generally moderately productive (LM). Within the proposed development site, most groundwater flow is expected to be in the uppermost part of the aquifer, comprising broken and weathered zone typically less than 3m thick, a zone of interconnected fissuring 10m thick and a zone of isolated poorly connected fissuring typically less than 15m. Groundwater flow paths are considered likely to be short, with groundwater discharging into streams and springs. During trial pit investigations, no significant groundwater inflows or seepages were noted at depths of the trial pits – 0.5 - 3.3m bgl. The vulnerability rating ranges from low to extreme, with the eastern area of the site mapped as extreme and the western area Moderate to High, with the lower area of the grid connection route mapped as Low to Moderate.

6.9.5. Groundwater bodies in the area of the project are assigned Good Status. In terms of the sensitivity and importance of receptors, the Board will note that there are two significant catchments associated with public water supply sources in the vicinity of the site. The source protection area for the Castlewarren GWC Co-Operative Society Ltd. lies to the south of the proposed development site, and the EIAR notes that the GWS is supplied from 5 boreholes and one spring source, across four separate sites, north of the village of Castlewarren. All locations lie to the south of the subject site and between 400m and 1.85km outside the site boundary. Approximately 850m of the proposed grid connection route lies within the source protection area and approximately 270m from the nearest borehole. In addition, the EIAR considers the potential effects on the Paulstown PWS Water Supplies, given the location of the Monefelim River Catchement Inner Protection Zone within 600m of the windfarm site. This catchment is known to supply a small proportion of water to the Paulstown PWS, with the higher proportion coming from the Acore Catchment.

6.9.6. In terms of surface water bodies, I note that a Water Framework Directive Assessment was undertaken for the project and is included in Annex 7.3 of the Volume II of the EIAR. The information available for the Dinin and Monefeilim Rivers indicates that these waterbodies have been assigned an overall Good Status. The grid connection route passes through the Gowran_010 and Nore_190 river

waterbodies which have been assigned a Moderate Status and the Fane_020 river waterbody associated with the replant lands also has a Moderate Status.

6.9.7. In terms of designated sites, the project is hydrologically connected, via the Coolcullen River, to the River Barrow and River Nore SAC (Site Code: 002162) which is located approximately 1.5km to the north. The project site is located within the catchment of the Freshwater Pearl Mussel which is a QI of the SAC. This QI is deemed to be very sensitive to the effects of water quality deterioration. Any deterioration of water quality could also affect the Kingfisher, which is present in the River Nore.

Likely Significant Effects

6.9.8. In terms of likely significant effects on the water environment, the Board will note that I have had regard to all written submissions and concerns raised by third parties and prescribed bodies. The EIAR has presented the description of the likely effects as a 7-step process for each element of the impact assessment process for all wind farm construction and operational activities. The 7 steps include as follows:

1. Identify and describe the potential impact source.
2. Pathway / mechanism.
3. Receptor
4. Pre-mitigation impact.
5. Proposed mitigation measures.
6. Post mitigation residual impact
7. Significance of effects.

6.9.9. The worst-case for hydrological and hydrogeological effects are assessed to comprise the contamination of surface water features during all phases of the proposed development which may impact water quality, and associated ecology, downstream. Localised effects may also arise due to accidental spillages of hydrocarbons or other pollutants, which may impact on groundwaters. The application of best practice and appropriate mitigation measures however are to be implemented to prevent such events from occurring. I also note that the timing of construction works and monitoring of water quality are elements which will be

included in the CEMP to ensure the protection of the water environment during the construction phase.

CONSTRUCTION PHASE

Potential Impact	Pathway / Mechanism	Receptor	Pre-mitigation Impact	Proposed Mitigation measures	Post mitigation residual impact	Significance of effects
Clear felling	Drainage and surface water discharge routes	Down gradient streams, rivers and dependent ecosystems	Indirect, negative, slight, temporary, likely	Best practice methods incorporated into forestry management. Mitigation by avoidance – 50m buffer zone for all streams. Mitigation by design – maintenance of tracks and culverts, Installation of sediment traps, collector drains, use of brash mats, timing of works, management of branches, logs and debris. Surface water quality monitoring		
Earthworks	Drainage and surface water discharge routes	Down gradient streams, rivers, pearl mussel and dependent ecosystems	Indirect, negative, moderate, temporary, likely	Mitigation by avoidance – as above. Mitigation by design – source controls, in-		

				line controls, treatment systems to fully attenuate silt laden waters prior to discharge, integration of existing land drain network, management of runoff from soil deposition areas, directional drilling on grid connection installation works, monitoring		
Groundwater Levels – During Excavation	Groundwater flowpaths	Groundwater levels / flow paths	Indirect, slight, short-term, unlikely			
Excavation Dewatering – Surface Water Quality	Overflow and site drainage networks	Downgradient surface water bodies	Indirect, negative, moderate, temporary, unlikely			
Potential Release of Hydrocarbons During Construction	Groundwater flowpaths and site drainage networks	Groundwater, surface water, ecosystems and pear mussel	Indirect, negative, slight, short-term, unlikely in terms of groundwater Indirect, negative, significant, short-term, likely in terms of surface water quality			

OPERATIONAL PHASE

Potential Impact	Pathway / Mechanism	Receptor	Pre-mitigation Impact	Proposed Mitigation measures	Post mitigation residual impact	Significance of effects
Replacement of Natural Surfaces	Site drainage network	Surface waters and dependent ecosystems	Direct, negative, moderate, permanent, likely			
Hydrocarbons Spillages / Leakages	Site drainage network	Surface waters, groundwater and dependent ecosystems	Direct, negative, slight, long-term, unlikely			

Cumulative Effects

6.9.10. In terms of cumulative effects, the EIAR concludes that significant effects are unlikely to arise in the context of groundwater due to the local hydrogeological setting and near surface nature of the construction works. In terms of surface water effects, no likely significant effects are expected due to the construction methodologies and construction practices and drainage control measures to be implemented, including the proposed 50m buffer to be applied at the site. In combination effects are unlikely to arise in terms of the proposed substation or other off site proposed works relating to the haulage route and grid connection.

6.9.11. A hydrological cumulative impact assessment was undertaken as part of the EIAR assessment which including other wind energy projects located within the regional River Barrow and River Nore surface water catchment within 20km of the site. the greatest risk is assessed to occur during the earthworks and excavations during the construction phase of the development. Within the River Barrow catchment, there are 2 existing and 1 proposed wind energy projects within 20km, with a further proposed wind farm also to be located within the catchment. In terms of the proposed development, only the electrical substation and approximately 2km of the grid connection rout lie within the Barrow catchment. The proposed 7 turbines are to be located within the River Nore catchment as well as the majority of the grid connection and the haul route. Significant cumulative effects are assessed as not likely to arise within the above river catchments. There is potential for cumulative effects arising in terms of the Dinin River sub-catchment in the absence of mitigation however, given the small catchment area and the proximity of the permitted Bilboa and proposed Seskin wind farms.

6.9.12. Subject to mitigation, no likely significant cumulative effects are assessed as arising in terms of the water environment.

Mitigation Measures

6.9.13. Section 7.5 of the EIAR sets out the mitigation measures proposed to reduce the potential impact of the development as described. In terms of mitigation measures, I would note that the overarching objective seeks to ensure that all surface water runoff is treated and attenuated such that no silt or sediment laden waters or deleterious material is discharged to the local drainage network. The planning stage

Surface Water Management Plan incorporates the surface water drainage design and SuDS measures. The plan is designed to mimic Greenfield runoff rates and is designed to accommodate a 1-100 year rainfall event. During the construction phase, all works which may give rise to potential impacts have mitigation measures included by avoidance and design while mitigation by best practice is also identified in the submitted EIAR in terms of the protection of waters.

6.9.14. Best practice measures are identified and detailed in terms of the design and construction measures for the project including the installation of silt traps and a programme of inspection and maintenance of drains as well as surface water quality monitoring. During the construction phase, mitigation measures will include the avoidance of sensitive aquatic areas with the implementation of a 50m buffer zone. In addition, silt fences, water treatment, the installation of a tertiary treatment system / lagoon and the management of run off from soil deposition areas and other best practice measures will be employed to mitigate any effects of the development on the water environment. During decommissioning, the EIAR submits that the effects may be similar, but to a lesser degree, than those arising during the construction phase. Following decommissioning, all construction areas will be rehabilitated in accordance with the Decommissioning Management Plan which will be agreed with the Planning Authority prior to implementation – details included in Section 3.8 of the EIAR.

Residual Impacts

6.9.15. The EIAR concludes that with the mitigation, the significance of the residual impact on the water environment during the construction and operational phase of the development is assessed as imperceptible negative, indirect and temporary short term. No significant negative effects are envisaged to adversely affect ground water of surface water and no significant residual effects are assess as likely to occur in terms of the public water supplies. No significant negative residual impacts are envisaged in terms of water following the development and operation of the project.

Conclusion

6.9.16. In terms of impacts on water quality, overall, I am satisfied that the development would not have a significant adverse impact on water quality subject to the proper implementation of the proposed mitigation measures as detailed in the EIAR and the

Construction and Environmental Management Plan. The identified measures are comprehensive and include ongoing inspection, water quality monitoring and maintenance.

6.9.17. I have considered all of the information presented in relation to Water Quality. I also note the reports from the Environment Section of Kilkenny City & County Council and the HSE who sought the inclusion of conditions precluding emissions to ground or surface waters from the construction compound and that all matters relating to surface water management be provided prior to the commencement of development. In addition, I note the concerns raised by third parties with regard to the potential impacts on the group water schemes in the vicinity of the site. I also note that Inland Fisheries Ireland has required that all mitigation measures outlined in the EIAR must be adhered to and implemented in full and that any watercourse on or bordering the site is to be maintained in its original state and there shall be no interference with the watercourse without prior notification and agreement of IFI.

6.9.18. Overall, I am satisfied that any potential impacts would be avoided, managed and mitigated by the measures proposed as part of the project, the proposed mitigation measures and through suitable conditions including monitoring conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects in terms of Water Quality and no significant residual impacts are anticipated.

6.10. **Air & Climate**

6.10.1. Chapter 8 of the EIAR deals with air and climate and considers the potential impact of the development through all phases of the development. The EIAR sets out the relevant legislation and methodology employed in the preparation of the chapter. In terms of the existing environment, the site is noted to be located in a rural area and within Zone D in terms of air quality management. The air quality can be described as good given the existing baseline levels of NO_2, PM_{10} and PM_{22} (based on extensive long-term data from the EPA) are well below ambient air quality limit values in the vicinity of the project. In terms of sensitivity receptors in the area, the EIAR identifies 60 high sensitivity residential properties within 50m of the project, including the wind farm site, access racks, site entrances, grid connection route and forestry replant lands, with the majority located along the grid connection route. I would note that there is a correlation between the issue of air and climate and human health.

6.10.2. During the construction phase, the main potential impact on **air quality** comprises fugitive dust and vehicle emissions associated with the construction works including earthworks and excavation activities, construction of hardstanding areas and vehicular movements on and off site. The majority of any dust produced will be deposited close to the potential source and any impacts from dust deposition will typically be within several hundred metres of the construction area. During the construction phase, the likelihood of significant nuisance dust effects, prior to mitigation, is assessed to be medium, with the overall likelihood of human health impacts predicted to be low.

6.10.3. During the operational phase of the development, it is assessed that the supply of 150Wh of renewable electricity to the national grid as a result of the development will lead to a net saving of NOx emissions which may otherwise have been emitted from fossil fuels to generated electricity. The effect of the project is assessed to be positive in terms of Irelands obligations under the Gothenburg Protocol and EU Directive 2016/2284 targets. This is assessed as a slight positive, long-term effect on air quality.

6.10.4. In terms of impacts on **climate**, the construction phase of the development will give rise to a number of greenhouse gas emissions from a number of sources in terms of

manufacture of materials, materials transport and construction works, including personnel travelling to the site. It is estimated that 73,700m^3 of rock and fill material will be required for the construction phase, with approximately 56,000m^3 of the material being sourced from on-site excavations. The balance of aggregate will be sourced from local quarries. It is further estimated that 10,657m^3 of concrete will also be required for the project.

6.10.5. Table 8.12 of the EIAR presents details of the embodied carbon emissions associated with the proposed development by category. The total construction phase embodied emissions amount to 4,485 tonnes of CO_{2eq} which equates to 0.008% of Irelands national GHG emissions in 2021 or 0.13% of the 2030 target. The likely effect on climate during the construction phase assessed to be short term and negative, but not significant. The embodied carbon due to construction will, however, be offset during the operational stage due to the nature of the proposed development and the potential for the generation capacity of 150GWs of renewable energy. The net benefit in terms of GHG emissions will ultimately be positive in the order of 0.095% of the annual Total GHG Emissions in Ireland in 2019. The total GHG emission savings will amount to approximately 55,039 tonnes pf CO_{2eq} and is assessed to be a slight, positive, long-term effect on climate.

6.10.6. In terms of impacts on **air and climate** during the decommissioning phase, it is assessed to be imperceptible, temporary, negative on local air quality and temporary and imperceptible in terms of climate.

Cumulative Effects

6.10.7. Cumulative effects during the construction and decommissioning phases are likely to arise with regard to other proposed wind farms in the area should these phases of the developments run concurrently. Significant cumulative effects are not assessed as likely to occur subject to the implementation of mitigation measures.

6.10.8. **Mitigation Measures**

6.10.9. Mitigation measures are proposed in terms of air quality particularly during the construction phase of the development in order to minimise the potential for fugitive dust emissions in particular. A detailed Dust Management Plan will be formulated prior to the construction phase and will be reviewed at regular intervals during the construction phase to ensure continued effectiveness of the procedures in place. No

mitigation measures with regard to climate are proposed as it is assessed that the development will have a positive and beneficial effect on climate.

Residual Impacts

6.10.10. No significant negative residual impacts are envisaged in terms of the air and climate, once operational.

Conclusion

6.10.11. I have read and considered all of the submissions made in relation air and climate. I would acknowledge that the development may give rise to some impacts to local residents during the construction phase of the project. However, I am satisfied that the impacts identified will be temporary and short-term and can be managed through specific mitigation proposals identified in the EIAR. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts in terms of air and climate.

6.11. **Noise & Vibration**

6.11.1. The issue of noise and vibration are considered in Chapter 11 of the EIAR. The methodology used in the preparation of the noise impact assessment to assess the operational phase of the development is set out in section 11.2 of the EIAR and also considers the impact of the construction of associated infrastructure. The EIAR has used the sound power levels for the Vestas V162-7.2 turbine and the applicant has considered the cumulative effect on the proposed Seskin Wind Farm, which lies in proximity to the current proposed development site. Given the rural context of the site location, and the daytime ambient noise levels that range from 45 to 55dB $L_{Aeq,1hr}$, all sensitive properties in the vicinity of the site are afforded a category A status in terms of threshold values.

6.11.2. Section 5.7 of the Draft Revised Wind Energy Development Guidelines, 2019, which sets out proposed Revisions to Wind Energy Development Guidelines 2006 – Targeted Review in relation to Noise, Proximity and Shadow Flicker, deals with Noise from Wind Energy Developments. It is the key objective of the document to control noise generated by wind turbines to achieve a balance between the protection of amenity and meeting Ireland's renewable energy targets. The 2006 Wind Energy Development Guidelines states that 'in low noise environments where background noise is less than 30 dB(A), it is recommended that the daytime level of the $LA90,_{10min}$ of the wind energy development noise be limited to an absolute level within the range of 35-40 dB(A)'.

6.11.3. The 2019 Draft guidelines note that the "preferred draft approach", announced by DHPCLG and DCCAE on 13th June 2017, proposed noise restriction limits consistent with WHO Guidelines, proposing a relative rated noise limit of 5dB(A) above existing background noise within the range of 35 to 43dB(A), with 43dB(A) being the maximum noise limit permitted, day or night. The noise limits will apply to outdoor locations at any residential or noise sensitive properties. The assessment undertaken by the applicant included the surveys carried out at 4 locations, desk top studies and field assessments. The background noise recorded at the 4 locations established the existing levels in the vicinity of the site to range between 22.9 – 38.9dB during the day and 17.1 – 37.9dB at night.

6.11.4. The EIAR considered the potential noise effects at various stages of the development and concludes that during the **construction phase**, the plant noise level at the nearest noise sensitive location, at 450m distance, will range between 40-50dB, with a combined L_{Aeq} of 56dB. At the proposed entrances to the site, the EIAR considered the effects on the 3 nearest noise sensitive locations, being H6 – 350m, H7 – 40m and H64 – 110m to entrance and access track. H7 is predicted to experience noise levels in excess of the 65dB criterion during the creation of the site entrances and access tracks but will be for a short period of time estimated to be 5 days in total over a 2-3 week period. Several items of plant machinery will be used at the soil deposition areas, with 1 area located approximately in the western area of the overall site and approximately 15m from the nearest NSL, H3. During activity at this location, the property is predicted to experience noise levels in the range of 65-74dB depending on the machinery in use at the time and distance from the property. It is concluded that the works will not give rise to an unusual or incongruous noise in the rural area due to the plant and machinery to be used and therefore, no significant effects are assessed as likely to arise.

6.11.5. In terms of the grid connection, the proposed substation is located at a distance of approximately 240m from the nearest NSL and predicted noise arising from the construction phase is not predicted to arise. Given the nature of the grid connection, and the short-term transient nature of same, which will occur within 10m of NSL, the construction phase is not predicted to give rise to any significant noise effects. Works associated with the haul route upgrades are assessed as unlikely to give rise to any significant construction noise effects at the nearest NSLs. Construction traffic, at a distance of 5m from the vehicle path, is predicted to be 62dB$L_{Aeq, 1hr}$, which is within the construction noise criteria of 65dB. The peak conditions apply for a very limited period of 7-days during the pouring of the concrete turbine bases over an 18-month construction period. During this peak period, 240 no HGV movements too and from the site per 12-hour period (20 movements per hour) will occur. The EIAR did not predict any adverse noise or vibration impacts during the construction phase subject to mitigation measures (incl. best construction practice & adherence to relevant guidance & standards).

6.11.6. With regard to **vibration**, the EIAR sets out the relevant guidance employed in the assessment, advising that there should be no cosmetic damage if transient vibration

does not exceed 15mm/s at low frequencies. In the context of the construction phase of the development, including the construction of site accesses and tracks, substation and spoil heaps, given the separation distance between the NSLs and construction activities, vibration would not be perceptible. As the proposed works associated with the grid connection and haul route works will unlikely include piling or other such activities, vibration will not be of a magnitude such that could result in cosmetic or structural damage.

6.11.7. In terms of **operational phase** noise effects, the EIAR, at section 11.5.3, sets out that a lower daytime threshold of 40dB $L_{A90,10min}$, has been adopted and the noise levels generated by the operation of the project have been calculated for all of the NSLs identified within 1.85km of the turbines. An exceedance of the daytime noise levels in the order of 0.5dB was identified at one noise sensitive receptor, H002, at windspeeds over 7m/s. It is noted that this property is financially involved with the project and as such, the effective noise criterion is 45dB L_{A90} and, therefore, no further assessment or mitigation is required with respect to this property. Annex 11.5 of the EIAR presents the results of the noise prediction exercise and Annex 11.6 includes a noise contour map for the standard mode operation rated power at a wind speed of 9m/s.

6.11.8. In terms of the proposed substation, it is noted that this element of the development will be operational on a continuous basis. However, given the separation distance of approximately 240m from the nearest NSL, the operational noise of the substation, measured at less than 40dB(A) is not predicted to be audible at the nearest NSL and as such, will not give rise to any significant effects in terms of noise. In terms of operational traffic, no significant volumes are expected, with 1-2 visits by a light goods vehicle per week.

6.11.9. With regard to vibration, and in the context of the operational phase of the development, no effects are considered to arise.

Cumulative Effects

6.11.10. In terms of cumulative impacts, the Board will note that the EIAR considered the potential noise effects arising from the operation of both the proposed development and the proposed Seskin Wind Farm. The assessment uses the details of the wind turbine locations and type for the Seskin Wind Farm and Table 11.21

presents the predicted cumulative omni-directional noise levels. The results of the cumulative operational phase noise assessment at all 129 NSLs is included in Annex 11.7 and a cumulative noise contour map is included in Annex 11.8.

6.11.11. An exceedance of the predicted cumulative daytime noise levels in the order of 0.6dB was identified again at one noise sensitive receptor, H002, at windspeeds over 7m/s. It is noted that this property is financially involved with the project and as such, the effective noise criterion is 45dB L_{A90} and, therefore, no further assessment or mitigation is required with respect to this property.

Mitigation Measures

6.11.12. The EIAR, Section 11.6 sets out the proposed mitigation measures to be employed in order to address matters relating to noise and vibration at sensitive receptors. Said measures include best construction practices as well as a number of noise control measures in terms of the selection of plant with low inherent potential for generating noise and / or vibrations, siting noisy / vibratory plant as far as possible from sensitive properties and providing regular maintenance and servicing of plant items during the construction phase of the development.

6.11.13. Noise mitigation measures are not deemed necessary for the operational phase of the development. However, in the event of a complaint being made, an independent acoustic consultant will be employed to assess the level of amplitude modulation associated with the relevant turbine operation. Suitable measures as advised will be implemented as necessary. Post-commissioning operational noise monitoring will be undertaken to demonstrate compliance with the relevant noise criteria and an Outline Noise Monitoring Programme has been prepared by the applicant, Annex 11.9 refers.

6.11.14. No vibration related mitigation is required for the operational phase of the development.

Residual Impacts

6.11.15. Once mitigation is implemented, any residual impacts are assessed to be likely, negative, slight and short term during the construction phase. The construction of the windfarm will introduce a new noise source into the soundscape and the operational residual impacts are assessed as negative, slight and long-term.

Overall, the noise impact of the development is not assessed as likely to be significant.

Conclusion

6.11.16. Having regard to the information available and based on the analysis undertaken, I am satisfied that the proposed development will not have a significant adverse impact on residential properties arising from noise and vibration. I am further satisfied that the information submitted in the EIAR is acceptable. I have further considered the submissions made with regard to the proposed development and I am satisfied that the impacts identified can be avoided, managed or mitigated by measures identified as part of the project and through appropriate conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of noise and vibration. I am further satisfied that issues of cumulative effect are unlikely to arise.

6.12. **Shadow Flicker**

6.12.1. Chapter 12 of the EIAR deals with Shadow Flicker. The Wind Energy Development Guidelines note that shadow flicker effects last for a short period and happen only in certain combined circumstances i.e. when the sun is shining and is at a low angle (after dawn and before sunset), the turbine is directly between the sun and the affected property and there is enough wind energy to ensure the turbine blades are moving. The guidelines recommend that shadow flicker at neighbouring dwellings within 500m should not exceed 30 hours per year or 30 minutes per day. The EIAR considers the potential effects of shadow flicker for all properties within 10 rotor diameters, 1.85km with a total of 129 residential properties identified within the assessment area.

6.12.2. Shadow flicker was calculated for the proposed wind turbines using industry-standard simulation software WindPro. The topography of the local area, the project site and the elevation of nearby receptors were also modelled using OSI data. Each receptor was modelled in 'greenhouse mode', assuming the receptor is entirely constructed in glass and there are no intervening screening though any obscuring features. This results in a worst-case scenario in reporting shadow flicker results. The model also assumes that (i) the sun is always shining (ii) the wind will blow continuously, and the turbine will always be rotating (iii) the wind will always be blowing from a direction such that the turbine rotor is aligned with the sun-receptor line (iv) there will be no screening.

6.12.3. Table 12-2 of the EIAR sets out the worst case and expected scenario in terms of the predicted shadow flicker impacts at all 129 sensitive receptors, expressed in hours per day and hours per year respectively. As the proposed wind turbines will not be operational during the construction or decommissioning phases, shadow flicker will not occur. During the operational phase of the development, the 'worst case' results indicate that the greatest level of predicted shadow flicker will be at H007 which is predicted to experience 1-hour and 18-minutes of shadow flicker and expected shadow flicker of 22 hours and 27 minutes per year. The modelling suggests that 110 no. dwellings are predicted to experience less than 10- hours of shadow flicker per year, while 36 no. dwellings are not predicted to experience any effects whatsoever.

Cumulative Effects

6.12.4. In terms of cumulative impacts, the Board will note that there are no existing or permitted wind farm developments sufficiently proximate to the subject site such that cumulative shadow flicker effects would arise. Bilboa Wind Farm lies approximately 4km to the northeast of the site and as such, cumulative effects do not arise.

6.12.5. The applicant undertook a cumulative assessment in term of the proposed Seskin Wind Farm due to its proximity to the current proposed site. As part of this assessment, the applicant used the proposed turbine for the Seskin project, the Siemens-Gamesa SG 6.0-155 as well as the turbine coordinates for the proposed wind farm. While acknowledging that these factors may change, I would accept that the best available information was utilised in the preparation of this chapter of the EIAR.

6.12.6. It is assessed that the addition of the Seskin Wind Farm does increase the effects of shadow flicker at a number of dwellings, however, the increases are not assessed as likely to result in significant effects. Under 'worst-case' conditions, the greatest level of shadow flicker remains 1-hour and 18-minutes at H007; while the greatest level under 'expected' conditions is 26:41, again, at H007.

Mitigation Measures

6.12.7. The EIAR, Section 12.6 sets out the proposed mitigation measures to be employed in order to fully eliminate the occurrence of shadow flicker at sensitive receptors. Said measures include the installation of automated turbine shut down software, which will curtail the operation of turbines during the rare periods when shadow flicker occurs. Within 12 months of commencement of commercial operations, the applicant undertakes to carry out a shadow flicker survey to verify the implementation of the turbine shut down software.

Residual Impacts

6.12.8. Once mitigation is implemented, it is not anticipated that any residual impacts are anticipated with regard to shadow flicker.

Conclusion

6.12.9. In terms of third-party submissions, I note the concerns raised with regard to potential impacts of shadow flicker on residential amenity and on traffic. I have had

full regard to these concerns, and I am satisfied that the applicant has fully considered this matter. I am satisfied that the conclusions of the EIAR in terms of impacts of shadow flicker are acceptable. I am satisfied, subject to the inclusion of appropriate conditions relating to shadow flicker mitigation and any recommended planning conditions, that the development would not have any significant adverse effects and no significant residual impacts are likely to arise.

6.13. **Landscape**

6.13.1. Chapter 9 of the submitted EIAR deals with Landscape. The site lies within an attractive rural setting across both Co. Carlow and Co. Kilkenny. The wider area comprises commercial forestry plantations and agricultural land with a high number of one-off houses and farm holdings, dispersed along the local road network. The site has a stated area of 290ha and is located on Castlecomer Plateau, the Killeshin Hills, which extends into Counties Carlow, Kilkenny and Laois to the north of the site. The area is described as being elevated and is characterised by undulating hills and steep slopes and the Killeshin Hills are bound to the west by the River Nore and the River Barrow to the east. Large agricultural fields occupy the lower areas and include forestry and hedgerows while the higher, upland locations include extensive commercial forestry. The landscape type is described as rolling rough grazing. The highest point of Castlecomer Plateau rises to approximately 340mAOD, between 64m and 90m above the ground level of the proposed turbines.

6.13.2. In terms of compliance with policy, I refer the Board to my planning assessment above, and in particular Section 5.3 of this report where I address the principle of the proposed development in this context. In particular, the Board will note my assessment in terms of compliance with Policy WE P4 of the Carlow County Development Plan as well as the report from Carlow County Councils Chief Executive as it relates to visual impacts and landscape. In addition, I have had full regard to the Kilkenny County Councils Chief Executive Report which sets out the concerns of the local authority and Elected members, as well as the concerns raised by the third parties in terms of visual impacts associated with the proposed development.

6.13.3. The EIAR and associated Annexes, including the photomontages, seek to analyse the potential impacts of the proposed development in terms of visual impact and impacts on the landscape and views. A Zone of Theoretical Visibility was prepared over a distance of 20km and the assessment considers the impacts associated with the proposed development in terms of the central study area (within 5km) and the wider study area (up to 20km).

6.13.4. The visual impacts associated with the proposed development were assessed at 26 no. visual receptors throughout the study area. Table 9.4.2.2 of the EIAR ranks the

magnitude of the visual impact from each view point ranging from Negligible to High, and summarised as follows:

- **Negligible** at 3no View Points - VPs 3, 5 and 15
- **Low Negligible** at 12no View Points – VPs 1, 2, 4, 9, 12, 16, 21, 22, 23, 24, 25 and 26.
- **Low** at 2no View Points – VPs 6 and 7
- **Medium Low** at 1no. View Points – VPs 8
- **Medium** at no. View Points – VPs 6, 11, 14 and 20
- **Medium High** at no. View Points – VPs 17 and 19
- **High** at no. View Points – VPs 10, 13 and 18

6.13.5. The highest magnitude of visual impacts is noted to occur at viewpoints VP10, VP13 and VP18 which are associated will local community views and those nearest to the site, and within the central study area. Ultimately, the EIAR, and associated Visual Impact Assessment and photomontages, submit that while there will be physical impacts on the land cover of the site as a result of the proposed development, they will be minor in the context of the receiving landscape. The introduction of the turbines at this location will not change the character of the landscape to any real degree due to the existence of existing turbines in the wider area, and it is concluded that the scale and function of the proposed wind farm is well assimilated within the context of the central study area. The overall magnitude of landscape impact within the central study area is assessed to be medium, reducing the low-negligible at increasing distances.

6.13.6. Section 9.3.5 of the EIAR also considers the cumulative baseline for the proposed development, which includes existing, permitted and proposed wind energy projects within the study area. A set of cumulative montages were generated for a number of viewpoints – VP1, VP5, VP7, VP9, VP13 and VP17 in order to show the potential for cumulative visibility between the wind farm and all other permitted and proposed wind farm developments within the study area. The EIAR concludes that the proposed development will have a notable cumulative visual impact with other wind energy developments within the central and wider study area. Visual impacts are

concluded to range from imperceptible to substantial-moderate, and potential cumulative impacts High-Medium.

6.13.7. The proposed development seeks the construction of 7 no. wind turbines a hub height of 104m, a rotor diameter of 162m and a maximum tip height of 185m on a site which covers a stated area of approximately 290ha. The levels at the proposed turbine locations range from 250mAOD to 276mAOD and the highest point of Castlecomer Plateau rises to approximately 340mAOD, between 64m and 90m above the ground level of the proposed turbines. There are 129 residential properties identified as being located within 1.85km of a turbine, with two settlements, Coan and Oldleighlin, located at 3.5 and 4km from the site. The nature of the proposed development, due to the height and scale, will without question, give rise to visual impacts on the receiving landscape, and from sensitive receptors. Having regard to the information presented, I am satisfied that the layout of the proposed scheme is orderly and has had regard to the topography of the landscape with the turbines proposed to be located on or adjacent to the natural ridgelines of the Castlecomer Plateau. I am further satisfied that the proposed layout of the turbines has had full regard to the recommendations of the relevant guidelines and as such, I am satisfied that the layout as proposed is acceptable in terms of landscape character and visual amenity.

6.13.8. In terms of visual impacts arising on **scenic routes** and **protected views**, the EIAR includes details of the scenic designations within the Carlow County Development Plan 2022 including the identified views and scenic routes within a 20km radius of the site. Of the 20 Scenic Views designated in the Carlow CDP, 3 are considered relevant in terms of visual impact appraisal, while of the 8 Scenic Routes identified, 4 are considered relevant. In Kilkenny, of the 6 scenic views identified, 1 is considered relevant in terms of visual impact appraisal. In this context, VPs 2, 4, 7, 11, 9 and 24 contained in the photomontage document (Annex 1.9) are relevant. The closest scenic designations are noted to be in close proximity to the site in Co. Carlow, scenic route SR7 and protected view S31, both of which are located proximate to the Butts. While I would accept that there is potential for sections of the turbines to be visible, I do not consider that the impact to be significantly adverse, having regard to the context of the receiving landscape.

6.13.9. In terms of **tourism amenity** and **heritage features**, the Barrow Way National Waymarked Walking Trail lies to the eastern side of the wider study area. This walking trail runs generally along the route of the river, which constitutes the primary amenity value of the route. I do not foresee any significant impacts on the amenity of the Barrow Way as a result of the proposed development. I would accept that the amenity features lying within the central study area, including the local road network which offers wonderful recreational opportunities for walking and cycling, will have visibility of the proposed turbines. However, I do not consider the impact to be so significant due to the existing topography, level of forestry and the existing roadside / field boundaries in the area. There is potential for the proposed development to increase the recreational offer of the area, as has occurred in other areas following the development of a wind farm where they have successfully incorporated recreational land use around the turbine development, particularly walking routes and nature trails and have identified opportunities to support local biodiversity and educational programmes, which could be considered a positive impact. While there may be impacts associated with the construction phase, in terms of access to any such amenities, I consider this to be temporary and short-term, and therefore, acceptable.

6.13.10. There are no Recorded Monuments, sites of archaeological interest, protected structures or NIAH features identified within the boundary of the subject site. The closest feature in the wider area is an enclosure, identified as SMR No CW011-006----, in the townland of Ridge, approximately 100m to the east of the site. There are, however, a number of heritage and historical features in the wider study area which have the potential to be affected by the visual impacts associated with the proposed development. Of note, VP23 indicates that there is potential for limited visibility of the upper sections of the turbines from Kilkenny City and there will be increasing visibility on heritage features in the immediate vicinity of the site. Having regard to the nature and topography of the receiving landscape, together with the presence of existing forestry, I have no objection to the proposed development in terms of visual impacts associated with tourism amenity or heritage features within the central and wider study areas.

6.13.11. In terms of **population**, the Board will note the location of the subject site at a somewhat elevated rural location, which is at a remove from any large or densely

built-up area. The closest villages to the site include Coan, at 3.5km to the north, and Oldleighlin at approximately 4km to the east, of the proposed development site. VP6 represents the visual impacts at Coan with a residual visibility of partial blade tips from the village noted. The overall magnitude of the impact is assessed to be low due to the existing level of screening. I consider that the intermittent views of the wind turbines from the settlements would be acceptable.

6.13.12. There is a dispersed settlement pattern along the local road networks in the vicinity of the site, with 129 residential properties, low density and dispersed, identified within 1.85km of a turbine. The turbines will be clearly visible at some of the nearest residential properties, where the visual impacts might be considered significant. 11 VPs – VP6, 8, 10, 11, 13, 14, 17, 18, 19, 20 and 22 – are noted to represent the potential visual impacts associated with the proposed development on the local population. The highest level of visual impact occurs at VPs10, 13 and 18.

6.13.13. The separation distance between the houses – not financially associated with the project - and the nearest turbines exceed the 2006 Guideline of 500m and the Draft 2019 Guideline of 740m (4 x 185m max tip height). In this regard, and in full consideration of both European and National policy in relation to the provision of renewable energy projects, on balance, I am satisfied that the proposed windfarm is acceptable at this location and that dominant views of the turbines from the proximate settlements and nearby houses, are not so significant as to warrant a reason to refuse permission or to amend the turbine layout as proposed. As such, while the turbines will be visible in the landscape, I am satisfied that they will not be overly dominant and will not adversely impact the visual amenity of the area to any significant degree.

Cumulative Effects

6.13.14. The EIAR considered the cumulative effects of the proposed development in the context of other existing, permitted and proposed wind energy projects in the area of the site. The details are included in the cumulative ZTV maps and wireframes provided in Annex 1.9 of the submitted EIAR. The assessment is presented in two stages dealing with the existing baseline and potential future baseline (should all wind energy projects be constructed). A set of cumulative photomontages are included in the VIA for viewpoints VPs 1, 5, 7, 9, 13 and 17 which indicate that there

will be clear views of the existing Gortahile Wind Farm and the consented Bilboa Wind Farm at VP5. There will be intermittent visibility of the consented Bilboa WF at VP7, while VP13 affords close, prominent views of the proposed development and both the existing Gortahile Wind Farm and consented Bilboa Wind Farm will also be visible at VP17. The overall cumulative impacts arising in the existing baseline, are considered to be medium.

6.13.15. The potential future baseline, should all proposals be consented, is likely to give rise to a marked cumulative impact, particularly with regard to the proposed Seskin Wind Farm (proposed to the north east of the subject site and to the south west of Bilboa). If permitted, this WF will generate a linear cluster of turbines extending for approximately 10km through the central and wider study area, taking in Bilboa to the north and the current proposed White Hill Wind Farm to the south. In this context, the most notable cumulative visual impact would occur along the L3037 local road to the north of Ridge Crossroads. Due to the separation distance of three further proposed windfarms (Ballynalacken, Coolglass and Freneystown Wind Farms), and all located in the western half of the study area, no notable cumulative impacts are assessed as arising. Freneystown Wind Farm is the closest site to the proposed White Hill Wind Farm and has the potential to extend the visual envelope of wind farm development along the Plateau. However, due to the location, topography and level of screening, the impact is considered to be limited. The overall cumulative impacts arising in the potential future baseline, are considered to be high-medium.

6.13.16. No significant adverse cumulative impacts are anticipated within the study area with the magnitude of cumulative effects assessed at Medium. While the turbines would be visible from a number of viewpoints, I am satisfied that they would not form such a dominant feature, due to the separation distance and intervening undulating landscape. I would accept that there is some potential for in-combination effects, and I am satisfied that the EIAR has fully considered same. Overall, I am satisfied that the proposed development is acceptable in the context of cumulative visual impacts.

Mitigation Measures

6.13.17. No specific mitigation measures are proposed in the context of impacts on landscape and visual amenities.

Residual Impacts

6.13.18. While there is some potential for a minor sense of wind farm proliferation to occur, such impacts will be offset by separation distances.

Conclusion

6.13.19. I have read and considered all of the submissions made in relation to landscape and visual amenity. Overall, I am generally satisfied that the EIAR has adequately considered the potential effects of the development on the landscape and on the visual impacts associated with the project within the study area. I am satisfied that any potential impacts have been fully considered and that the proposed wind farm development would not constitute an unacceptable dominant feature on the landscape or interfere with long distance views towards or across the site. In addition, I am satisfied that the in-combination visual impacts anticipated have been fully presented and considered in the EIAR and accept that the significance of the effects are acceptable in the context of the receiving landscape. I am, therefore, satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects in terms of landscape.

6.14. **Cultural Heritage**

6.14.1. Chapter 10 of the EIAR deals with cultural heritage. The assessment includes desk-based research and site inspections and sets a 1km study area around the wind farm site to assess the presence of statutorily protected archaeological remains (RMP sites) and NIAH structures, 20km study area for World Heritage Sites (including sites in the Tentative List) and 5km to assess the presence of National Monuments, Preservation Orders, Protected Structures and Conservation Areas, including proposed Conservation Areas. A 100m study area was applied to the grid connection while the proposed forestry replant lands were also assessed. The desk-based research included a review of maps, photographic sources, including ariel photography as well as other documentary sources. The EIAR also sets out the policy and legislative framework for Cultural Heritage considerations and includes a detailed description of the existing environment and I also refer the Board to my comments above in Sections 5.8.3 – 5.8.6 of this report.

6.14.2. There is 1 Recorded Monument within 1km of the wind farm site, RMP-CW011-006: Enclosure, which is approximately 80m south of the proposed access track at Site Entrance 1 in Ridge townland, Co. Carlow. In addition, there are 14 Recorded Monuments within 100m of the grid connection route, details of which are provide in Section 10.4.2 of the EIAR.

6.14.3. There are 8 Protected Structures recorded within 5km of the wind farm site, including Black Bridge (RPS no. D84), which will be subject to works associated with the proposed development, comprising the placement of a 175mm layer of concrete across the carriageway over a distance of c18m – the entire span of the bridge archway – to increase the structural integrity of the bridge to accommodate the delivery of wind turbine components. This bridge is also recorded on the National Inventory of Architectural Heritage (Reg. No. 12401111). In addition, the development will also require temporary works to a second NIAH structure – Crettyard Bridge (Reg. No. 12400605) by way of the temporary removal of the pier caps on the northern parapet wall for the duration of the turbine component deliveries. The pier caps will be fully reinstated post-construction.

6.14.4. With regard to the proposed replanting lands in Drumagelvin, Co. Monaghan, while there are no RMs noted within the proposed replant site, there is ringfort, RMP

MO020-012, located approximately 25m north of the northern boundary of the replant lands. In addition, several small structures are recorded on historic cartographic sources within the replant area, with three appearing to survive above ground. The applicant proposes to undertake pre-construction / planting archaeological testing in the area of the ringfort, and monitoring in the wider planting site, during the preparation of the site for planting.

Cumulative Effects

6.14.5. In terms of cumulative impacts, the Board will note that there are no existing or permitted wind farm developments in the immediate vicinity of the subject site, with four existing, permitted or proposed within 10km of the site. Direct cumulative effects relate to unrecorded sub-surface archaeological features or artefacts which may exist. There will be no interaction between any archaeological remains within the site and the identified windfarms, and as such, the EIAR concludes that no cumulative effects arise with regard to archaeology.

6.14.6. The likely potential cumulative effect that will arise relate to the turbines being visible in the wider landscape which will have an effect on other elements of cultural heritage, including National Monuments and architectural properties. I would accept that the best available information was utilised in the preparation of this chapter of the EIAR and that cumulative effects during the operation of the wind farm is likely to result in long-term, reversible and slight cumulative visual effect on the archaeological, architectural and cultural heritage resource.

Mitigation Measures

6.14.7. Mitigation is proposed in the form of post consent pre-construction test trenching and archaeological monitoring to be undertaken under licence, of the site during the construction phase, including along the grid connection route. In addition, a post-consent, a pre-construction Architectural Impact Assessments of Black Bridge and Crettyard Bridge shall be carried out by a suitably qualified historic building consultant/Conservation Architect.

Residual Impacts

6.14.8. No significant residual impacts are considered to arise in terms of archaeological heritage beyond the visual effect of the wind farm on the 1 Recorded Monument located within 1km of the study area.

6.14.9. In terms of Architectural heritage, he EIAR assesses that the effect on Black Bridge will be permanent, direct and imperceptible and that as the pier caps of Crettyard Bridge are assessed to be of limited architectural value, the effects will be temporary, reversible and imperceptible. There will be a likely residual, long-term, reversible and slight -not significant operational visual effect on the 8 protected structures within the 5km study area, and the 1 NIAH property within 1km if the study area.

Conclusion

6.14.10. I am generally satisfied that the conclusions of the EIAR in terms of impacts on cultural heritage and archaeology are acceptable. I also note that the Department of Culture, Heritage & the Gaeltacht did not make any comments in relation to the proposed development. I am satisfied, subject to archaeological testing and monitoring during the construction phase as described in the EIAR, and subject to the submission of an Architectural Impact Assessment with regard to Black Bride and Crettyard Bridge, that the development would not have any significant adverse archaeological and architectural impacts and no significant residual impacts are likely to arise.

6.14.11. I have considered all of the written submission made in relation to Cultural Heritage and I am satisfied that any potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions.

6.15. **Material Assets**

6.15.1. Chapter 13 of the EIAR deals with Material Assets. The description of Material Assets in the EPA Guidelines, 2002, include architectural, archaeological, and cultural heritage, designed landscapes, natural resources of economic value, buildings and structures and infrastructure. Having regard to the format of the EIAR submitted, these aspects of the environment are covered under a number of chapters as follows:

Chapter 6: Land and Soils

Chapter 7: Water

Chapter 9: Landscape

Chapter 10: Cultural Heritage

Chapter 13 of the EIAR deals with material asset relevant to the wind farm project under a number of topics including transport & access, aviation, telecommunications and resources & utility infrastructure.

Transport & Access

6.15.2. The subject site lies across two planning jurisdictions with the western area of the site being located in Co. Kilkenny and the eastern area being located in County Carlow. The EIAR assesses the road network within the rural area for construction, operational and decommissioning traffic associated with the project, including the haul route for turbine components. A Route Access Survey is included at Annex 3.5. The road network in the vicinity of the site generally comprises local roads, with the closest regional road, the R448, located 6.5km to the east. The local road network, including the L1834, L1835 and L3307, have speed limits of 80kph, and provide for two-way traffic with grass verges. These local roads will provide access from the N78 for turbine component and construction materials delivery.

6.15.3. The off-site and secondary elements of the proposed development will include the construction of a temporary access track (150m in length) between the between the N78 and L1834, and carriageway strengthening works at ‘Black Bridge’ on the L1835 and L3037. In addition, a total of 3 no. bellmouth site entrances will be required to facilitate access throughout the proposed wind farm site. 2 no. existing agricultural access points adjoining the L7122 will be upgraded to accommodate construction

traffic and abnormal HGV loads while a further 1 no. new site entrance will be constructed from the L3037. The proposed substation will be accessed from an entrance from the L7117 and the grid connection infrastructure, from the proposed substation to the existing Kilkenny 110kV Substation, will be located within the carriageways of the L7117, L5892, L5893, L1851, L6656, L6657, and R712.

6.15.4. In terms of the **construction phase** of the proposed development, Section 13.1.3.2 of the EIAR advises that the likely turbine component haul route leave from the Port of Waterford and will utilise the N29, N25, N9, M9, N78, L1834, L1835, and L3037 before accessing the site via a proposed site entrance. A total of 12 locations along this route have been identified as requiring some works, including 11 temporary and 1 permanent works locations – the permanent works relating to Black Bridge. A full description of the necessary works at each location along the route between the Port of Waterford and the project site is provided at Annex 3.5. In addition, a summary of the location of the works required, are provided at Table 3.4 and Table 3.5 in the body of the EIAR.

6.15.5. In terms of the transportation of construction materials and given the existing rock resources that will be extracted to accommodate the turbine foundations etc, it is envisaged that only the capping material will be required to be imported to the site. In addition, the concrete for each turbine base will be sourced from local suppliers, to be determined following a tendering process. Construction traffic will result in a total of approximately 488 loads per month or an average of 21no loads per day. However, during peak construction period comprising the 7 days for pouring of turbine foundations – 1 day per turbine - a realistic estimation of deliveries to the site will be 110-120, amounting to 220-240 traffic movements per day on such days. With regard to the delivery of the turbine components, the EIAR advises that approximately 105 loads of turbine components and crane parks will be delivered during a 4-9 week period. The grid connection, as extrapolated from the figures presented in Table 13.6 of the EIAR, will result in approximately 12 one-way HGV movements per day. Much of the excavated material will be removed from the grid route and appropriately disposed of.

6.15.6. During the **operational phase**, maintenance traffic is expected to be low, amounting to 1-2 visits per week by maintenance personnel.

6.15.7. In terms of the access to the proposed replant lands in Co. Monaghan, the EIAR advises that this will be provided using existing agricultural entrances from the L3710, and access over the national, regional and local road network likely comprising the use of the N2, N53, R135, R181, and R182. No significant effects are assessed as being likely to arise as a result of the proposed development.

6.15.8. In terms of **cumulative effects**, I would accept that such effects are likely to occur during the construction and decommissioning phases of the development, in the event of other windfarm developments commencing construction, and decommissioning, at the same time as the current proposed development. The EIAR identifies the permitted or proposed projects in the vicinity of the site, up to the Ballynalacken Wind Farm at 14km to the north west and the Coolglass Wind Farm at 18km to the north, which are currently the subject of SID determinations with the Board. It is concluded that at the time the subject development is under construction, the permitted Biloa Wind Farm, located approximately 5km from the site, will be operational. The Seskin Wind Farm, at 2km to the north east of the site and Freneystown Wind Farm at 4.5km to the south west of the site, are at an early stage in their development cycles and it is accepted that there is potential for cumulative effects to arise should the construction phases of the projects overlap.

6.15.9. The likely adverse effects of the project have been identified as being slight to moderate, direct, indirect and associated with the short-term construction and decommissioning phases of the development. In the context of cumulative effects, and in the absence of mitigation measures, the associated effects have the potential to rise to ‘significant’.

6.15.10. Section 13.1.5 of the EIAR sets out the suite of **mitigation measures** proposed to ensure the avoidance of significant effects and to reduce the magnitude and significance of effects during the construction and decommissioning phases of the development. Of note, the development will be the subject of a Traffic Management Plan which shall be agreed as part of the Construction Environmental Management Plan with the local authorities prior to the commencement of any development.

6.15.11. I would acknowledge the concerns raised by the local residents in terms of the potential impacts on the community during the construction phase of the

development. I further note the submissions of the local authority Engineers with regard to the need for pre-development surveys to be undertaken along the public roads as well as the submission of an RSA with regard to the proposed L7112 entrance. The TII also noted concerns with the proposals for the construction of a temporary access at the N78 to the L1834 local road for the transportation of oversized turbine components as well as the proposed works to bridges and in particular, that any works to the national road structure requires Technical Acceptance.

6.15.12. The applicant, following a request by the Board to respond to the issues raised in the submissions made relating to the proposed SID application, submitted a comprehensive response on the 18th of August 2023. In this regard, I would accept that the need for the proposed temporary access at the N78 has been reasonably addressed by the applicant and in the event of a grant of planning permission, a condition should be included to require the full closing of this temporary access, on both roads, following the completion of the construction phase. In addition, no development shall commence without the full agreement of TII on matters relating to the national road network and associated infrastructure. I note in particular, the requirements regarding works to Black Bridge and the potential for conflict given that this structure is a protected structure and the works advised by Kilkenny County Council as being required to ensure road and pedestrian safety. I note that Carlow County Council raised no objections to the proposed works to the bridge.

6.15.13. In terms of the above, I consider it reasonable that the developer be required to ensure that all works to the public road network should comply with TII standards and be subject to a Road Safety Audit as appropriate. In addition, all relevant permits that may be required for abnormal or heavy loads should be in place prior to the commencement of any development. The capacity of all structures along the delivery route should also be checked and a technical load assessment is required. I further consider it reasonable that the developer be required to comply with all council roads requirements. Any works to the road network and junctions should be at the developer's expense following completion of the project. These outstanding concerns could be addressed way a planning condition which requires compliance with TII and both local authority requirements.

6.15.14. With regard to the proposed haul and delivery route, I would be satisfied that the use of the Port of Waterford and the M9, via the national and local road network, including the N29, N25, N9, M9, N78, L1834, L1835, and L3037 before accessing the site via a proposed site entrance, can be considered an appropriate route. In addition to the above, the Board will note that a total of 12 locations along this route have been identified as requiring some works, including 11 temporary and 1 permanent works locations. A full description of the necessary works at each location along the route between the Port of Waterford and the project site is provided at Annex 3.5 of the EIAR and the only permanent works relate to the placement of 175mm of concrete atop the existing Black Bridge archway to ensure its structural integrity, followed by reinstatement including a 20mm layer of mastic asphalt binder to the satisfaction of the respective PA.

6.15.15. All temporary and permanent works to the public road network will be managed by mitigation measures detailed in the EIAR and included in the CEMP, as well as a Traffic Management Plan. All necessary traffic control measures required during the construction phase should be agreed with the Planning Authority prior to the commencement of any development. The proposed construction phase of the development will give rise to some disturbance to local communities and road users, and advance notice to affected residents and businesses should be afforded to minimise significant effects. All temporary works to facilitate the construction phase, and delivery of abnormal loads to the site, shall be fully reinstated by the developer to the satisfaction of the Planning Authority and at the developers expense.

6.15.16. In terms of the proposed access to the site via the local road network, I am satisfied that the vehicular access arrangements would not give rise to a traffic hazard or endanger the safety of other road users. Notwithstanding the above, any maintenance works to the public road arising from the proposed development should be at the developer's expense.

6.15.17. Having regard to the above, and subject to the detailed mitigation measures, I am satisfied that no **residual effects** are likely to arise as a result of the operational phase of the development. I would accept that there is likely to be an increase in traffic movements to and from the site during the construction and decommissioning phases of the development. These impacts will be in the short term and temporary and are considered acceptable in the context of the proposed development.

6.15.18. In terms of third-party submission, I note the concerns raised with regard to potential impacts of traffic and transport associated with the proposed development. I have had full regard to these concerns, and I am satisfied that the applicant has fully considered this matter. I am satisfied that the conclusions of the EIAR in terms of impacts of traffic and transport in the context of material assets are acceptable. I am satisfied, subject to the inclusion of appropriate measures as discussed above and any recommended planning conditions, that the development would not have any significant adverse effects on traffic and transport and no significant residual impacts are likely to arise.

Aviation

6.15.19. Section 2 of Chapter 13 of the EIAR deals with Aviation. I note that the applicant consulted with the IAA and Department of Defence, with the IAA responding advising a condition be attached. The closest airport to the subject site is Kilkenny at 17km to the south west with the nearest major airport Waterford at 60km, Dublin at 95km and Shannon at 125km. There are no aerodromes, airfields or airstrips located within20km of the site, and 4 within 40km.

6.15.20. In terms of effects, none are anticipated during the construction or decommissioning phases of the development. While there is potential for effects during the operational phase, non are anticipated due to the location of the site at a remove from any restricted areas, low flying areas, danger areas or military operating area. I note no objections from any third parties with regard to aviation and subject to the installation of appropriate aviation warning lighting to alert pilots to the presence of tall structures, no significant cumulative effects in terms of other wind farms in the area are likely to arise. I note no concerns with regard to aviation in terms of the proposed grid connection.

6.15.21. I am satisfied that the conclusions of the EIAR in terms of impacts of aviation in the context of material assets are acceptable. I am satisfied, subject to the inclusion of appropriate lighting as discussed above and any recommended planning conditions, that the development would not have any significant adverse effects on aviation and no significant residual effects are likely to arise.

Telecommunications

6.15.22. The Board will note the third-party concerns raised with regard to impacts on telecommunications and broadcast signal of KCLR. I refer the Board to my previous comments in this regard above in sections 5.8.13-5.8.15 of this report. I note that amendments were made to the layout of the turbines in order to address concerns raise by a number of telecommunication provides in the area including Enet and Vodafone Ireland, with 2rn (RTE Transmission Network) and KCLR Radio advising that there is potential for interference to the terrestrial tv network and an existing transmission link between Johnswell Co. Kilkenny and Rathmore, Co. Laois. While 2rn requires that the applicant enter into a protocol arrangement to ensure the appropriate remediation of any adverse effects which may be experienced, KCRL has advised that the proposed location of the development between two broadcasting signals, critical to the delivery of their business, is incompatible with the ability of KCLR being able to continue their broadcast operations properly and that the mitigation measures proposed are insufficient in terms of providing assurances. It is further noted that the EIAR advises that in the absence of mitigation, the proposed development is likely to result in a likely, direct, moderate-significant, negative and long-term effect on services during the operational phase of the development.

6.15.23. Mitigation measures, following consultation with affected providers, are noted to include the re-routing of an affected Enet microwave link. In addition, it is proposed to re-route the affected KCLR Radio transmission link to avoid the proposed development site, and the developer will enter into a protocol agreement to ensure any complaints with regard to 2rn services are managed, addressed and remediated. I note that the cost of the proposals to re-route affected links will be borne by the developer and will be undertaken prior to the installation of the turbines, and in consultation with the affected providers. I consider this to be a reasonable approach.

6.15.24. I am satisfied that the conclusions of the EIAR in terms of impacts of telecommunications in the context of material assets are acceptable. I am satisfied, subject to the implementation of appropriate mitigation measures as discussed above and any recommended planning conditions, that the development would not have any significant adverse effects on telecommunications and no significant residual effects are likely to arise.

Resources & Utility Infrastructure

6.15.25. In terms of existing infrastructure in the study area, the EIAR acknowledges the presence of overhead electricity lines, including both 38kV and 110kV lines and telecommunication lines. With regard to renewable resources, it is noted that the existing meteorological mast has recorded a mean wind speed of 7.8m/s extrapolated to 104m, being the proposed turbine hub height. In terms of non-renewable resources, it is noted that there are no quarries located within the project site, but borrow pits are proposed, with further resources to be sourced from existing local quarries.

6.15.26. The construction phase is not anticipated as having any significant effect on existing renewable or non-renewable resources or utilities infrastructure, although there is a potential for interaction with utility services – overhead wire collision or subsurface cables / wires. Such potentials, however, will be mitigated through good construction practices. Construction activities will also result in the extraction and use of non-renewable resources in the form of aggregates. No operational phase effects are considered likely to arise, and the project is not assessed as likely to result in any cumulative effects on resources or utility infrastructure, either individually or in combination with other existing, permitted or proposed developments. No specific mitigation measures are proposed, and no residual effects are considered likely.

6.15.27. I am satisfied that the conclusions of the EIAR in terms of impacts of Resources & Utility Infrastructure in the context of material assets are acceptable. I am satisfied, subject to the implementation of appropriate mitigation measures as discussed above and any recommended planning conditions, that the development would not have any significant adverse effects on Resources & Utility Infrastructure and no significant residual effects are likely to arise.

6.16. **Interaction of the Foregoing**

6.16.1. Chapter 14 of the EIAR seeks to set out the interactions of the environmental aspects considered in the various chapters of the EIAR. I would note that certain interactions were also considered in the various chapters, and in particular, I refer to Section 6.5.11 of this report which sets out the interactions with population and human health and other aspects of the environment in more depth.

6.16.2. It is noted that the potential for interactions between one aspect of the environment and another can result in direct or indirect impacts, which may be either positive or negative. No major interactions between the predicted impacts on different environmental topics are envisaged. The matrix of interactions presented in Table 14.1 notes that there is potential for minor interactions to occur between the following aspects:

- **Population & Human Health:**
  - Landscape (Visual Impacts)
  - Noise & Vibration
  - Shadow Flicker
  - Material Assets (Roads & Traffic and Telecommunications)
- **Biodiversity:**
  - Land & Soils
  - Water
- **Land & Soils:**
  - Biodiversity
  - Cultural Heritage
- **Material Assets:**
  - Air & Climate
  - Cultural Heritage

6.16.3. The conclusions regarding the acceptability of the likely cumulative and main residual effects of this proposal are identified and assessed under the various headings of the main assessment above. I am generally satisfied that the significant

environmental effects arising as a consequence of the development, including the residual and cumulative impacts have been identified. Having regard to the nature of the proposed development, mitigation measures proposed, or as a consequence of proposed conditions, I do not foresee that any of these interrelationships are likely to give rise to significant effects on the environment.

6.17. **Reasoned Conclusion on Significant Effects**

6.17.1. Having regard to the examination of environmental information contained above, and in particular to the EIAR and the submissions from the planning authority, prescribed bodies and observers in the course of the application, it is considered that the main significant direct and indirect effects of the proposed development on the environment are, and would be mitigated, as follows:

- **Population & Human Health:**

  There are potentially minor positive impacts on population associated with the creation of employment, with a knock-on positive impact on the existing businesses and services in the surrounding area.

  There will be certain **visual impacts** associated with the proposed development, which were assessed at 26 no. visual receptor locations throughout the study area where sensitivity ranged widely from ‘High’ to ‘Low’. The highest magnitude of visual impact occurs at viewpoints VP10, VP13 and VP18. Some cumulative impacts will arise and are assessed to be in the order of Medium. No specific mitigation measures are proposed as given the highly visible nature of the development it is not feasible to screen them from view.

  Noise & Vibration may occur during the construction phase of the development and will be temporary and short term. Noise may also arise due the operation of the turbines, but the assessment shows that the guideline noise limits will not be exceeded for construction or during the operational phase of the project at the nearest noise sensitive receptor. No mitigation measures will be required.

  Shadow Flicker could occur at H007 for 22 hours and 27 minutes per annum. 110 of the 129 houses assessed are predicted to experience less than 10 hours of shadow flicker per year, while 36 dwellings are not predicted to

experience any effects. Mitigation measures are proposed and no significant impacts to residents is anticipated.

In terms of **air quality & roads**, dust levels arising from the traffic associated with the construction phase of the development is likely to have a temporary short-term impact on local residents on the haul route. The nature of the vehicles transporting the turbine components will also have a temporary and short-term impact on residents using the local road network. Mitigation measures are proposed, and a Traffic Management Plan will be implemented to minimise effects. Once operational, no significant negative residual impacts are envisaged in terms of the air and climate. The operation of the wind farm will displace CO_2 emissions.

There is potential for the development to impact telecommunications. Mitigation measures are proposed to address the individual concerns of the relevant service providers in the area, and the EIAR concludes that, based on a desktop assessment and consultation, the project will not result in likely significant effects on the telecommunications network.

- **Biodiversity:**

  In terms of **biodiversity**, the majority of habitat loss will involve improved agricultural grassland and conifer plantation which are of low importance, leading to a neutral-imperceptible impact on existing semi-natural habitat and flora species. A small area of relatively high quality and diverse wet grassland will be permanently removed at the location of turbines T1 and T3, and their associated infrastructure. This semi-natural habitat is of local importance with a higher value and its loss is considered to be a significant negative impact in the local context. The development will result in the permanent loss of sections of hedgerow and treeline habitat. Annex I habitats or rare protected plant species will not be affected as they are not present on the site. No invasive species were recorded at the site. The construction phase of the development will be carried out in accordance with the provisions of a detailed Construction Environmental Management Plan.

  Mitigation measures are proposed to minimise any impacts on fauna, including mammals, bats, amphibians and invertebrates.

In terms of birds, that there are a number of likely construction phase effects arising including habitat loss or degradation and disturbance/displacement. No nest sites or breeding activity was recorded within the study area during the 5 survey seasons for a number of bird species. Mitigation measures are proposed, and an Ecological Clerk of Works is to be appointed to oversee the construction phase.

- **Land & Soils:**

  The development will result in relocation of commercial forestry from the area and the removal and movement of large quantities of soil, subsoil and bedrock across the development site. The aggregate present on the site will be used as part of the construction process, with 3 borrow pits identified. The excavation and relocation of materials across the site is an inevitable part of construction and it is assessed that the impact of the exposure of soils and subsoils will not be significant, given the small footprint of the proposed excavations.

  The overall loss of agricultural land will amount to 5.5ha and 15ha of commercial forestry which is low in the context of the site area and the availability of similar lands in the immediate area.

  The mitigation measures identified and detailed design best practices will be implemented as part of the Construction and Environmental Management Plan.

- **Water:**

  In terms of the **water** environment, potential indirect effects could arise due to an increase in runoff into receiving watercourses from sediment and soil erosion. In terms of mitigation, a robust drainage system is to be put in place to control runoff and manage sediment transport during the construction phase. Dedicated settlement ponds will be provided and during the pouring of concrete, effective containment measures will be implemented to avoid spills and to prevent concrete from entering into the drainage system. The CEMP will include a fuel management plan and all vehicle movements will be restricted to the areas of hard standing and existing / newly constructed access tracks.

6.17.2. Having regard to the above, and in conclusion, I am satisfied that the submitted EIAR has identified and considered the main significant direct and indirect effects of the proposed development on the environment. Subject to the implementation of mitigation measures as described, I am satisfied that the proposed development would not have any unacceptable direct or indirect effects on the environment.

7.0 Appropriate Assessment

7.1. Introduction

7.1.1. The EU Habitats Directive 92/43/EEC provides legal protection for habitats and species of European importance through the establishment of a network of designated conservation areas collectively referred to as Natura 2000 (or 'European') sites. Matters relating to the likely significant effects on a European site are considered in this section of the report under the following headings:

- Compliance with Article 6(3) of the EU Habitats Directive.
- The Natura Impact Statement.
- Screening the need for Appropriate Assessment.
- Appropriate Assessment.

7.2. Compliance with Articles 6(3) of the EU Habitats Directive:

7.2.1. The Habitats Directive deals with the Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union. Article 6(3) of this Directive requires that any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. The competent authority must be satisfied that the proposal will not adversely affect the integrity of the European site.

7.2.2. The proposed development is not directly connected with or necessary to the management of a European site. The Board will note that a Natura Impact Statement (NIS) was submitted as part of documentation for permission for the proposed development to assess the likely or possible significant effects, if any, arising from the proposed development on any European site.

7.2.3. In accordance with these requirements the Board, as the competent authority, prior to granting a consent must be satisfied that the proposal individually or in combination with other plans or projects, is either not likely to have a significant effect on any European Site or adversely affect the integrity of such a site, in view of the site(s) conservation objectives.

7.2.4. Guidance on Appropriate Assessment is provided by the EU and the NPWS in the following documents:

- Assessment of plans and projects significantly affecting Natura 2000 sites – methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (EC, 2001).
- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (DoEHLG), 2009.

Both documents provide guidance on Screening for Appropriate Assessment and the process of Appropriate Assessment itself.

7.3. **Natural Impact Statement**

7.3.1. The application was accompanied by a Natura Impact Statement (NIS, dated September 2019) which scientifically examined the potential impacts of the proposed development on the following European Sites:

- River Barrow and River Nore SAC (Site Code: 002162)
- River Nore SPA (Site Code: 004233)

The applicant included Lisbigney Bog SAC for screening also.

7.3.2. The NIS identified and characterised the possible implications of the proposed development on the European sites, in view of the site's conservation objectives, and provided information to enable the Board to carry out an appropriate assessment of the proposed works. The Board will note that the NIS also considered the potential impacts associated with the proposed grid connection infrastructure and connections to the existing Kilkenny 110kV substation which is located approximately 15km to the south west of the proposed turbine site.

7.3.3. In addition to the above, the NIS notes the envisaged transportation routes for the turbines from the port of Waterford, through the counties of Kilkenny, Waterford, Carlow and Kildare to the project site. The proposed replant lands are noted to be located away from any designated Natura 2000 site with no significant watercourses present. The replanting process will also be subject to a separate assessment as part of the forestry felling and replanting consent process, undertaken under licence.

7.3.4. The NIS outlines the assessment methodology employed to identify and assess the potential impacts on habitats and species identified as qualifying interests of a number of European Sites and their conservation objectives, including cumulative / in-combination impacts. The NIS sets out mitigation measures and addresses potential residual impacts on the European sites.

7.3.5. Having reviewed the revised NIS and the supporting documentation, I am satisfied that it provides adequate information in respect of the baseline conditions, clearly identifies the potential impacts, and uses best scientific information and knowledge. Details of mitigation measures are summarised in Section 6 of the revised NIS. I am generally satisfied that the information is sufficient to allow for Appropriate Assessment of the proposed development.

7.4. **Consultations and Observations**

7.4.1. In the course of the assessment of the proposed development, the following consultations and third-party submissions were considered as they relate to AA:

Councils

7.4.2. Carlow County Council raised issues in terms of the NIS and require that the mitigation measures proposed are definitive in nature, while the Elected Members requested that issues of conservation and habitat of rare species in the county is fully considered.

7.4.3. Kilkenny County Council raised concerns in terms of the requirement for a number of crossings of watercourses which are hydrologically connected to the River Barrow and River Nore Natura 2000 site, while the Elected Members also raise concerns with regard to the impact of the development on the SAC.

Prescribed Bodies

7.4.4. Inland Fisheries Ireland raised concerns in terms of the impact of the development on the quality of the Nore River waterbody, hydrologically connected to the Barrow – Nore SAC as it relates to the salmon spawning tributary of the Nore River. IFI require that method statements are prepared for any new water crossings and are submitted for written approval and that 50m buffer zones for aquatic areas are maintained. Surface water monitoring records to be maintained during construction works and

details of the Ecological Clerk of Works to be provided to IFI before works commence.

Third Party Submissions

7.4.5. Most, if not all, of the third-party submissions raise concerns with regard to the potential impact of the development in terms of nature conservation and environment. The issues raised are summarised above in this report – Section 4.4 refers – and include matters relating to:

- Impact on the natural and physical environment, including birds, bats, and other animals as well as habitats.
- The land is not suitable for turbines – too wet, bog.
- There are no spatial records of the walkover and concern is raised in terms of the lack of surveying for mammals outside the application boundary.
- Evidence submitted that otter use the area is submitted by third-party. Other protected habitats and fauna have been excluded from assessment and ignored.
- Impact on water supplies.
- Proposals to reforest in Monaghan will have no impact in restoring Carlows ecological balance following the removal of existing forestry to accommodate the turbines.

7.5. **Screening for Appropriate Assessment:**

7.5.1. Section 4 of the NIS presents the Identification of Natura 2000 sites and sets out the screening for AA. The purpose of AA screening, is to determine whether appropriate assessment is necessary by examining:

a) whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of the site, and

b) the likely effects of a project or plan, either alone or in combination with other projects or plans, on a Natura 2000 site in view of its conservation objectives and considering whether these effects will be significant.

7.5.2. The Screening Report considered Natura 2000 sites within 15km, the likely zone of impact, of the subject site. A total of 3 Natura 2000 sites are noted by the applicant to be located within this zone, with Table 1 of the NIS presenting the list of the sites and the qualifying features of conservation interest for which each site is designated. Each site was examined in the context of location in terms of the zone of Influence of effect from the proposed development and their relevant Special Conservation Interests. In addition to the above, I would advise that when all elements of the proposed development, including the grid connection works, a further SAC might reasonably be included in the Screening for AA. Thomastown Quarry SAC lies approximately 12km to the south of the Kilkenny 110kV Substation into which the windfarm development will connect to the grid.

7.5.3. The AA Screening Report concludes that one of the three sites identified as being within the ZoI can be screened out in the first instance, being Lisbigney Bog SAC, as it is located upstream of the development site, at a remove of approximately 12.4km over-land[3]. It is concluded that there is no credible pathway connecting the designated site to the development site for any significant effects to occur and therefore, it is concluded that no significant impacts on the following site is reasonably foreseeable. I concur with the applicants' determination in relation to the following Natura 2000 site:

Site Name	Site Code	Distance to Site	Assessment
Lisbigney Bog SAC	000869	20.4km to north west	No habitat loss arising from the proposed development. There is no surface water, groundwater or underground features connecting the sites. **Screened Out**

7.5.4. In addition to the above, I would note that Thomastown Quarry SAC Site Code: 002252 also lies at a significant remove from the Kilkenny 110kV substation and that the works required to make the necessary connections are unlikely to give rise to any significant effects on the Natura 2000 Site. As such, I consider it reasonable to screen out this SAC in the first instance as there will be no habitat loss arising from

[3] The Board will note that Lisbigney Bog SAC lies approximately 12.4km to the west of the proposed works to the N78 and the location of the proposed works to accommodate access to the local road network.

the proposed development and there is no surface water, groundwater or underground features connecting the sites.

7.5.5. The submitted screening for AA deals with the designated sites within the zone of potential impact. In the absence of mitigation measures, the following sites are deemed to have potential to be impacted upon by the proposed development:

- River Barrow and River Nore SAC (Site Code: 002162)
- River Nore SPA (Site Code: 004233)

7.5.6. Tables 3 and 4 of the NIS present a summary of the assessment of the QIs / SCIs associated with the above, hydrologically connected Natura 2000 sites and includes the potential for likely significant effects based on the location, scale and nature of the proposed development.

7.6. **AA Screening Conclusion**

7.6.1. Having reviewed the NIS and the supporting documentation, which I consider provides adequate information in respect of the baseline conditions, clearly identifies the potential impacts, and uses best scientific information and knowledge, together with the information available on the NPWS website, the scale and nature of the proposed development and likely effects, separation distance and functional relationship between the proposed works and the European sites, their conservation objectives and taken in conjunction with my inspection of the site and the surrounding area, I am satisfied that the Lisbigney Bog SAC and the Thomastown Quarry SAC can be screened out from further assessment. A Stage 2 Appropriate Assessment is not required in respect of these sites.

7.6.2. In the absence of mitigation measures, the following sites are deemed to have potential to be impacted upon by the proposed development, and require Stage 2 AA:

- River Barrow and River Nore SAC (Site Code: 002162)
- River Nore SPA (Site Code: 004233)

7.7. **Stage 2 Appropriate Assessment**

7.7.1. The Conservation Objectives and Qualifying Interests, including any relevant attributes and targets for the relevant European Sites, are set out below.

European sites	Qualifying Interests	Separation distances	Links
River Barrow & River Nore SAC **Site Code: 002162**	[1130] Estuaries [1140] Tidal Mudflats and Sandflats [1170] Reefs [1310] Salicornia Mud [1330] Atlantic Salt Meadows [1410] Mediterranean Salt Meadows [3260] Floating River Vegetation [4030] Dry Heath [6430] Hydrophilous Tall Herb Communities [7220] Petrifying Springs* [91A0] Old Oak Woodlands [91E0] Alluvial Forests* [1016] Desmoulin's Whorl Snail (Vertigo moulinsiana) [1029] Freshwater Pearl Mussel (Margaritifera margaritifera) [1092] White-clawed Crayfish (Austropotamobius pallipes) [1095] Sea Lamprey (Petromyzon marinus) [1096] Brook Lamprey (Lampetra planeri) [1099] River Lamprey (Lampetra fluviatilis) [1103] Twaite Shad (Alosa fallax)	Immediately adjacent to Black Bridge and associated works site 1.1km at its closest point from the windfarm site. 2.2km from the Kilkenny 110kV substation site	Aquatic

	[1106] Atlantic Salmon (Salmo salar) [1355] Otter (Lutra lutra) [1421] Killarney Fern (Trichomanes speciosum) [1990] Nore Freshwater Pearl Mussel (Margaritifera durrovensis)		
River Nore SPA **Site Code: 004233**	[A229] Kingfisher (Alcedo atthis)	11.7km to the west of road works 12.7km at its closest point from the windfarm site 2.2km from the Kilkenny 110kV substation site	Mobile

7.8. **Description of sites**

1. River Barrow & River Nore SAC, Site Code 002162:

7.8.1. This site consists of the freshwater stretches of the Barrow and Nore River catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford. The site includes larger tributaries which include the Dinin River which runs under the Black Bridge. The site is a Special Area of Conservation (SAC) selected for a number of habitats and/or species listed on Annex I / II of the E.U. Habitats Directive, which are detailed in the above table.

7.8.2. Other habitats which occur throughout the site include wet grassland, marsh, reedswamp, improved grassland, arable land, quarries, coniferous plantations, deciduous woodland, scrub and ponds. Seventeen Red Data Book plant species have been recorded within the site, most in the recent past. The site is very important for the presence of a number of E.U. Habitats Directive Annex II animal species including Freshwater Pearl Mussel (both Margaritifera margaritifera and M. m. durrovensis), White-clawed Crayfish, Salmon, Twaite Shad, three lamprey species – Sea Lamprey, Brook Lamprey and River Lamprey, the tiny whorl snail Vertigo moulinsiana and Otter. This is the only site in the world for the hard water form of the Freshwater Pearl Mussel, M. m. durrovensis, and one of only a handful of

spawning grounds in the country for Twaite Shad. The freshwater stretches of the River Nore main channel is a designated salmonid river.

7.8.3. The site supports many other important animal species. Those which are listed in the Irish Red Data Book include Daubenton's Bat, Badger, Irish Hare and Common Frog. Three rare invertebrates have been recorded in alluvial woodland at Murphy's of the River. These are: Neoascia obliqua (Order Diptera: Syrphidae), Tetanocera freyi (Order Diptera: Sciomyzidae) and Dictya umbrarum (Order Diptera: Sciomyzidae). The site is of ornithological importance for a number of E.U. Birds Directive Annex I species, including Greenland White-fronted Goose, Whooper Swan, Bewick's Swan, Bar-tailed Godwit, Peregrine and Kingfisher. Nationally important numbers of Golden Plover and Bar-tailed Godwit are found during the winter. Wintering flocks of migratory birds are seen in Shanahoe Marsh and the Curragh and Goul Marsh, both in Co. Laois, and also along the Barrow Estuary in Waterford Harbour.

7.8.4. Land use at the site consists mainly of agricultural activities – mostly intensive in nature and principally grazing and silage production. Slurry is spread over much of the area. Arable crops are also grown. The spreading of slurry and fertiliser poses a threat to the water quality of the salmonid river and to the populations of E.U. Habitats Directive Annex II animal species within the site. Fishing is a main tourist attraction along stretches of the main rivers and their tributaries and there are a number of Angler Associations, some with a number of beats. Other recreational activities such as boating, golfing and walking, particularly along the Barrow towpath, are also popular.

7.8.5. The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing within the woodland areas, and invasion by non-native species, for example Cherry Laurel (Prunus laurocerasus) and Rhododendron (Rhododendron ponticum). The water quality of the site remains vulnerable. Good quality water is necessary to maintain the populations of the Annex II animal species listed above. Overall, the site is of considerable conservation significance for the occurrence of good examples of habitats and of populations of plant and animal species that are listed on Annexes I and II of the E.U. Habitats Directive. Furthermore, it is of high conservation value for the populations of bird species that use it.

2. River Nore SPA, Site Code 004233:

7.8.6. The River Nore SPA is a long, linear site that includes the following river sections: the River Nore from the bridge at Townparks, (north-west of Borris in Ossory) to Coolnamuck (approximately 3 km south of Inistioge) in Co. Kilkenny; the Delour River from its junction with the River Nore to Derrynaseera bridge (west of Castletown) in Co. Laois; the Erkina River from its junction with the River Nore at Durrow Mills to Boston Bridge in Co. Laois; a 1.5 km stretch of the River Goul upstream of its junction with the Erkina River; the Kings River from its junction with the River Nore to a bridge at Mill Island, Co. Kilkenny. The site includes the river channel and marginal vegetation.

7.8.7. The site is a Special Protection Area (SPA) under the E.U. Birds Directive of special conservation interest for the Kingfisher and a survey in 2010 recorded 22 pairs of the species within the SPA. Other species known to occur in the SPA site include Mute Swan, Mallard, Cormorant, Grey Heron, Moorhen, Snipe and Sand Martin. The River Nore SPA is of high ornithological importance as it supports a nationally important population of Kingfisher, a species that is listed on Annex I of the E.U. Birds Directive.

7.9. **Conservation Objectives:**

7.9.1. The Conservation Objectives for the River Barrow & River Nore SAC and the River Nore SPA, notes that the overall aim of the habitats directive is to maintain or restore the favourable conservation status of habitats and species of community interest. Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable on increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

7.9.2. Detailed Conservation Objectives for the River Barrow and River Nore SAC (002162) are included in the NPWS Conservation Objectives Series for the site, dated 19th July 2011, with the overall objective being to maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been designated.

- To maintain the favourable conservation condition of Desmoulin's whorl snail, White-clawed crayfish, Estuaries, Mudflats and sandflats not covered by seawater at low tide, Salicornia and other annuals colonizing mud and sand, Killarney fern, Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation, European dry heaths, Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels and * Petrifying springs with tufa formation, in River Barrow and River Nore SAC (002162).
- To restore the favourable conservation condition of Sea lamprey, Brook lamprey, River lamprey, Twaite shad, Atlantic salmon, Atlantic salt meadows, Otter, Mediterranean salt meadows, Nore freshwater pearl mussel, Old sessile oak woods with Ilex and Blechnum in the British Isles and * Alluvial forests with Alnus glutinosa and Fraxinus excelsior in the River Barrow and River Nore SAC (002162).
- The status of the freshwater pearl mussel (Margaritifera margaritifera) as a qualifying Annex II species for the River Barrow and River Nore SAC is currently under review. The outcome of this review will determine whether a site-specific conservation objective is set for this species.

7.9.3. Conservation Objectives for the River Nore SPA (004233) are included in the NPWS Conservation Objectives Series for the site, dated 12th October 2022, with the overall objective being to maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA, ie the Kingfisher.

7.9.4. Having regard to the NPWS Conservation Objectives and associated maps for the SAC and SPA, together with the information presented in the NIS, there are a number of QI species which are noted to be sensitive to changes in water quality and which have the potential to be impacted by the proposed development. These QIs, together with their main Attributes and Targets are summarised as follows:

Site Name	Relevant QIs/SCIs	Attributes	Targets
River Barrow & River Nore SAC (002162)	***Freshwater Pearl Mussel***	Under review	
	White-clawed Crayfish - maintain the favourable conservation condition	Distribution	no reduction from baseline
		Population structure: recruitment	Juveniles and /or females with eggs in at least 50% of positive samples
		Negative indicator species	no alien crayfish species
		Disease	No instances
		Water quality	At least Q3-4 at all sites sampled by EPA
		Habitat quality: heterogeneity	No decline
	Sea, Brook & River Lamprey - restore the favourable conservation condition.	Distribution: extent of anadromy	Greater than 75% of main stem length of rivers accessible from estuary Access to all watercourses down to first order streams for Brook Lamprey
		Population structure of juveniles	At least three age/size groups present

		Juvenile density in fine sediment	Juvenile density at least 1/m² Mean catchment juvenile density of brook/river lamprey at least 2/m²
		Extent and distribution of spawning habitat	No decline in extent and distribution of spawning beds
		Availability of juvenile habitat	More than 50% of sample sites positive
	Atlantic Salmon - restore the favourable conservation condition	Distribution: extent of anadromy	100% of river channels down to second order accessible from estuary
		Adult spawning fish	Conservation Limit (CL) for each system consistently exceeded
		Salmon fry abundance	Maintain or exceed 0+ fry mean catchment-wide abundance threshold value. Currently set at 17 salmon fry/5 min sampling
		Out-migrating smolt abundance	No significant decline
		Number and distribution of redds	No decline in number and distribution of spawning redds due to anthropogenic causes
		Water quality	At least Q4 at all sites sampled by EPA
	Otter - restore the favourable	Distribution	No significant decline
		Extent of terrestrial habitat	No significant decline.
		Extent of marine habitat	No significant decline.
		Extent of freshwater (river) habitat	No significant decline.

	conservation condition	Extent of freshwater (lake) habitat	No significant decline.
		Couching sites and holts	No significant decline.
		Fish biomass available	No significant decline.
River Nore SPA (004223)	***Kingfisher***	None provided	None provide

7.10. **Potential Significant Effects**

7.10.1. The screening report presented in the NIS identified a number of QIs/SCIs associated with both identified Natura 2000 sites, that could be potentially affected by the proposed development. The details are presented in Tables 3 and 4 and include freshwater pearl mussel, White-clawed crayfish, all species of lamprey, Atlantic Salmon and Otter in terms of the River Barrow and River Nore SAC, and the Kingfisher in terms of the River Nore SPA. It is further noted that the proposed development is not required in terms of the maintenance of any European site. The significance of the potential effects was considered through the use of a number of key indicators as follows:

- Direct Habitat Loss
- Indirect Habitat Loss or Deterioration
- Disturbance / Displacement of Species

Where qualifying features of designated sites may be negatively affected by the proposed development, mitigation measures are proposed. In this regard the following is relevant:

Direct Habitat loss

7.10.2. Section 5.2 of the NIS sets out the potential impacts on QIs of the Natura 2000 sites, while Section 5.3 deals with direct habitat loss. In terms of direct impacts, the proposed development will not be located within any European site. As such, there are no direct impacts in terms of loss/reduction of habitat area during the construction, operational or decommissioning phases of the development.

Indirect Habitat Loss or Deterioration

7.10.3. There is potential for indirect effects on the noted European sites including a number of the QIs associated with the proposed development by reason of run-off or discharge into the water environment through increased siltation, nutrient release and/or contamination. The Board will note that there is a potential hydrological link to the SAC from the site via a number of watercourses and forestry drainage ditches. There are no Annex I habitats present within the project site, including the proposed grid connection route and haul routes, and no botanical species, protected under the Flora (Protection) Order 2022, identified in the Habitats Directive or listed as flora of conservation concern in Ireland were recorded on the site.

7.10.4. In terms of the construction phase, indirect effects relate to the risk of a deterioration in water quality. It is submitted that general enabling and construction works are likely to mobilise sediment and other contaminants through run-off while tree felling, excavations, creation of new access tracks and upgrading of existing tracks, construction of turbine hardstand areas, stream crossings and other hard surfaces are likely to increase run-off. In the absence of mitigation measures, the construction phase of the development could negatively impact on water quality downstream of the site. Indirect impacts causing loss or degradation of habitat in the construction phase of the development are noted in the NIS to potentially arise in terms of:

- Input of silt
- Input of nutrients
- Input of cement
- Input of hydrocarbons & other chemicals
- Hydromorphological changes
- Biosecurity
- Clear felling
- Earthworks
- Dewatering and pouring of concrete
- Chemical spillage
- Watercourse crossings – both windfarm and grid connection

7.10.5. In terms of the operational phase, the Board will note section 5.4.2 (the Board will note that it refers to Construction Phase in error and actually relates to the operational phase) of the NIS. It is submitted that the likely operational phase effects relate to turbine activity and to a lesser extent, the maintenance of the site infrastructure. There will be no removal of additional habitat during the operational phase and following the completion of the construction phase, the disturbed ground will recolonise. While maintenance of the site will include hydrocarbons and other chemicals, only small quantities will be present. The replacement of existing vegetated surfaces with hardstand areas may result in increased run-off during rainfall / storm events, with effects including sedimentation of instream habitats through increased erosion rates. While the likelihood of indirect impacts during the operational phase are considerably lower than during the construction phase, there remains a requirement to manage the potential risks to surface waters, which will include the use of swales and check dams. The NIS concludes that there is a likelihood of significant adverse effects on aquatic ecosystems and species arising in the absence of adequate monitoring and mitigation.

7.10.6. During the decommissioning phase, the impacts are likely to be similar, although less pronounced both spatially and temporarily, than those associated with the construction phase. Potential impacts relate to sediment run-off of sediment and potential pollutants into watercourses, as well as increased disturbance associated with the movement of machinery and personnel. There is also the potential to increase the risk of the spread of invasive plant species.

Disturbance / Displacement of Species

7.10.7. The construction of the windfarm will involve movement of plant and machinery as well as personnel. The Kingfisher is the only SCI of the River Nore SPA, located approximately 11km from the development site. There was no presence of this species recorded in the vicinity of the proposed windfarm site and the Coolcullen and Knocknabranagh and Knockbaun streams do not provide suitable breeding sites for the species. The QIs for the River Barrow and River Nore SAC are primarily aquatic invertebrates or fish species which are not considered to be susceptible to typical sources of disturbance/displacement associated with the proposed construction phase. Otter, however, are highly mobile and given the presence of watercourses on the proposed site and along the haulage and grid connection routes, it is accepted

that Otter are likely to occur in the vicinity of the site, although there were no recordings or signs of the species noted during the surveys. It is concluded that in the absence of mitigation measures, there is potential for disturbance/displacement of this species.

7.10.8. In terms of the operational phase of the development, no disturbance or displacement impacts on Otter, or any other QIs or SCIs, are predicted. No impact, in terms of collision mortality is considered likely with regard to the Kingfisher.

7.10.9. The decommissioning phase of the development will likely give rise to disturbance and displacement effects on Otter who are present in the locality. I note that the NIS assumes that the proposed stream crossings to be constructed to facilitate the proposed windfarm will be left in situ, while works to remove the above ground structures will involve a potential temporary and localised increase in disturbance.

7.11. **Cumulative and In Combination effects**

7.11.1. Section 5.6 of the submitted NIS deals with cumulative and in-combination effects associated with the proposed development and presents details of other plans and projects in the vicinity of the subject site where were considered in terms of the cumulative effects on the environment. The applicant undertook a comprehensive search in a number of data sources and the results are presented in Table 7 of the NIS. The NIS notes that the many consents for one-off housing in the vicinity of the site are not likely to give rise to potential significant in-combination or cumulative effects.

7.11.2. Projects in the wider area which include other windfarms are noted as being relevant in terms of the assessment of cumulative effects during the construction and operational phases of the proposed development. Effects on bird species, through cumulative loss of habitat, displacement effects, collision mortality and barrier impacts, in addition to the cumulative effects on surface water quality are highlighted and have been assessed as part of the NIS. The NIS identifies 7 windfarms in a 20km radius, including those currently proposed/in planning, permitted but not yet constructed and operational. Potential cumulative/in-combination effects relate to the loss of forestry plantations (primarily commercial conifer), impact to QI species due to surface water run-off in terms of hydrological and water quality impacts such as increased siltation, nutrient release and contaminated run-off during the construction

phase. During the operational phase, cumulative effects relate to disturbance/displacement of species due to increased numbers of turbines in the local area. The NIS concludes however, given the small number of operational, permitted and proposed turbines in the area, together with the fairly dispersed nature of the developments, and subject to the implementation of mitigation measures, there is no likelihood of a cumulative disturbance/displacement or barrier effect on birds.

7.12. **Mitigation measures**

7.12.1. Section 6 of the NIS sets out the relevant mitigation measures proposed to avoid the potential for any direct or indirect impacts to the QIs/SCIs habitats and species identified as being at risk. It is noted that the project team employed a constraints led design approach to the windfarm in terms of site layout and the siting of the turbines and associated infrastructure. The measures proposed are chiefly related to the environmental controls on works near watercourses and measures to minimise the risk of run-off to watercourses hydrologically connected to downstream Natura 2000 sites. The measures proposed are provided in full in Annex 3 of the NIS and include as follows:

- Construction Phase:
    - Surface Water Management System which will include provisions for the management of silt, nutrient, cement, hydrocarbons and other chemicals inputs, as well as a Water Quality Monitoring Plan.
    - All in-stream works will be carried out in July to September – to avoid salmon spawning season.
    - Directional drilling will be carried out outside 20m from each watercourse.
    - A sealed silt fence will be located at both sides of the bridge crossing point and to a minimum of 10m upstream and downstream of each crossing.
    - Timing of works will exclude periods of heavy rainfall.
    - Plant will be checked for purpose of use.
    - Buffer zones will be maintained.

- Section 50 Licence applications will be made where necessary.
- Management of drainage plans during felling including blocking, provision of sediment traps and stacking of timber.
- Preparation and Implementation of an Invasive Species Management Plan.
- Implementation of a Biosecurity Plan.
- Pre-commencement surveys to be carried out with regard to all watercourse crossings to identify any resting or breeding sites of protected species such as Otter and Kingfisher.
- Works will be supervised by Project Ecologist
- The works will take place during daylight hours to minimise disturbance to nocturnal species.
- Lighting system will be designed to minimise nuisance through light spillage.
- Waste management plan will be in place.
- All sightings of mammals on-site will be logged in a wildlife register and will include any fatalities recorded during the construction phase.

- Operational Phase:
  - Surface water management plan will retain infiltration interceptor drains to ensure clean water run-off up-slope from the site is directed away from infrastructure.
  - Swales and check dams, roadside drains and settlement ponds will be retained.
  - With regard to oils and fuels, any storage will be bunded. The turbine transformers will be housed internally and any leaks will be fully contained.
  - Maintenance vehicles will be inspected regularly.
  - An Emergency Plan will be contained within an Operational-Phase Management Plan and spill kits will be available.

- Decommissioning Phase:
    - A decommissioning plan will be prepared in advance of works and will include all appropriate surface water and spoil management commitments provided in the CEMP and SWMP, updated to conform to relevant legislation and guidance at the time.

7.13. **Residual effects**

The NIS submitted in support of the proposed development concludes that subject to the implementation in full of the mitigation measures indicated, no significant impacts on the key species and habitats associated with the Natura 2000 sites will occur. There is no pathway for significant impacts on the integrity of the Natura 2000 sites as a result of the project identified.

7.14. **NIS Omissions**

None noted.

7.15. **Suggested conditions**

7.15.1. Should the Board be minded to approve the proposed works, I consider that the Project Ecological Clerk-of-Works and the Licenced Ecologist who will be present during the course of the proposed construction phase of the development should have power to cease operations in the event of incident which has potential to impact on the habitats and/or species of the SAC/SPA.

7.15.2. In addition, compliance with IFI “Guidelines on protection of fisheries during construction works in and adjacent to waters” should be required. All plant and machinery used during the works should be thoroughly cleaned and washed before delivery to the site to prevent the spread of hazardous invasive species and pathogens.

7.16. **Conclusion:**

7.16.1. I am satisfied that the proposed development individually or in combination with other plans or projects would not adversely affect the integrity of the European sites identified in light of their conservation objectives, and subject to the implementation of mitigation measures outlined above.

7.16.2. I concur with the conclusions reached in the NIS that the proposed windfarm development (incl. cable connections and hauls routes) will have no significant adverse effects (direct, indirect or in-combination) on the Conservation Objectives, Qualifying Interests or Special Conservation Interests for the River Barrow and River Nore SAC (Site code: 002162), River Nore SPA (Site code 004233), or for any other European Site.

7.17. **Appropriate Assessment Conclusions**

7.17.1. In the interests of protecting the conservation objectives of the European Sites, mitigation measures are proposed in section 6 of the submitted NIS as part of the proposed development. Mitigation measures are proposed for both the construction and operational phases of the wind farm development and on implementation, it is submitted that there are no likely residual negative impacts on the identified Natura 2000 sites. It is concluded that the proposed development will not have a significant adverse effect on the integrity of the Natura 2000 Network.

7.17.2. Having regard to the nature of the subject development site, the nature of the proposed development and its location within the rural area, together with the details presented in the Environmental Impact Assessment Report and Natura Impact Statement, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, I consider it reasonable to conclude on the basis of the information on the file, that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the following Natura 2000 sites, or any other European site, in view of the sites Conservation Objectives:

- River Barrow and River Nore SAC (Site Code: 002162)
- River Nore SPA (Site Code: 004233)

8.0 Recommendation

Arising from my assessment of this case, I recommend that the Board **grant** planning permission for the proposed development subject to the reasons and considerations below, subject to the attached conditions and in accordance with the following Draft Order.

Reasons and Considerations

In coming to its decision, the Board had regard to the following:

(a) Project Ireland 2040 – the National Planning Framework,

(b) The Government of Ireland Climate Action Plan 2021,

(c) The Regional Spatial and Economic Strategy for the Southern Region, 2020

(d) The provisions of the Wind Energy Development Guidelines – Guidelines for Planning Authorities issued by the Department of the Environment, Heritage and Local Government in June 2006, and Draft Amendments 2019

(e) The policies of the Planning Authority as set out in the Carlow County Development Plan 2022-2028 including the Wind Energy Strategy for County Carlow,

(f) The policies of the Planning Authority as set out in the Kilkenny County Development Plan 2021-2027,

(g) The character of the landscape in the area and of the general vicinity,

(h) The distance to dwellings and other sensitive receptors from the proposed development,

(i) the likely consequences for the environment and the proper planning and sustainable development of the area in which it is proposed to carry out the proposed development and the likely significant effects of the proposed development on a European Site,

(j) the submissions and observations received in relation to the proposed development,

(k) The Environmental Impact Assessment Report submitted,

(l) The revised Natura Impact Statement submitted, and

(m) the report and recommendation of the person appointed by the Board to make a report and recommendation on the matter.

Appropriate Assessment:

The Board considered the Screening Report for Appropriate Assessment, the Natura Impact Statement and all other relevant submissions and carried out an appropriate assessment screening exercise and an appropriate assessment in relation to the potential effects of the proposed development on the following designated European Sites:

- River Barrow and River Nore SAC (Site Code: 002162)
- River Nore SPA (Site Code: 004233)

The Board considered that the information before it was adequate to allow the carrying out of an Appropriate Assessment. In completing the AA, the Board considered, in particular, the following:

i. the likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects,

ii. the mitigation measures which are included as part of the current proposal, and

iii. the conservation objectives for the European Sites.

The Board noted that the proposed development is not directly connected with or necessary for the management of a European Site and considered the nature, scale and location of the proposed development, as well as the report of the Inspector.

In completing the appropriate assessment, the Board adopted the report of the Inspector and concluded that, by itself or in-combination with other plans and projects in the vicinity, the proposed development would not be likely to have an adverse effect on any European site in view of the sites' conservation objectives and there is no reasonable significant doubt as to the absence of such effects.

Environmental Impact Assessment:

The Board completed an environmental impact assessment of the proposed development taking account of:

(a) the nature, scale, location and extent of the proposed development on the site,

(b) the Environmental Impact Assessment Report (EIAR) and associated documentation submitted in support of the application,

(c) the submissions received the prescribed bodies and observers, and

(d) the Inspector's report.

The Board considered that the environmental impact assessment report, supported by the documentation submitted by the applicant, adequately considers alternatives to the proposed development and identifies and describes adequately the direct, indirect, secondary and cumulative effects of the proposed development on the environment. The Board agreed with the examination, set out in the Inspector's report, of the information contained in the environmental impact assessment report and associated documentation submitted by the applicant and submissions made in the course of the application.

Reasoned Conclusion on the Significant Effects:

The Board considered that the main significant direct and indirect effects of the proposed development on the environment are, and would be mitigated, as follows:

- Positive environmental impacts would arise during the operational phase from the generation of renewable energy.
- The impacts on residential amenity during the construction and operational phases would be avoided by the implementation of the measures set out in the Environmental Impact Assessment Report (EIAR) and associated Construction and Environment Management Plan (CEMP) which include specific provisions relating to the control and management of dust, noise, water quality, traffic movement, noise monitoring and turbine pre-

programming, as well as a mitigation strategy to control the level of daily shadow flicker experienced at affected dwellings.

- The impacts on biodiversity during the construction phase include disturbance to birds and bats with potential for collision risk during the operational phase. Changes to water quality potentially impact aquatic habitats and species due to run-off and sedimentation of watercourses. Impacts will be mitigated by the implementation of the measures set out in the Environmental Impact Assessment Report (EIAR) and associated Construction and Environment Management Plan (CEMP) which include specific provisions relating to the control and management of water quality, avoidance of wetland areas and habitat management measures, pre-construction mammal surveys, bat protection measures and the appointment of an Ecological Clerk of Works as well as post construction monitoring.
- Roads and traffic impacts associated with the construction phase will be mitigated through agreement with TII for works on the national road network and the preparation of a Construction Traffic Management Plan which will be agreed with the local authorities prior to the commencement of development.
- The risk of pollution of ground and surface waters during the construction phase which would be mitigated by the implementation of measures set out in the Environmental Impact Assessment Report (EIAR) and associated Construction and Environment Management Plan (CEMP) which include specific provisions relating to groundwater, surface water and drainage.
- Visual and landscape impacts would arise during the operational phase of the development due to the presence of the turbines and associated infrastructure into the upland area. The site is located within an area which has been identified as having a moderate capacity to absorb a development of this nature and scale in landscape and visual terms. The location of the site and the existing topography and landscape features provide a level of assimilation of the development into the landscape.
- The impact on cultural heritage would be mitigated by an architectural impact assessment for the works to Black Bridge, Protected Structure and Crettyard Bridge, both of which are included in the NIAH, and archaeological monitoring

with provision made for resolution of any archaeological features or deposits that may be identified.

The Board completed an environmental impact assessment in relation to the proposed amendments to the permitted development and concluded that, subject to the implementation of the mitigation measures proposed, and subject to compliance with the conditions set out below, the effects of the proposed amendments to the permitted development on the environment, by itself and in combination with other plans and projects in the vicinity, would be acceptable. In doing so, the Board adopted the report and conclusions of the Inspector.

The Board is satisfied that this reasoned conclusion is up to date at the time of taking the decision.

Proper Planning and Sustainable Development:

It is considered that, subject to compliance with the conditions set out below, the proposed development would be in accordance with the National Planning Framework, the Regional Spatial and Economic Strategy for the Southern Region, 2020, the provisions of the Carlow County Development Plan 2022 – 2028, the Kilkenny County Development Plan 2021-2027, and other related policies and guidelines, would not have an unacceptable impact on the landscape, the biodiversity of the area, the residential amenities of the area, would not adversely affect the archaeological or natural heritage of the area and would be acceptable in terms of traffic safety and convenience. The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application, including further information received by the Board on the 18th of August 2023, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior

to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

Reason: In the interest of clarity.

2. This permission shall not be construed as any form of consent or agreement to a connection to the national grid or to the routing or nature of any such connection.

Reason: In the interest of clarity.

3. The period during which the development hereby permitted is constructed shall be 10 years from the date of this Order.

Reason: In the interests of clarity.

4. This permission shall be for a period of 35 years from the date of the first commissioning of the wind farm.

Reason: To enable the planning authority to review its operation in the light of the circumstances then prevailing.

5. The following design requirements shall be complied with:

(a) The wind turbines shall be constructed to the following fixed dimensions:

- Tip height of 185 metres,
- Hub height of 104 metres,
- Rotor diameter of 162 metres.

(b) The wind turbines including masts and blades shall be finished externally in a colour to be agreed with the planning authority prior to the commencement of development.

(c) Cables within the site shall be laid underground.

(d) The wind turbines shall be geared to ensure that the blades rotate in the same direction.

(e) No advertising material shall be placed on or otherwise be affixed to any structure on the site without a prior grant of planning permission.

Reason: In the interest of visual amenity.

6. The developer shall ensure that all construction methods and environmental mitigation measures set out in the Environmental Impact Assessment Report, Natura Impact Statement and associated documentation are implemented in full, save as may be required by conditions set out below.

Reason: In the interest of protection of the environment.

7. The developer shall ensure that all soil and water quality related mitigation measures are implemented in full and monitored throughout the life cycle of the construction works and monitored throughout the operational phase, and that rock extraction within the on-site borrow pits does not extend below winter water table levels.

Reason: In the interest of protection of the environment.

8. The operation of the proposed development, by itself or in combination with any other permitted wind energy development, shall not result in noise levels, when measured externally at nearby noise sensitive locations, which exceed:

(a) Between the hours of 7am and 11pm:

i. the greater of 5 dB(A) $L_{90,10min}$ above background noise levels, or 45 dB(A) $L_{90,10min}$, at wind speeds of 5m/s or greater

ii. 40 dB(A) $L_{90,10min}$ at all other wind speeds

(b) 43 dB(A) $L_{90,10min}$ at all other times

where wind speeds are measured at 10m above ground level.

Prior to commencement of development, the developer shall submit to and agree in writing with the planning authority a noise compliance monitoring programme for the subject development, including any mitigation measures such as the de-rating of particular turbines. All noise measurements shall be carried out in accordance with ISO Recommendation R 1996 “Assessment of

Noise with Respect to Community Response," as amended by ISO Recommendations R 1996-1. The results of the initial noise compliance monitoring shall be submitted to, and agreed in writing with, the planning authority within six months of commissioning of the wind farm.

Reason: In the interest of residential amenity.

9. The following shadow flicker requirements shall be complied with:

(a) Cumulative shadow flicker arising from the proposed development shall not exceed 30 minutes in any day or 30 hours in any year at any dwelling.
(b) The proposed turbines shall be fitted with appropriate equipment and software to control shadow flicker at dwellings.
(c) Prior to commencement of construction, a wind farm shadow flicker monitoring programme shall be prepared by a consultant with experience of similar monitoring work, in accordance with details to be submitted to the planning authority for written agreement. Details of monitoring programme shall include the proposed monitoring equipment and methodology to be used, and the reporting schedule.
Reason: In the interest of residential amenity.

10. Interpretive panels shall be provided in the Recreational Area to offer information on the natural history and cultural heritage of the area, and renewable energy and climate change. The panels shall require visitors keep their dogs on a lease in the Recreational Area and along the walking trails.

Reason: To enhance the amenities of the area and to protect wildlife.

11. Mitigation measures detailed to prevent interference with telecommunications or broadcast signals, shall be implemented to minimise interference with said signals in the area. Details of these measures, which shall be at the developer's expense, shall be submitted to, and agreed in writing with, the planning authority prior to commissioning of the turbines and following consultation with the relevant authorities and / or providers. All measures

known to be required in the first instance shall be completed prior to the erection of the turbines at the site.

Reason: In the interest of protecting telecommunications and broadcasting signals and of residential amenity.

12. Details of aeronautical requirements shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. Prior to commissioning of the turbines, the developer shall inform the planning authority and the Irish Aviation Authority of the as constructed tip heights and co-ordinates of the turbines and wind monitoring masts.

Reason: In the interest of air traffic safety.

13. Prior to commencement of development, a transport management plan for the construction stage shall be submitted to, and agreed in writing with, the planning authority. The traffic management plan shall incorporate details of the road network to be used by construction traffic, including over-sized loads, and detailed arrangements for the protection of roads, bridges, culverts or other structures to be traversed, as may be required. The plan should also contain details of how the developer intends to engage with and notify the local community in advance of the delivery of oversized loads. Any works, including reinstatement works, to existing junctions on the national road network shall comply with Transport Infrastructure Ireland (TII) standards as outlined in TII Publications and shall be subject to Road Safety Audit as appropriate.

Reason: In the interest of traffic safety and the proper planning and sustainable development of the area.

14. A suitably qualified Project Ecological Clerk-of-Works and Licenced Ecologist shall be retained by the developer to undertake pre-construction surveys at the various project elements, including any river crossings, immediately prior to commencing work in order to check for the presence of protected species

in the vicinity (incl. badgers, otters, nesting birds, bats & common lizard). The mitigation measures contained in Annex 1.10 of Volume II of the submitted EIAR shall be implemented in their entirety. The ecologist shall be present during site construction works. Upon completion of works, an ecological report of the site works shall be prepared by the appointed ecologist to be kept on file as part of the public record. Where necessary, the project ecologist shall have 'Cease Works' powers.

Reason: In the interest of nature conservation and the protection of ecology and wildlife in the area.

15. The developer shall prepare an Invasive Species Management Plan for the written agreement of the planning authority and all plant and machinery used during the works should be thoroughly cleaned and washed before delivery to the site to prevent the spread of hazardous invasive species and pathogens.

Reason: In the interest of the proper planning and sustainable development of the area.

16. All works shall be carried out to Black Bridge, Protected Structure or Crettyard Bridge shall be carried out under the supervision of a qualified professional with specialised conservation expertise and in accordance with best conservation practice as detailed in "Architectural Heritage Protection: Guidelines for Planning Authorities" issued by the Department of the Environment, Heritage and Local Government in 2011. An Architectural Impact Assessment shall be submitted for the written agreement of the Planning Authority prior to the commencement of any works.

Reason: To ensure that the character and integrity of the protected structure and NIAH listed structures is maintained and protected from unnecessary damage and loss of fabric.

17. The developer shall facilitate the archaeological appraisal of the site, including the replacement lands, and shall provide for the preservation, recording and

protection of archaeological materials or features which may exist within the site. In this regard, the developer shall:

(i) notify the relevant Planning Authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development, and

(ii) employ a suitably-qualified archaeologist prior to the commencement of development. The archaeologist shall assess the site and monitor all site development works. The assessment shall address the following issues:

(a) the nature and location of archaeological material on the site, and

(b) the impact of the proposed development on such archaeological material.

A report, containing the results of the assessment, shall be submitted to the Planning Authority and, arising from this assessment, the developer shall agree in writing with the Planning Authority details regarding any further archaeological requirements (including, if necessary, archaeological excavation) prior to commencement of construction works. In default of agreement on any of these requirements, the matter shall be referred to An Bord Pleanála for determination.

Reason: In order to conserve the archaeological heritage of the area and to secure the preservation (in-situ or by record) and protection of any archaeological remains that may exist within the site.

18. Prior to the commencement of development, the community gain proposals shall be submitted to and agreed in writing with the Planning Authority.

Reason: In the interest of the proper planning and sustainable development of the area.

19. On full or partial decommissioning of the windfarm, or if the windfarm ceases operation for a period of more than one year, the turbines concerned and all decommissioned structures shall be removed, and foundations covered with soil to facilitate re-vegetation. These reinstatement works shall be completed to the written satisfaction of the relevant Planning Authority within three months of decommissioning or cessation of operation.

Reason: To ensure satisfactory reinstatement of the site upon cessation of the project.

20. Prior to commencement of development, the developer shall lodge with the Planning Authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the relevant Planning Authority, to secure the reinstatement of public roads which may be damaged by the transport of materials to the site, coupled with an agreement empowering the relevant Planning Authority to apply such security or part thereof to the satisfactory reinstatement of the public road. The form and amount of the security shall be as agreed between the relevant Planning Authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: To ensure the satisfactory reinstatement of the delivery route.

21. Prior to commencement of development, the developer shall lodge with the relevant Planning Authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the relevant Planning Authority, to secure the satisfactory reinstatement of the site upon cessation of the project, coupled with an agreement empowering the relevant Planning Authority to apply such security or part thereof to such reinstatement. The form and amount of the security shall be as agreed between the relevant Planning Authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: To ensure the satisfactory reinstatement of the site.

22. The developer shall pay to both Carlow and Kilkenny County Councils a pro rata financial contribution in respect of public infrastructure and facilities benefiting development in the area of both Planning Authorities that is provided or intended to be provided by or on behalf of each authority in accordance with the terms of the Development Contribution Schemes made under section 48 of the Planning and Development Act 2000. The contribution shall be paid prior to the commencement of development or in such phased payments as each Planning Authority may facilitate and shall be subject to any applicable indexation provisions of the Schemes at the time of payment. Details of the application of the terms of the Schemes shall be agreed between each Planning Authority and the developer or, in default of such agreement, the matter shall be referred to the Board to determine the proper application of the terms of the Schemes.

Reason: It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.

I confirm that this report represents my professional planning assessment, judgement and opinion on the matter assigned to me and that no person has influenced or sought to influence, directly or indirectly, the exercise of my professional judgement in an improper or inappropriate way.

A. Considine
Planning Inspector
30th September 2023