An Bord Pleanála

Inspector's Report

ABP-316051-23

Development	Renewable energy development comprising 9 no. wind turbines and associated infrastructure.
Location	Umma More and adjacent townlands, Co. Westmeath.
Planning Authority	Westmeath County Council
Applicant(s)	Umma More Limited
Type of Application	Strategic Infrastructure (Section 37E)
Prescribed Bodies	1. Department of Housing Local Government and Heritage 2. Office of Public Works 3. Transport Infrastructure Ireland 4. Westmeath County Council 5. Offaly County Council
Third Party Observers	1. Tom and Christine Moran 2. Eileen Cunningham

3. Marie Mahon
4. Brendan and Marie McLoughlin
5. Colm Geraghty and Suzanne Carter
6. Avril McLoughlin
7. Jonathon and Jess Hughes
8. Dr. Niall Colgan
9. Denise and Patrick Martin
10. Claire and Martin Convey
11. Dr. John Cunningham
12. Ciaran McLoughlin
13. Peter Carvill
14. Stephen Martin
15. Dr. Helen O'Donnell
16. Cllr. Vincent McCormack
17. Conor Spollen and Bronagh Coughlan
18. Ingrid and Anthony Dowd
19. Frances P. Cunningham
20. Stephen and Lorraine Rooney
21. Peter and Francis Cunningham
22. Theresa Meares
23. Anthony and Ciara Martin
24. Shane Lynam
25. John Reid and Dara Reid and Others
26. Elizabeth Bracken
27. Gerard Byrne

28. Moyvoughley Turbine Awareness Group
29. Gerard Murtagh
30. Professor Alun Evans
31. Dominic and Mary Ledwith
32. Cllr Andrew Duncan
33. Joseph Sherwin
34. Cyril Donohoe
35. Peter Thomas Cunningham
36. Gabriel and Mairead Seery
37. David Clarke
38. Aisling O'Rourke
39. Angela Clarke
40. Ballymore Community Childcare Facility Ltd.
41. Patrick and Cora Browne
42. Pat Buckley
43. Kenn and Anne O'Rourke
44. Sinead Blighe
45. Grainne O'Rourke
46. Nora Fagan
47. Katie O'Rourke
48. Tracey Cuffe and Jason Nugent
49. Susan and John Carroll
50. Nuala Farrington
51. Danny Sheerin
52. Aengus O'Rourke

Date of Site Inspection	21st September 2023

Inspector	Una O'Neill

Contents

1.0 Introduction

1.1. This is an application made by Umma More Ltd. for strategic infrastructure under section 37E of the Planning and Development Act, 2000, as amended. The application is made pursuant to formal notice issued by the Board dated 16th August 2022, where it determined under section 37B(4)(a) of the Planning and Development Act, as amended, that the proposed development falls within the scope of paragraphs 37A(2)(a), (b) and (c), requiring that the application be made directly to the Board.

2.0 Site Location and Description

2.1. The subject site is located in the townland of Umma More, and adjacent townlands, in Co. Westmeath, c. 2km southwest of the settlement of Ballymore, c. 7km north of Moate and c. 12km east of Athlone. The wider area comprises mainly rural dwellings and agricultural lands, with some commercial forestry and quarrying.

2.2. The site itself, which has a stated area of c. 337.8 ha, comprises greenfield agricultural lands, with an area of coniferous forestry to the southwest. There are a number of trees and hedgerows subdividing the lands across the site. The site is undulating, with a series of small hills, ranging from 55mAOD to 98mAOD. The highest part of the site is to the northwest.

2.3. There is an existing vehicular access to the lands off the L5363 to the northwest and individual farm accesses also along local roads. The Dungolman River bisects the southern section of the site and flows along the eastern boundary of the northwestern portion of the site.

3.0 Proposed Development

3.1. The proposed development is for a ten-year permission comprising the following:

- 9 No. wind turbines with an overall ground-to-blade tip height of 185 metres; a rotor blade diameter of 162 metres; and hub height of 104 metres, and associated foundations and hard-standing areas;

- A thirty-year operational life from the date of full commissioning of the wind farm and subsequent decommissioning;
- A meteorological mast with a height of 30 metres, and associated foundation and hard-standing area;
- Junction accommodation works and temporary access roads to facilitate turbine delivery to an existing entrance on L5365;
- Upgrade of existing entrance on L5363 for provision of site entrance;
- Upgrade of existing tracks/roads and provision of new site access roads, junctions and hardstand areas;
- All underground electrical (33kV) and communication cabling;
- A temporary construction compound in the northern section of the wind farm site, proximate to turbine 1;
- Spoil Management;
- Site Drainage;
- Tree Felling;
- Operational stage site signage; and
- All ancillary works and apparatus.

3.2. An Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS) accompanies the application.

3.3. While the exact model of turbine will be determined post permission as part of a tendering process, the proposed dimensions are given, each with an output capacity of 6.2 MW. The overall generating capacity is stated to be approximately 55.8 MW megawatts (MW).

3.4. Table 3.1 of the NIS indicates the proposed top of the foundation level proposed for each turbine, with T1-T4 being 56mOD; T5 is indicated will be 58mOD; T6 is 60mOD; and T7 is 58mOD. T8 is stated will be 69mOD and T9 is indicated to be 70mOD.

3.5. It is proposed to upgrade approximately 1.1 km of existing site roads and tracks, and to construct approximately 7.4 km of new access road on the development site, to a

width of approx. 5m. It is proposed to construct passing bays along the proposed access road network, approx. 5m wide and 40m in length.

3.6. The Grid Connection will be subject to a separate planning application, which will comprise a 110kV on-site substation compound (2 no. control buildings with welfare facilities, all associated electrical plant and apparatus, security fencing, underground cabling, waste water holding tank, site drainage and all ancillary works), a temporary construction compound and approximately 31km of underground 110kV electrical cabling connecting the proposed on-site substation to the existing Thornsberry 110kV substation, near Tullamore, Co. Offaly. The Grid Connection has been assessed as part of the EIAR lodged.

4.0 Planning History

ABP-313352-22 – Pre-application consultation with ABP in relation to proposed development of a wind farm of 9 turbines and all associated infrastructure, including proposal for connection cabling to the existing Thornsberry 110kV substation in County Offaly, approx. 29km south of the proposed wind farm.

The Board decided that the proposed development is considered to be of strategic importance by reference to the requirements of sections 37A(2)(a), (b), and (c) Planning and Development Act 2000 as amended and an application must therefore be made directly to ABP under Section 37E of the Planning and Development Act 2000 (as amended).

5.0 Planning Context

5.1. European Directives and Policies

- EU Renewable Energy Directive 2009/28/EC
- European 2020 Strategy for Growth
- 2030 Climate and Energy Framework
- Energy Roadmap 2050

- Revised Renewable Energy Directive (RED II) 2018/2001/EU
- European Green Deal (2019)

The **Fit for 55** package (July 21) – This is a set of proposals to revise and update EU legislation and put in place initiatives which are in line with the agreed climate goals. This will include boosting the share of renewable energy by 2030 and will involve a revision of the **Renewable Energy Directive** resulting in an increased target of 40% of all energy being used in the EU to come from renewable sources by 2030 (an increase from the current target of 32% by 2030).

European Green Deal was a key communication of the Commission in December 2019 which set out a new strategy for growth which decoupled economic growth from resource use and aimed to transform the Union into a fair, prosperous, efficient and competitive economy with no net emissions of greenhouse gases in 2050.

Revised EU Renewable Energy Directive (RED II) 2018/2001/EU

- Introduces a new approach to calculating greenhouse gas reduction targets taking into account potential impacts of indirect land use change in relation to biofuels, bioliquids and biomass fuels.
- The overall EU target for Renewable Energy Sources consumption by 2030 has been raised to 32%.
- Member States must require fuel suppliers to supply a minimum of 14% of the energy consumed in road and rail transport by 2030 as renewable energy.
- The RED II defines a series of sustainability and GHG emission criteria that bioliquids used in transport must comply with to be counted towards the overall 14% target and to be eligible for financial support by public authorities.

EU Renewable Energy Directive (RED I) 2009/28/EC

- Article 4 requires each member state to produce a national renewable energy plan to achieve an overall reduction in greenhouse gas (ghg) emissions of 20%, a 20% increase in energy efficiency and 20% of energy consumption across the EU to come from renewable energy by 2020.

- Member States are to achieve their individual binding target across the heat, transport and electricity sectors, apart from a sub-target of a minimum of 10% in the transport sector that applies to all Member States.

- Ireland's overall target is to achieve 16% of energy from renewable sources by 2020. Ireland has set a non-legally binding target of 40% of renewable energy by 2020 (from a 2012 position of 19.6%).

5.2. National Policy

The following is a list of National Policies and Guidelines of relevance, with a summary of the more salient provided.

- Climate Action and Low Carbon Development Act 2015
- Project Ireland 2040: The National Planning Framework
- Project Ireland 2040: National Development Plan 2018-2027
- Climate Action Plan 2023
- Climate Action and Low Carbon Development (Amendment) Art 2021
- Department of Environment Heritage and Local Government Planning Guidelines for Wind Energy (June 2006)
- Draft Revised Wind Energy Guidelines (Published for Consultation on 12th December 2019)
- National Landscape Strategy for Ireland 2015-2025 (DAHG)
- Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement issued by the Department of Communications, Climate Action and Environment (December 2016).

Project Ireland 2040 – National Planning Framework (NPF)

- The NPF sets out the future growth and development of the Country for the period up to 2040. National Strategic Outcome (NSO) 8 is for the 'Transition to a Low Carbon and Climate Resilient Society' and includes the following:

- ‘The development of onshore and offshore renewable energy is critically dependent on the development of enabling infrastructure including grid facilities to bring the energy ashore and connect to major sources of energy demand. We also need to ensure more geographically focused renewables investment to minimise the amount of additional grid investment required, for example through co-location of renewables and grid connections’.
- National Policy Objective 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’.

Climate Action Plan 2023

- Outlines the actions required to 2035 and beyond. It implements the carbon budgets and sectoral emission ceilings and sets a roadmap for halving emissions by 2030 and reaching net zero by no later than 2050.
- A key provision is the further increase in the deployment of renewable energy with the target of increasing the proportion of renewable electricity to 80% by 2030. This will include a target of 9GW from onshore wind energy by 2030.
- With respect to the matter of just transition and carbon storage the Climate Action Plan 2023 builds on Climate Action Plan 2021 which included better management of peatlands as part of the measures to reduce GHG emissions. The latter in turn took up the themes set out in the National Peatlands Strategy, 2015.

Wind Energy Development Guidelines (WEDGs) for Planning Authorities (2006)

These guidelines constitute the official strategy guidance on wind farms under the provision of Section 28 of the Planning and Development Act 2000 (as amended).

The following sections of the Guidelines are considered to be of particular relevance:

- Section 5.6 - noise impacts should be assessed by reference to the nature and character of noise sensitive locations. In terms of noise, a lower fixed rate limit of 45 dB(A) or a maximum increase at 5 dB(A) above background noise at nearby noise sensitive locations is considered to be appropriate to provide

protection to wind energy neighbours. However, in very quiet areas the use of a margin of 5dB(A) above the background noise level at nearby noise sensitive properties may unduly restrict wind energy developments which have wider national and global benefits.

- In low noise environments where the background noise is less than 30dB(A) it is recommended that the daytime level of $LA_{90, 10min}$ of the Wind Energy Development Noise be limited to an absolute level with the range of 35 to 40 dB(A). Separate noise limits should apply for daytime and for night-time. A fixed limit of 43dB(A) will protect sleep inside properties during the night.
- In general, noise is unlikely to be a significant problem where the distance from the nearest noise sensitive property is more than 500m.
- Section 5.12 - careful site selection, design and planning and good use of relevant software can help to reduce the possibility of shadow flicker in the first instance. Shadow flicker at neighbouring offices and dwellings within 500m should not exceed 30 hours per year or 30 minutes per day. The potential for shadow flicker is very low at distances greater than 10 rotor diameters from a turbine.
- Chapter 6 - aesthetic considerations in siting and design. Regard should be had to profile, numbers, spacing, visual impact and the landscape character. Account should be taken of inter-visibility of sites and the cumulative impact of developments.
- Appendix 4 provides details in relation to best practice for wind farm development on peatlands and flatland areas.

Draft Wind Energy Development Guidelines (DWEDG) 2019

Section 4.9 - sets out general separation distance to ensure the appropriate siting of wind farms.

Section 5.7.4 – Noise. The preferred draft approach proposes noise restriction limits consistent with World Health Organisation 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.

Section 5.8.1 – Shadow Flicker. Provision of evidence as part of the planning application that shadow flicker control mechanisms will be in place for the duration of the wind energy development project.

Section 5.10 - Community Investment.

Section 6.4- Visual Impact. Siting of Wind energy projects.

Section 6.18.1 – Set back. The potential for visual disturbance can be considered as dependent on the scale of the proposed turbine and the associated distance. The size of the turbine should be key to setting the appropriate setback. A setback distance for visual amenity purposes of 4 times the tip height should apply between a wind turbine and the nearest point of the curtilage of any residential property in the vicinity of the proposed development, subject to a mandatory minimum setback of 500 metres. An exception may be provided for a lower setback requirement from existing or permitted dwellings or other sensitive properties to new turbines where the owner(s) and occupier(s) of the relevant property or properties are agreeable to same but the noise requirements of these Guidelines must be capable of being complied with in all cases.

Spatial Planning and National Roads - Guidelines for Planning Authorities 2012

These section 28 guidelines set out the planning policy considerations relating to development affecting national roads. Key policy provisions to be incorporated in development plans include:

- Protect the identified preferred route corridors for future national road schemes.
- Require developers to avoid, remedy or mitigate adverse effects on national roads and provide mechanisms requiring making of reasonable contributions towards costs of any required mitigation.
- Identify any land required for future national road projects and include objectives that retain required lands free from development - section 2.9

which refers specifically to protection of alignments for future national road projects.

- Planning authorities should engage with applicants to ensure negative impacts from existing or planned national roads are mitigated through appropriate design of buildings, landscaping and site layout.

Development Management Guidelines for Planning Authorities – published by the Minister for the Environment, Heritage and Local Government in June 2007

Section 7.16.1 addresses the topic of premature development and the relevant text includes the following:

> Premature development in this context also includes development which would be premature pending the determination by the planning authority or the road authority of a road layout for the area.
>
> However, development which is premature because of a commitment in a development plan to prepare a strategy, Local Area Plan or framework plan not yet completed should only be used as a reason for refusal if there is a realistic prospect of the strategy or plan being completed within a specific stated time frame.

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 and they advocate a sequential approach to risk assessment and a justification test.

5.3. Regional Policy

Regional, Spatial and Economy Strategy for the Eastern and Midlands Region 2019-2031

- RPO 7.36 – to ensure that local policy reflects and adheres to the principles and planning guidance relating to wind energy development and other relevant guidance related to sustainable energy provisions.

- RPO 10.20 – to support and facilitate development of enhanced electricity and gas supplies and associated networks to serve existing and future needs of the region and facilitate new transmission infrastructure projects as needed to facilitate linkages of renewable energy proposals to the grid.

- RPO10.22 - to support the reinforcement and strengthening of the electricity transmission and distribution network to facilitate the planned growth and transmissions distribution of a renewable energy focussed generation across the major demand centres to support an island population of 8 million people including, inter alia, to facilitate the delivery of necessary integration of transmission network requirements to allow linkages of renewable energy proposals to the electricity transmission grid in a sustainable and timely manner

5.4. Local Policy

5.4.1. Westmeath County Development Plan 2021-2027

Chapter 5 Economic Development and Employment Strategy

- CPO5.59 Support renewable energy initiatives that supports a low carbon transition.

Chapter 9 Rural Westmeath

- CPO 9.34 Support the rural economy and initiatives in relation to diversification, agri business, rural tourism and renewable energy so as to sustain employment opportunities in rural areas.

Chapter 10 Transport Infrastructure and Energy

Section 10.5.1 National Roads

- CPO10.47 Support and provide for improvements to the national road network, including reserving corridors for proposed routes, free of development, so as not to compromise future road scheme.

- CPO10.50 Seek to implement the Road Improvement Schemes indicated in Table 10.1. The corridor and route selection process for such schemes shall be undertaken in accordance with Section 10.5.3 of the Plan.

- Table 10.1 Schedule of National Road Improvements: Realignment and Upgrade from Kilbeggan to Offaly County Boundary (part of the NDP N52 Tullamore to Kilbeggan).

- CPO10.63 Protect the study area, route corridor options and thereafter the preferred route corridor selected for the national road schemes being progressed in accordance with National Development Plan Objectives included in Table 10.1, from development that could prejudice their future delivery.

Section 10.22 Renewable Energy Sources

Energy Policy Objectives

- CPO10.139 Support local, regional, national and international initiatives for limiting emissions of greenhouse gases through energy efficiency and the development of renewable energy sources which make use of the natural resources in an environmentally acceptable manner and having particular regard to the requirements of the Habitats Directive.

- CPO10.140 Facilitate measures which seek to reduce emissions of greenhouse gases and support the implementation of actions identified in the Westmeath County Council Climate Change Adaptation Strategy 2019-2024 and any future amendments.

- CPO10.141 Promote and support the use of renewable forms of energy as a contribution to the energy demand of all new buildings where it is consistent with the proper planning and sustainable development of an area.

Section 10.23 Wind Energy

- Section 10.23.2: Industrial Scale Wind Farms –

The Regional Economic and Spatial Strategy for the Eastern and Midland Region (RSES) refers specifically to the after use of peatlands and consideration of their potential contribution to climate change mitigation and adaptation including renewable energy production. With a strong history of energy production and an extensive electricity transmission network in place, the potential exists in such peatland areas for a smooth transition to renewable energy sources. This approach should be informed by the preparation of a Holistic Management Plan that will address the future uses of former industrial peatlands. The preferred locations for

large scale energy production, in the form of windfarms, is onto cutover cutaway peatlands in the County, subject to nature conservation and habitat protection requirements being fully addressed.

Wind Energy Policies

- CPO10.142 Having regard to the principles and planning guidance set out in the Department of Housing, Planning and Local Government publications relating to 'Wind Energy Development' and the DCCAE Code of Practice for Wind Energy Development in Ireland and in other relevant guidance which may be issued in relation to sustainable energy provisions.

- CPO.143 Ensure the security of energy supply by supporting the potential of the wind energy resources of the County in a manner that is consistent with proper planning and sustainable development of the area.

- CPO10.144 Encourage and support the development of small-scale wind energy development and single turbines in urban and rural areas and Industrial Parks, provided they do not negatively impact upon environmental quality, landscape, wildlife and habitats or residential amenity.

- CPO 10.145 To strictly direct large-scale energy production projects, in the form of wind farms, onto cutover cutaway peatlands in the County, subject to environmental, landscape, habitats and wildlife protection requirements being addressed.

In the context of this policy, industrial scale/large-scale energy production projects are defined as follows:

Projects that meet or exceed any of the following criteria:

- Height: over 100m to blade tip, or
- Scale: More than five turbines, or
- Output: Having a total output of greater than 5MW

Developments sited on peatlands have the potential to increase overall carbon losses. Proposals for such development should demonstrate that the following has been considered: • Peatland stability; and • Carbon emissions balance.

- CPO 10.146 Ensure that proposals for energy development demonstrate that human health has been considered, including those relating to the topics of:
    - Noise (including consistency with the World Health Organisation's 2018 Environmental Noise Guidelines for the European Region);
    - Shadow Flicker (for wind turbine developments, including detailed Shadow Flicker Study);
    - Ground Conditions/Geology (including landslide and slope stability risk assessment);
    - Air Quality; and Water Quality;
    - Assessment of impacts on collision risk species (bird and bats).
- CPO10.147 With regard to wind energy developments, to ensure that the potential for visual disturbance should be mitigated by applying an appropriate setback distance, which, where relevant, complies with available Ministerial Guidelines.
- CPO10.148 Support the preparation of a Management Plan for the Industrial Peatlands in the County, in consultation with stakeholders and adjacent Local Authorities. The Plan should focus on recreational opportunities, renewable energy, hydrological and ecological considerations subject to environmental assessment and the requirements of Article 6 of the Habitats Directive.

Chapter 11 Climate Action

- CPO 11.1 Support the implementation and achievement of European, National, Regional and Local objectives for climate adaptation and mitigation as detailed in the following documents, taking into account other provisions of the Plan (including those relating to land use planning, energy, sustainable mobility, flood risk management and drainage) and having regard to the Climate mitigation and adaptation measures which have been outlined through the policy objectives in this Development Plan…

Chapter 6 Tourism

History, Heritage and Ancient Sites Policy Objectives

- CPO 6.35 Continue to promote the Hill of Uisneach as a sustainable visitor offering and enhanced access to the site, including the creation of walking and cycling connections with the Old Rail Trail (Galway to Dublin) Greenway.

Chapter 13 Landscape and Lake Management

Section 13.15 Character Area 9, Hill of Uisneach

- The elevation of the Hill of Uisneach confers both panoramic views, as well as visual prominence, which ensures that the site and its immediate context is very sensitive to adverse visual impacts. The Council recognise the significance and sensitivity of the Hill of Uisneach and given that the site is listed on the tentative list for UNESCO status since 2010, further protection has been afforded to the site by designating the area as a High Amenity Area with views from the perimeter skyline ridge identified as a Protected Panoramic View.

- The extent of the High Amenity Area at the Hill of Uisneach is highlighted in figure 13.2 of the development plan and contains Core and Buffer Areas with associated protective policies.

- CPO 13.7 Ensure that any significant, industrial and or infrastructural developments (excluding residential; agricultural buildings; tourism; greenway; cultural; educational or community buildings), which would impact upon Uisneach and or its protected views will not be permitted due to the sensitivity of the site. Footnote: CPO constitutes a 'policy' of the Plan as envisaged under Section 1.1 of the plan.

- CPO 13.18 Protect and enhance the setting of the Hill of Uisneach and support increased public access to the site. Only sensitive development that does not undermine the archaeological and cultural significance of the site will be permitted

- CPO 13.19

    a. Protect and sustain the established appearance and character of views associated with the High Amenity Area around the Hill of Uisneach.

    b. Require any development proposals within the High Amenity Area around the Hill of Uisneach to demonstrate that no adverse effects will occur on the established appearance or character of this feature as viewed from either the Protected Panoramic Views or from surrounding public roads.

Section 13.14 Character Area 8, South Central Hills

- The highest point within this area is 200 metres, which is at Knockastia, Coolatore, a volcanic outcrop just south of the Hill of Uisneach, which also has the steepest slopes in the Landscape Character area. This hilltop allows panoramic views across neighbouring counties and the approach to the hill, particularly from the Ballymore Road offers impressive opportunities to appreciate its scale.

Section 13.18 Area of High Amenity (High Landscape Value)

'… The Hill of Uisneach is also a designated High Amenity Area in recognition of its archaeological and cultural significance. Policies pertaining to the Hill of Uisneach HAA are contained in CPO's 13.18 and 13.19 above'.

Chapter 14 Cultural Heritage

- The Hill of Uisneach is one of the most sacred and historic sites in Ireland renowned as an ancient meeting place in the centre of the country. Over 35 archaeological monuments are recorded on the Hill. These date from the Neolithic (c. 6,000-4,000 years ago) through to the medieval period, representing ceremonial, burial and settlement activity spanning several millennia. The Hill of Uisneach was on the tentative list (2010) for future nomination to the UNESCO World Heritage Sites as one of the Royal Sites of Ireland. A new Tentative List is being prepared and The Royal sites are applying for inclusion.

- CPO 14.22 Continue to support the promotion of Uisneach as one of the Royal Sites of Ireland under the proposal for its designation as a UNESCO World Heritage Site and/or other appropriate initiatives.

Volume 2 of Development Plan – Book of Maps

- Westmeath Landscape Character Areas - Application site is located within Western Lowlands.

- Westmeath High Amenity Areas: Hill of Uisneach.

- Westmeath Natural Heritage Areas: Lough Sewdy pNHA.

- Wind Energy Capacity: All areas of the county designated 'Low', with Hill of Usineach designated 'None'.

Ministerial Direction

On 28th September, the Minister of State at the Department of Housing, Local Government and Heritage, issued a final direction to Westmeath County Council in relation to the Westmeath County Development Plan 2021 – 2027.

Under this Direction, the Planning Authority was directed to delete the following wind energy policy:

(i) Delete Wind Energy Policy Objective CPO10.143 in its entirety from Section 10.23.2 of the development plan:

> CPO10.143 to provide the following separation distances between wind turbines and residential dwellings:
>
> 500 metres where the tip of the wind turbine blade is greater than 25 metres but does not exceed 50 metres.
>
> 1,000 metres where the tip height of the wind turbine blade is greater than 50 metres but does not exceed 100 metres.
>
> 1,500 metres where the tip height of the wind turbine blade is greater than 100 metres but does not exceed 150 metres.
>
> More than 2,000 metres where the tip height of the wind turbine blade is greater than 150 metres.

5.4.2. **Offaly County Development Plan 2021-2027**

SMAO-11 It is an objective of the Council to facilitate the development of the national secondary road network in Offaly through the continued construction, upgrading and improvement of the national secondary roads in the county, the N62, the N52 and the N80 where on examination it is found to be feasible, including as outlined in the accompanying table:

> **N52:** To support the construction of a road between Tullamore and Kilbeggan (Link Road) in accordance with National Development Plan investment objectives taking into account environmental sensitivities as identified in the SEA Environmental Report and the policies and objectives of the County Development Plan relating to sustainable mobility. Where feasibility is established, the Council will seek to pursue and / or facilitate the relevant

project, subject to other provisions in the Plan and in accordance with statutory processes and TII Publications subject to compliance with requirements of various TII Planning Guidelines for Assessment of Environmental Impacts that include headings such as “Constraints Study”, “Route Corridor Selection” and “Environmental Impact Assessment”

6.0 EIA Screening

Schedule 5 of the Planning and Development Regulations, 2001 (as amended) transposes Annex I and II of the EIA Directive and sets out prescribed classes of development, for which an environmental impact assessment is required. The following classes are noted:

Part 2 (3)(i) Installations for the harnessing of wind power for energy production (wind farms) with more than 5 turbines or having a total output greater than 5 megawatts.

An EIAR accompanies the application.

7.0 European Site Designations

There are a number of SACs and SPAs in the wider area of the wind farm site and proposed grid connection route. The nearest European site is Ballymore Fen SAC (4.2km northeast). The nearest European site to the Grid Connection is Split Hills and Lough Esker SAC, the boundary of which is located approximately 2.6 kilometres to the northeast of the Grid Connection, at its nearest point.

The nearest Natural Heritage Area (NHA) or proposed Natural Heritage Area (pNHA) to the proposed development is Lough Sewdy pNHA, c. 3.2km to the northeast.

European sites are identified in the Appropriate Assessment Section of this report.

8.0 Planning Authority Submission

8.1. Internal Referrals

8.1.1. **District Engineer –** report summarised in submission as follows:

- Swept path analysis required of all junctions/nodes which may be affected by Turbine Delivery and Materials Delivery Routes.
- Transport Management Plan is required as a condition of any permission.
- Rectification of any construction damage.
- Structural condition survey of all bridges/culverts on the public road network along all access routes.
- Phasing programme.
- Post condition road survey.
- Appraisal of volumes of materials required for construction of internal site roads/accommodation tracks required. This should be provided prior to permission to allow PA assess full impact associated with materials delivery.
- Detailed appraisal of cabling route not included. Raises significant concerns.
- Internal water course crossing – detailed plan drawing required of internal bridges/culverts.

8.1.2. **Environment Section**– report summarised in submission as follows:

- CEMP to remain a live document throughout the project, to be monitored and updated as required.
- Conditions proposed in relation to shadow flicker and compliance report required 12 months post development.
- Annual birds surveys of the site for five years to be submitted to PA and copies sent to Department of Housing, Local Government, and Heritage.
- Once the agreed wind turbine motor model is decided, a revised noise impact assessment is to be issued to Westmeath County Council.
- Noise condition.

8.1.3. **Heritage Officer** – report summarised in submission as follows:

- Mitigation measures with respect to four number recorded monuments within the subject lands require consideration and approval of National Monuments Service.

- EIAR in relevant photomontages does not give a clear visual representation of the extent of the 360 protected view from Knockastia Hill, 4.3km to southeast.

- Impact on Hill of Uisneach must be considered in context of the Royal Sites of Ireland, which is listed on Ireland's Tentative List of properties intended for consideration for nomination to the World Heritage List.

- Rendered wireline does not provide adequate information to assess visual impact on development on Hill of Uisneach and the Cat Stone, having regard to Policy 13.7.

8.2. **PA Report - Planning Analysis**

PA - EIAR Comments:

- Biodiversity – no significant effects on biodiversity and cumulative effects not anticipated.

- Birds – significant residual effects on the KORs with regard to direct habitat loss, displacement or collision mortality are not anticipated and this appears acceptable.

- Land, Soils and Geology – no adverse impact on the lands, soils and geology.

- Water – findings of no significant cumulative effects on the hydrology and hydrogeology environment are logical and reasonable.

- Air and Climate – conclusion provided in respect of air and climate appears plausible and acceptable.

- Noise and Vibration – no unacceptable direct or indirect impacts in terms of noise and vibration and cumulative effects are not likely to arise.

- Landscape and Visual – There was no photomontage carried out for the Hill of Uisneach with a rendered wireline used instead. In accordance with CPO 13.7 WCDP, a photomontage demonstrating the visual effects arising from this development at the Hill of Uisneach should be provided so as to inform and facilitate a full visual assessment of the proposed wind farm prior to issuing a decision on this proposed development.

- Archaeology and Cultural Heritage – The Hill of Uisneach is listed on the tentative list (2010) as part of the Royal Sites of Ireland and is located 8.8km west of the proposed turbine 7. The Hill of Uisneach is located on private land to which it is indicated that access was not permitted for the purposes of obtaining

photomontages. Overall findings in relation to archaeology and cultural heritage appear to be reasonable, however, a photomontage and further detailed assessment of the proposed development relative to the Hill of Uisneach should be carried out so as to fully inform the visual impact arising from the proposal on this important heritage site.

- Material Assets – Findings are generally acceptable, however, further details are sought with respect to transportation infrastructure.

- Interaction of effects – It is considered that the proposal is not likely to contribute to significant cumulative effects on the environment.

- Major Accidents and Natural Disasters – The site is relatively flat and is not a peatland site and so there is low/no potential for peat slides or landslides. Consideration of flooding, aircraft collision/loss, water contamination, fire/major crowd safety and civil disorder, and major traffic accident/loss of critical infrastructure. Overall risk is considered low. No potential for significant in-combination or cumulative effects.

PA - Planning Assessment:

- Principle of development – Complies with national and regional energy and climate action plans. However, having regard to Policy CPO 10.146 which is to strictly direct large scale windfarms onto cutover/cutaway peatlands and given proposal is not on peatland, the proposal contravenes Policy CPO 10.146 of the CDP and therefore the proposal is not supported by development plan policy. However, in the interests of completeness, the development is fully assessed by the PA.

- Residential Amenity – Issues to consider: Shadow Flicker; Noise; Visual Amenity.

- Shadow Flicker - Documents indicate there are no dwellings within 500m of any proposed wind turbine. There are 115 dwellings within 1.62km, 2 of which are derelict. There is a 19th century dwelling, Umma House, c. 300m west of proposed turbine 8 (T8). While it lies vacant, given its potential for future occupancy, due cognisance should be afforded to potential impacts arising on this structure due to shadow flicker and required mitigation. It is considered that should shadow flicker

exist at any of the properties it can be adequately mitigated as outlined within chapter 5 of the EIAR.

- Noise – A series of computer-based prediction models are included with the application. A Noise Assessment was undertaken to determine effects from the construction, operation and decommissioning phases. Predicted impacts are stated to comply with noise guideline limits.

- It is indicated that a sample wind turbine was chosen to allow a representative assessment of the noise impacts as the final wind turbine model has not yet been selected. This will be subject to a competitive tendering process post permission. Environment Section requires updated noise assessment once wind turbine selected. Noise Mitigation measures proposed in CEMP and EIAR appear reasonable.

- Visual Amenity – The nearest dwelling is 750m from any turbine, which is below the Draft Wind Guidelines requirement of having a separation distance of 5.8 times the turbine tip height. Need to consider further CPO13.7 – a photomontage demonstrating the visual effects arising from this development at the Hill of Uisneach should be provided so as to inform and facilitate a full visual assessment of the proposed wind farm prior to issuing a decision on the proposed development.

- Grid Connection and Haulage Route – The 110kV cabling and substation to connect to the national grid will be subject of a separate application. The intended underground cabling route is 31km long and will be predominantly located in public roads and will pass through the village of Horseleap and bypass Kilbeggan Town and terminate 2km northeast of Tullamore. Any cable within public roads or verges must comply fully with the minimum requirements of Guidelines for Managing Openings in Public Road – April 2017. Transport Management Plan required.

- Property Values - In order not to impact property values, proposal needs to comply with noise and shadow flicker levels. In view of the number of wind farms constructed throughout the country, it is considered that evidence of potential impact of wind farms within a local Irish context should be provided in order to complete the assessment of impacts on property values.

- Turbine Design – Max. tip height of 185m; max rotor blade diameter of 162m; hub heigh4 104m; associated foundations and hard standing areas.
- Community Gain – Condition.
- Special Development Contribution – preference for attachment of a specific condition requiring pre-surveying of affected roads, proposals for rendering the routes fit for purpose, ongoing monitoring and repair during the project, post construction survey, and remedial works (District Engineers Report).
- Cash bond to contribute to any roads damaged.

PA Recommendation

- Refuse Permission – Proposal if permitted would contravene CPO 10.146 of the Westmeath Development Plan 2021-2027.

8.3. **Record of Meeting of Westmeath County Council**

8.3.1. The Elected Members met on 8th May 2023. I summarise hereunder the views of the Elected Members:

Policy

- Proposal contravenes Development Plan Policy CPO10.146.
- There are many cutaway bogs in the county that would be a suitable location.
- Policy 10.143 should be referenced even though it was subject of a ministerial direction.
- Comment of support for renewable energy.

Guidelines – Noise and Shadow Flicker

- No development should take place until wind energy guidelines are finalised.
- Setback distances observe 2006 Wind Energy Guidelines. No reference to draft guidelines from 2009. Guidelines from 2006 are not fit for purpose.
- Failed to submit an appropriate noise assessment in accordance with relevant standards.
- Buffer of 750m should be from boundary of development and not from turbine to residence.

- No independent baseline noise figures submitted.
- Proposal is also in contravention of the shadow flicker guidelines for 70 households.

Health

- Health implications on residents in the area.
- Reference to WHO guidelines which shows no negative health impacts associated with wind turbines.
- Health impact studies are inconclusive.

Traffic and Road Network

- Concern in relation to sightlines and implications for road infrastructure.

Visual Impact

- A number of submissions consider issue of protected views of Hill of Uisneach not being protected and inappropriate scale relative to Uisneach.
- One submission submits the proposed wind turbine will not negatively impacts views in the area of the Hill of Uisneach.
- Landscape destruction a concern.

Other Matters

- Devaluation of property in the area.
- Study in Scotland shows no devaluation of property.
- Study in Netherlands show devaluation of property.
- No meaningful engagement or consultation carried out.
- Economic and wider benefits to landowners and local community.
- Impact on the water table.

9.0 Prescribed Bodies

Submissions were received from four prescribed bodies, each of which is summarised hereunder.

9.1. **Department of Housing Local Government and Heritage: Archaeology**

- Deficiencies in the overall methodology and scope of the AIA in relation to the Hill of Uisneach;
- Lack of reference to relevant guidance of 'Guidance and Toolkit for Impact Assessments in a World Heritage Context' (UNESCO) and 'Guidance for Wind Energy Projects in a World Heritage Context' (UNESCO);
- Limitations in the Landscape Visual Impact Assessment in relation to the Hill of Uisneach.

9.2. **Department of Housing Local Government and Heritage: Development Applications Unit**

- Issues with the methodology to determine the magnitude of the impacts on a given population of birds.
- Hen Harrier – not recorded within the collision risk zone. However, the NPWS recorded a nesting site within 5km of the proposed development, which constitutes a rare example of lowland nesting site for this species. 5km is within the foraging range for males during the breeding season. Further targeted surveys may be of benefit.
- Barn Owl – these were not recorded during the surveys undertaken to inform the EIAR. The NPWS has records for two active barn owl nests in the vicinity of the application site boundary and may occur within the application site boundary. Clarity is required as to whether this species was specifically targeted during the surveys undertaken. Further surveys targeting this species may be necessary. The Department reminds ABP of their obligations under Article 6.3 of the Habitats Directive.

9.3. **Office of Public Works**

- The Hill of Uisneach contains National Monument no. 155, consisting of two monuments, the 'Cat Stone' and its surrounding embankment enclosure (a ring barrow) and a nearby ringfort.

- The Hill of Uisneach is part of a serial entry on the World Heritage Tentative List. The OPW has concerns that the development as proposed may have a negative impact on the setting of, significance of, and views from, and to, the National Monument. In particular the OPW has concerns about the impact on the OUV (Outstanding Universal Value) of the site.
- While acknowledging the access difficulties of the applicant's team, the assessment of impact on the significance of the Hill of Uisneach is inadequate, considering the degree of protection afforded by the Westmeath CDP and the Hill's World Heritage Tentative List status.
- Based on the rendered wireframe visualisations, the 9 x 185m turbines starting at a distance of 8.8km will feature prominently as very large manmade objects, albeit partially obscured, in the views to the west of Uisneach. Being manmade objects, white and rotating, they will draw the eye and become the focus of the view.
- The planning application makes reference to the core and buffer amenity areas, but it does not refer to the Outstanding Universal Value detail and does not employ tools provided by UNESCO in their guidance documents to assess the impact (Guidance and Toolkit for Impact Assessment in a World Heritage Context; Guidance for Wind Energy Projects in a World Heritage Context).
- Cumulative Impact – there is reference to 3 other windfarms in the vicinity of Umma More and drawing figure 12-18 demonstrates the theoretical visibility of all 4 from the Hill of Uisneach, ie a total of 50 turbines of which 9 (this application) are 8.8km away; 15 (Lemanaghan) are 20km to the southwest; 25 (Derryadd) are 20km to the northwest; and 1 is 15km away to the southeast. The scale of the turbines is such that at 20-25km distance they remain visible, albeit diminished in scale.
- Overall – concern about impact on protected panorama views from the Hill of Uisneach and from National Monument (no. 155) in this important cultural landscape. Particularly concerned about proposed OUV of the World Heritage Site Tentative List property. Also concerned in relation to cumulative impact. Of 50 turbines proposed in the cultural landscape hinterland of Hill of Uisneach. The significance assessment and impact assessment is considered

inadequate. Further information should be requested from the applicant to demonstrate implementation of best practice in regard to World Heritage properties and given strong consideration to issues raised by OPW.

9.4. **Transportation Infrastructure Ireland**

- No technical load assessment of structures appear to have been undertaken in support of the application. It is acknowledged that abnormal weights may not be a feature of the development. A permit is required where weights are proposed which fall outside limits of the Road Traffic Regulations 2003.
- Impact of maintaining traffic flows along the N52 during construction has not been considered in any great detail in the EIAR.
- Gird connection route is along a national road, with associated joint bays, one national road bridge crossing and a number of national road culvert crossings. This could impact levels of safety and strategic function of the national road network in this area. NPF NSO 2 relates to enhanced regional accessibility and requirement to maintain strategic capacity and safety of the national road network.
- Additional cost for national road improvements and maintenance where there is presence of high voltage cabling with the national road reservation.
- 8.3km of the grid connection cable route travels along the N52 and a stop and go traffic management system is proposed for 45 days of works. An ADDT of over 14,000 vehicles was recorded along the N52 on the Kilbeggan to Tullamore Link. The traffic management system does not appear to have been considered in detail and is of concern.
- Road scheme planning – NDP 2001-2030 includes the N52 Tullamore to Kibeggan Scheme. No assessment of proposal to lay cabling on the proposed national road scheme. TII considers the proposal to lay high voltage cabling in the N52 Tullamore to Kilbeggan Scheme constraints study area prior to the finalisation of the proposed preferred route corridor for the N52 works is premature and contrary to official policy to not compromise the route selection process.

- Grid connection could impact on TII structures.
- TII recommends an alternative grid connection proposal is prepared.

9.5. **Offaly County Council**

- Alternative grid connection route should be identified, which omits any interference with the N52.
- Proposal will negatively impact N52 Kilbeggan to Tullamore Link Road Scheme and will impact the delivery of this strategically important road scheme. A link is included to the road scheme: www.n52tullamoretokilbeggan.ie
- Proposed cabling is contrary to CDP Objective SMAO-18…to protect the study area, route corridor options and thereafter the preferred route corridor…and to prohibit development that would prejudice their future delivery'. The proposed cabling in advance on any decision from ABP on the road scheme would prejudice and potentially constrain the construction of this road scheme.
- The position of any grid connection cable should not be within the carriageway of the proposed N52 Kilbeggan to Tullamore Road scheme.

10.0 Observations

10.1. 52 number observations were received. In view of the commonality of the issues arising, the following provides a summary of same:

Policy and Procedural Issues

- Question whether the proposed development is SID on basis of output threshold of 50MW. Turbines are located in a low wind speed area. Observer (a physicist) submits a proposed wind turbine in this area would have an output of 3-4 MW per turbine and not the stated 6.2MW. The meteorological wind tower erected on the site on 12 March 2021 collapsed on 14 March 2021. The second mast was erected on 10 April 2021 and collapsed on 20 January 2022. It was on site for measurement for 286 days - reference to EIRGRID Met Mast and Alternatives Study to 2019.

- The proposal should not be afforded strategic infrastructure status.
- The area of the site is designated as a low wind area in the Westmeath CDP. The SEAI Wind Atlas reports low average wind speeds for the site and the planning application refers to low wind capacity of the site. Site not suitable.
- Project splitting of grid connection and windfarm.
- No evidence of agreement to connect to the grid.
- Policy Objective 10.146 not addressed by applicant, whereby large scale energy projects in the form of wind farms are to be strictly directed onto cutover peatlands and applicants fail to provide landscape sensitivity criteria upon which they are making the assessment.
- Proposal is in direct contravention of the Westmeath County Development Plan, Policy objective 10.143 in relation to set back distances.
- Proposal in contravention of CPO 10.147 in relation to noise, as proposal has not considered the WHO 2018 Environmental Noise Guidelines for the European Region, as required.
- No evidence that applicants have adhered to set back distances set down in the development plan, but are applying the 2006 guidelines.
- Proposal in contravention of regulations as T6 is 310m from the boundary of the land of one of the observers, who is stated to be a 'non-participating landowner'.
- Section 7.19 of the Wind Energy Guidelines says wind turbines should not be placed 324m within non-participating landowners boundary. T2 is to be located 294m from land boundary. T6 is to be located 320m from land boundary.

<u>Landscape, Cultural Heritage, and Impact on Hill of Uisneach</u>

- Negative visual impact on the valley.
- Height of turbines will dominate the local landscape and skyline.
- The Hill of Uisneach is one of a group of Irish Royal Sites, nominated to Ireland's tentative list for UNESCO World Heritage Status. This site is a 'highly sensitive landscape', as recognised by the applicant, but the applicant fails to mention that the entire 360 degree panoramic view from the summit of Uisneach is classified as

having ‘national importance’ in the Westmeath County Development Plan and is part of a wider cultural landscape in the context of the UNESCO application. This panoramic aspect contributes greatly to the historical interpretation and cultural importance of Uisneach, within the landscape.

- Given the height of the turbines relative to the Hill of Uisneach and other local topographical features, the designation in the EIAR of the impact as Moderate can be considered to be greater than this. This includes Knockastia, site of one of Ireland’s earliest bronze age cemeteries, 4km southeast of windfarm.
- Views to the Hill of Uisneach will be severely compromised.
- The 360 degree view from the Hill of Uisneach is classified as having ‘National Importance’ in the CDP.
- The adverse impact of the proposed windfarm on the visual amenity, setting and integrity of the cultural landscape of Uisneach, risks undermining the Outstanding Universal Value (OUV) that underpins its nomination for UNESCO World Heritage Site status.
- Meeting climate goals should not be at the expense of our most significant cultural and natural landscapes.
- The owner of the Hill of Uisneach in her submission states the wireline view is provided by the applicant which is insufficient. The applicant provides photomontages from the summits of Knockastia and Laragh Hill to demonstrate the effect on Uisneach, which is insufficient.
- The direction of the wireline view is difficult to discern.
- Applicant, while stating they didn’t have access to Hill of Uisneach, could have used other data from GIS and Lidar technology to generate the necessary vistas from the 360 degree panoramic view.
- The applicants have failed to provide a reverse zone of theoretical visibility for this highly sensitive location, in line with the Wind Energy Guidelines.
- The applicants fail to supply the landscape sensitivity criteria upon which they are making the assessment that the visibility of the wind turbines from the top of Uisneach and Catstone is ‘slight/moderate’. The applicants suggest a

ridge/vegetation may have a mitigating effect/obscure the view, however, this is not acceptable for a site of national and international importance.

- Applicant fails to highlight the High Amenity Area Policy Objectives in the CDP of CPO13.20 and CPO13.28.

- Uisneach is 180m high. The proposed turbines have an overall ground to blade tip height of 185m, blade rotor diameter of 162m and hub height of 104m, which will dominate the landscape.

- Issues concerning adjacent site of Knockastia – this has a visual and cultural connection to Uisneach. Knockastia is c. 5km southwest of Uisneach and is of similar height to Uisneach. The applicants say there is no visual connection between Hill of Uisneach and other cultural heritage sites in the direction of the Wind Farm Site (wind farm is located west of the Hill of Uisneach), however, then say the windfarm will have an effect on Knockastia, which is west of Uisneach. The view from Knockastia is protected under the CDP. There is a direct cultural correlation between the Hill of Uisneach and Knockastia. The lighting of fires at Bealtaine is important in the history of Uisneach. In mythology once the fire was lit at the summit of Uisneach then other fires were lit on summits all over the county. This suggests that visibility of the summit and its views in the landscape played a crucial role in practice and belief.

- Lack of reference to Draft Wind Energy Guidelines which highlights importance of World Heritage Sites and sites placed on Ireland's tentative list.

- Request that Board seek an opinion from an independent expert on World Heritage Properties concerning the potential impact on Uisneach and likely implications for its possible designation as a World Heritage site.

<u>Overall Residential Amenity</u>

- Negative impact of turbines on residential amenity of dwellings in the area due to proximity of turbines to dwellings, scale of turbines, shadow flicker, and noise.

- Dispute the shadow flicker study and assumptions made. Concern raised in relation to being within 1km of turbines.

- One house is on some of the maps showing proximity to dwellings but is not on all of them. The house is beside that indicated as house no. 5. Five of the proposed

turbines are positioned on low land fields and will be in a direct line of sight from the kitchen/living room of observers house. Concern in relation to outlook and shadow flicker. As house is within 750m buffer, concerned also about noise pollution.

- H1 and H77 considered as derelict properties. Impact on another derelict property along the Umma Road has not been considered. It is 645m from T4. It cannot be restored and inhabited by landowners son if development goes ahead. H7 is a mobile home in situ beside an adjacent dwelling. There are other dwellings which have not been considered.

- Concern in relation to impact on dwelling and impact on farm.

- House no. 24, H24, will be affected by shadow flicker.

- House no. 9, H9, signed consent in relation to application, but legality of this consent is challenged. Folio numbers are incorrect. Consent was not given to allow application for planning permission. H9 and H12 appear closer than 4 times the tip height.

- Distances from properties is not accurately measured to the curtilages of the houses, with the draft guidance of 4 times the tip height not being met in all cases.

- Distances are measures from properties and not from curtilages of dwellings, as per the draft WEDGs. T4 is less that 740m from the curtilages of houses 5, 7 and 11. T9 is less that 740m from the curtilage of house no. 10 (with this house omitted from figure 3-2 in the chapter on alternatives). T5 may be too close to house no. 3 and T6 to house no. 6. T1 may be too close to house nos. 2 and 12.

- The excavation of an agricultural field at the junction of the R390 and L5363 in Baskin Low will negatively impact observers home, which is 100m from here. The land in question is elevated above the existing house.

- Construction noise and dust a concern.

- Impact on farmland has not been considered. The nearest turbine to one farmer's land is stated to be 464m from the boundary and the farmyard is 700m from T4. Concern in relation to visual impact, noise, flicker and general nuisance. There is a derelict house 645m from T4, which it is the intention of the farmers child/ren to do up and occupy, however, the wind farm would impact this.

- Developers documentation incorrectly references participating properties.
- Devaluation of properties – houses and farms.
- Negative impact on health.
- Negative impact from constant noise and sleep disturbance.
- The reports quoted in the application in relation to health impacts are dated being at least 10 years old and do not consider the scale of current turbines.

Scale of Development and Visual Impact

- Turbine 185m high would dominate the local landscape and skyline.
- Negative impact on these flat farmlands and low hills and substantial village settlement.
- Negative visual impact on dwellings in the area.
- Proposed turbines will be out of character in this low lying relatively flat agricultural land. The wind turbines would be a dominant, obtrusive feature on the horizon at this location.
- No photomontage included from the L5363 in Baskin Low and down the hill toward Baskin High.

Biodiversity

- Concern for wildlife and birds in the area, and extent of overall biodiversity loss.
- Long term impact of wind turbines of this size on bird flight patterns and nesting bird behaviour is inconclusive and is of concern given number of SACs and SPAs in the area.
- River along the boundary is home to numerous species, including otter, water fowl, and badger setts, which will be disturbed and displaced during construction and operation.
- Concern that movement of badgers will result in TB outbreaks.
- Negative impact on wetland habitats, snipe, lapwing, otters.
- Removal of forestry and hedgerows will have a negative impact on local wildlife, farming community and environment.

- On-set of ash die back in the area will result in trees not screening the development.
- This area has the last remaining wetland in this area, which has large population of lapwing and population of otters.
- Noise would destroy quality of local environment and natural habitat.
- Removal of forestry.

Noise

- Concerns raised in relation to noise generation and impact on residents.
- Noise survey inadequate. Cumulative effects of other windfarms, industry and quarrying etc should have been assessed as part of noise survey. MKO filtered out the quarry data. Guidelines rely on UK noise assessment model which is not fit for purpose in light of vast increases in turbine size and power.
- Infrasound concerns.
- CPO10.147 relates to noise. The applicant has failed to present their noise assessments in accordance with the requirement of WHO Guidelines, as per development plan policy.
- Noise pollution and impacts on mental health.
- Concern in relation to chapter 11 of EIAR in relation to noise. The Environmental Health Service in their comments recommended that potential cumulative impacts of other windfarms, industry, quarrying etc in the vicinity should be assessed as part of the noise survey. Chapter 11 references the local quarry in the cumulative noise assessment but says it is not appropriate to consider the wind turbine noise in the context of the noise and vibration limits set by the quarry and limits in the guidelines apply to wind turbine noise only. The response to cumulative noise impact is not acceptable.

Light Pollution

- Concern in relation to light pollution.

Shadow Flicker

- Concerns raised in relation to shadow flicker and impact on residents of 70 homes.

- Note that house no. 97 is shown on maps submitted in relation to shadow flicker, but this does not match other shadow flicker maps which has same house as no. 90.

- The observer of property referenced as H13 in the Shadow Flicker Assessment states they are not, as indicated in the documentation, a 'participating property'. As they are listed as a 'participating property', the documentation states they are not required to be included in the mitigation strategy against shadow flicker. The applicant has indicated that shadow flicker could impact the home in question for up to 49 mins per day.

- Shadow flicker effects are grossly underestimated due to assumptions made in relation to windows sizes and locations, tilt angle, average duration of sunshine throughout the year given rather than per month, lack of verification and quality assurance in the model use. Eg: Most of the houses will have at least 4 windows facing the turbines rather than the estimated one, and most windows sizes are greater than the estimated 1m x 1m. If approved, the applicant should be mandated by the board to apply the technology to remove all shadow flicker.

- Shadow flicker assessment relating to one observers house has measured distance of turbine from the wall of the house instead of the curtilage, with distance stated to be 763m to the house, but it is 735m to the curtilage. Turbine would be overbearing, there would be noise and flicker.

- Houses 2km away should have been included in shadow flicker study.

<u>Health and Safety Concerns</u>

- The EIAR does not include Ballymore Childcare Facility Ltd. as a noise sensitive receptor, even though the facility is 2km from the wind farm. Children with autism are sensitive to the sound and visual impact of wind farms (Evans 2017). Wind farms induces stress and psychological disorder, which has implications for certain types of epilepsy and autism.

- Wind Turbine Syndrome is a medical issue. There are several research papers which confirm health issues in children linked to wind farms [papers quoted in submission from Ballymore Childcare Facility ltd.].

- A recent paper by the Centre for Public health QUB is quoted where it states that all the available evidence indicates that an important minority of local inhabitants is severely impacted by noise emitted by wind farm site close to their homes. It is stated that the precautionary principle needs to apply with reference to public health.

- The submitted appendix 5.2 Windfarms and Health Literature Review is substandard, is biased in its methodologies, and was last updated eight years ago and is out of date. A robust review of the health effects of wind turbines is required before a decision can be made on the proposed development.

- HSE 'Position Paper on Wind Turbines and Public Health: HSE Public Health Medicine Environment and Health Group, February 2017' – HSE advises developers on making use of draft Guidelines as a means of setting noise limits and set back distances from nearest dwellings. However, there are other aspects of the report the applicant has not made reference to, including, there is a lack of high quality evidence investigating possible relationships between wind farms and health outcomes, and further research is required. It is premature to conclude there are no adverse health outcomes. Absence of evidence is not evidence of no effect. If approved, the applicant should be mandated by the board to apply the technology to remove all shadow flicker.

- Proposal will have profound psychological affects, as per study by Roy D Jeffery, MD FCFP.

- Blocks of ice can form on blades and present significant hazard.

- Applicant in a leaflet distribution misquoted the WHO's position on windfarms and health impacts. They did not say there is no reliable evidence to support adverse effects of wind turbines on health, they said further work is required to assess fully the benefits and harms of exposure to environmental noise from wind turbines and to clarify whether the potential benefits associated with reducing exposure to environmental noise for individuals living in the vicinity of wind turbines outweighs the impact on the development of renewable energy policies in the WHO European Region.

<u>Grid Connection</u>

- Proposal to install 30km of cabling at Tullamore, but no evidence that applicant has secured this connection to the grid.
- No permission for cabling or substation to allow for grid connection.

Road and Traffic Issues

- Local road network not suitable for accommodation of the proposed commercial vehicles required to develop the wind farm.
- Volume of traffic would cause severe stress, risk and disruption to local community.
- Impact of construction on local road network.
- Question quarries capacity to supply this development and the distance of 50km from the site to the roadstone quarry with resultant emissions given the travel involved and therefore carbon footprint of overall project.

Drainage Issues and Flood Risk

- Construction road proposed could impact on drainage and cause flooding on R390 and L5363.
- Proposal represents overdevelopment of a low-lying river plain, consisting of the Dungolman and Mullaghmeehan rivers.
- Concerns in relation to T2 and T4 which are located on the edges of the mapped PFRA flood zones. T4 is very close to the Dungolman River.
- Concerns about landslide.
- Concern in relation to flooding in area of T3 and T4 given history of flooding.
- Historical flooding of the site not recognised. The area of land between T3 and the Dungolman River is mapped as not being in a flood zone. There has been extensive drainage works undertaken in this area. The area of the original riverbed still floods, where T3 and T4 are proposed. There is very little soakage in the ground and it can take months for these flood to evaporate and the ground to dry. Concern raised that proposed works will destabilise the ground around the river and the proposed second bridge is likely to impact the flow of water downstream. Concern raised that the impact on the river and its connecting drains has been inadequately

assessed. Concerns that bog landslides in other areas also had flood risk assessments which indicated there would be no impact. Concern raises that Dungolman River Plain may not be a suitable location within which to squeeze in a wind farm of this size.

Other Issues

- SEAI wind atlas reports low average wind speed for the proposed site.
- A wind monitoring mast erected by the developer collapsed on two occasions. The mast was in place from April 2021 to January 2022 and the results have not been made available.
- A lidar unit was installed in February 2022 to record wind speed/direction data.
- Solar energy is a more viable alternative.
- Proposed development will sterilise land and the development of future family homes of sons/daughters of landowner.
- Concerns in relation to potential for extension of the wind farm as some landowners have been approached about possibility of extending the wind farm.
- Concerns in relation to landslide as happened in a separate development and a ghost wind farm arising in another development.
- Accuracy of the Community Report is raised.
- Abbeyshrule airfield and Birr airfield not consulted, with the flight path between the two airports over the are of the wind turbines.
- Inconsistencies on the submitted drawings.
- Photomontages are not truly representing the scale of the turbines.

11.0 **Planning Assessment**

11.1. I have read the entire contents of the file, visited the site and surroundings, and have had particular regard to national and local policy in respect of wind farm development. I have also had regard to the submissions contained on file including the submissions of the various observers, prescribed bodies and submissions from Westmeath County Council and Offaly County Council.

11.2. All three sections of this report (Planning Assessment, EIAR Assessment and the Appropriate Assessment) should be read in conjunction so as to avoid unnecessary repetition under each of the sections.

11.3. I consider that the key issues that arise for consideration by the Board under this section of the report relate to the following:

- Principle of the development
- Impact on Hill of Uisneach – Cultural Heritage and Visual Impact
- Matters relevant to the grid connection route
- Other matters

Each of these issues will be dealt with under separate headings below.

11.4. **Principle of Development**

11.4.1. In terms of national policy, there is recognition of the need to urgently move towards a low carbon and climate resilient society with a sustainable renewable energy supply and associated grid infrastructure provision. The Climate Action Plan 2023 states a large-scale deployment of renewables will be critical to decarbonising the power sector, with a requirement to meet a target of 9GW of onshore wind by 2030. At a national level the Wind Energy Development Guidelines 2006 and Draft Guidelines 2019 both emphasise the need to meet national objectives for renewable energy in a manner which is compatible with the proper planning and sustainable development of the area.

11.4.2. The support for wind energy development is also evident within the regional and local level policy context. CPO10.140 of the Westmeath County Development Plan (WMCDP) seeks to facilitate measures which reduce emissions of greenhouse gases and support the implementation of actions identified in the Westmeath County Climate Action Change Adaption Policy 2019 – 2024. CPO10.141 of the WMCDP seeks to promote and support the use of renewable forms of energy as a contribution towards energy demand in all new buildings where it is consistent with the proper planning and sustainable development of the area.

11.4.3. It is noted that Westmeath County Council (WMCC) recommends that planning permission be refused specifically on the basis that the proposed development

contravenes CPO10.1.46, which is 'to strictly direct large scale windfarms onto cutover/cutaway peatlands', as the proposal is not on peatland. It is the opinion of WMCC that the proposal is not therefore supported by development plan policy. I note since the Ministerial Direction on the WMCDP, this policy is now numbered CPO10.145 and I will refer to it as such in the remainder of this assessment.

11.4.4. I note that the development plan as adopted was prepared with due regard to current national and regional climate action and planning policy, and was subject to evaluation by the Office of the Planning Regulator for compliance with said policy.

11.4.5. I refer the Board to relevant case law which would support the view that the policies and provisions of the development plan would take precedent over national policy. In the case of *Brophy v. An Bord Pleanála [2015 IEHC 433]* Baker J rejected the argument that where there is a conflict between the development plan and national policy, expressed in the Ministerial Guidelines, the latter should prevail. A similar view was held in *Murtagh v An Bord Pleanála* (unreported High Court March 29th 2023), which notes that the primacy of the development plan extends to cases where there is a conflict between its provisions and a policy of the NPF.

11.4.6. Having regard to the wording of CPO10.145, which is 'to strictly direct large-scale energy production projects, in the form of wind farms, onto cutover cutaway peatlands in the County…', and given the proposed development falls within the WMCDP definition of a large scale energy project, I am of the view that to permit this development would be a material contravention of this policy objective. Having regard to recent case law, I consider that the proposed development should be refused on this basis.

11.4.7. The Board will be aware that under section 37(2)(a) of the Planning and Development Act 2000, as amended, it may, in determining an appeal under that section, decide to grant a permission even if the proposed development contravenes materially the Development Plan. It is open to the Board to consider the development against S37(2)(a) of the Act, notwithstanding my opinion in relation to recent case law.

11.4.8. The WMCDP 'Wind Energy Capacity' Map (Map 69) categorises the entirety of the county as being of 'low capacity' for wind energy developments, with the exception of the area of the Hill of Uisneach, which has 'none'. It appears that the designations for

wind energy have been made in the context of wind energy potential combined with the landscape character. The location of the proposed development is within an area designated as of low capacity. I note the adopted Ministerial Direction did not call for a review of the wind energy map. I also note that there is no policy objective in the plan to say that the siting of a wind energy development cannot be in within an area designated by the plan as being of low capacity. The plan is not materially contravened in this regard.

11.4.9. Observers claim that the national wind energy guidelines are inadequate, out of date and relate to a different scale of turbine and that the use of the 2019 Draft WEDGs should be applied, albeit they are also considered inadequate. I note that the WEDGs remain national policy and the Board must take them into account. However, some legal judgements have referenced the need to have regard to the draft national guidance, therefore I consider both as set out in relevant sections of this report. Overall, I am satisfied that the issue regarding national guidance in terms of the adopted and existence of draft guidelines does not militate against the making of a decision in this case. I would emphasise that the guidance is not prescriptive or binding and is only one part of the package of information to be taken into account by the Board in assessing an application.

11.4.10. A policy objective in the development plan, referred to in submissions, related to separation distances from turbines to dwellings. This policy has been removed by Ministerial Direction. I have examined the various documents including the Ministerial Direction of September 2022. I am satisfied that the said objective has no legal status, having been removed from the plan, and is not relevant to the consideration of this application.

11.4.11. The 'Draft Revised Wind Energy Development Guidelines', issued by the Department of Housing, Planning and Local Government in 2019, states that the setback distances should be four times the tip height between a wind turbine and the nearest point of the curtilage of any residential property, subject to a mandatory minimum setback of 500 metres. A minimum separation distance of 740m would therefore be required for turbines within a tip height of 185m. I note the guidance as set out in the Wind Energy Development Guidelines (WEDGs) 2006 remains statutory guidance under Section 28 of the Act.

11.4.12. In conclusion, the proposed windfarm would be compatible with European, National and regional planning and renewable energy policy, as set out in Section 5 of this report and it would contribute to the achievement of European and national renewable energy targets. However, having regard to policy objective CPO10.145 of the WMCDP 2021-2027, I am not satisfied that the principle of the proposed development is acceptable on these lands, which are not cutaway/cutover peatlands. The proposed development in my view materially contravenes CPO10.145 and would, therefore, be contrary to the proper planning and sustainable development of the area and I recommend that planning permission be refused on this basis.

11.5. Hill of Uisneach – Cultural Heritage and Visual Impact

11.5.1. The Hill of Uisneach is located c. 8.8km west of the nearest turbine proposed within the application site. The Hill of Uisneach is part of the 'Royal Sites of Ireland' grouping, which has been included by the Government in Ireland's 2022 UNESCO World Heritage Tentative List for World Heritage Site Status. The Tentative List is an inventory of natural and cultural heritage sites that may have potential to demonstrate Outstanding Universal Value (OUV) and therefore be considered suitable for nomination to the World Heritage List.

11.5.2. In relation to the Royal Sites of Ireland, there are six separate sites, which are stated in the submission to UNESCO to be unique through their well-preserved cultural continuity and large scale Iron Age complexes. Four of the places are reputed to have been the provincial royal capitals of Ireland; Rathcroghan, Co. Roscommon in Connaught; Navan Fort, Co. Armagh in Ulster; Dún Ailinne, Co. Kildare, in Leinster; Cashel, Co. Tipperary, in Munster. Tara, Co. Meath had a special status as the seat of the High King and in all cases, their kings, 'Rí Temro', had claim to supreme kingship. The sixth site, Uisneach, Co. Westmeath, was seen as the omphalos or centre of Ireland and the point at which the provinces converged. It had a symbolic function that bound the provinces together spiritually. Under the submission in relation to 'Justification of Outstanding Universal Value' it is stated that 'All of the Royal Sites form part of larger archaeological landscapes characterised by a large concentration of ritual monuments. Situated on strategic and elevated locations, the Royal Sites are organically evolved relict cultural landscapes where the pre-Christian kingship in Ireland evolved and ended. The Royal sites are directly associated with

Irish mythology and traditional beliefs and continue to represent spiritual and symbolic centers of Irish culture and identity, which have influenced approaches to life in many countries of the world'. It is indicated that the Royal Sites must remain on the tentative list for at least one year before nomination to UNESCO, and the nomination process with UNCESCO takes place over a period of four to six years.

11.5.3. As stated in the submission from the DHLGH, the Hill of Uisneach incorporates a multi-period archaeological complex including eight barrows, six ring ditches, a megalithic tomb, two standing stones, four enclosures, six ringforts, four souterrains, and two holy wells, all of which are recorded monuments under the RMP. It is stated that a key attribute of the complex is its prominent hilltop location, which is also central to its potential OUV, and provides a visual focus for a wider cultural landscape. The panoramic views are considered to be important to the authenticity of the site in the present day and the Department states it is important that any potential effects to the visual links between the Hill of Uisneach and its cultural hinterland are adequately understood and assessed.

11.5.4. I note the Hill of Uisneach is situated is in private ownership, with private tours of the hilltop offered to tourists. The applicant states they were not permitted to take a photomontage from the top of the Hill. The applicant has submitted a photomontage from Knockastia Hill, to the southwest of the Hill of Uisneach, which is linked historically/culturally to that site, and a rendered wireline view.

11.5.5. A number of submissions raise concerns in relation to the visual and cultural impact of the proposed wind farm on the Hill of Uisneach. Submissions consider that the adverse impact of the proposed windfarm on the visual amenity, setting and integrity of the cultural landscape of Uisneach, risks undermining the Outstanding Universal Value (OUV) that underpins its nomination for UNESCO World Heritage Site status. It is contended the submitted wireframe model in place of a photomontage is inadequate. It is further considered that while it is important to meet our climate goals, that this should not be at the expense of our most significant cultural and natural landscapes.

11.5.6. The PA raises significant concerns in relation to the Hill of Uisneach, as does the OPW and the Department of Housing Local Government and Heritage (DHLGH). The department considers there to be deficiencies in the overall methodology and

scope of the AIA in relation to the Hill of Uisneach, and both the department and OPW note the lack of reference to relevant guidance of 'Guidance and Toolkit for Impact Assessments in a World Heritage Context' (UNESCO) and 'Guidance for Wind Energy Projects in a World Heritage Context' (UNESCO), with overall limitations in the Landscape Visual Impact Assessment in relation to the Hill of Uisneach noted. The DHLGH also notes limitations in the LVIA as carried out with no photomontages and reliance on a digitally rendered wireframe model, which notwithstanding access issues for the applicant, is not sufficient in the context of the sensitivity of the Hill of Uisneach site and its wider cultural landscape setting.

11.5.7. The draft Wind Energy Development Guidelines (WEDGs) under the heading of policy context, states that notwithstanding the clear benefits of promoting wind energy development in the context of tackling climate change, a balance needs to be struck in order to ensure that wind energy development does not materially affect our natural and built environment. The draft WEDGs recognises the importance of landscape and references UNESCO world heritage sites.

11.5.8. The operative development plan acknowledges the importance of the Hill of Uisneach, with policy CPO 13.7 stating 'Ensure that any significant, industrial and or infrastructural developments (excluding residential; agricultural buildings; tourism; greenway; cultural; educational or community buildings), which would impact upon Uisneach and or its protected views will not be permitted due to the sensitivity of the site'. While the importance of the Hill of Uisneach is recognised in the county development plan and through its inclusion on the tentative list for World Heritage status, no specific detail is provided in relation to the OUV of this particular site and therefore no detail in relation to the specifics of its 'Outstanding Universal Value' or what in particular within the panoramic view is important.

11.5.9. The primary impact of this development is considered to relate to the visual impact of the windfarm on the Hill of Uisneach, when viewed from the Hill of Uisneach. The EIAR rates the impact of the windfarm on the site as 'Moderate'. Having regard to all submissions and the application documentation, including EIAR, and having reviewed the site and surrounds, I am not satisfied that the issue of the impact on the Hill of Uisneach has been adequately addressed. As raised in the submission from the DHLGH, the EIAR does not reference the 2022 World Heritage Tentative List (it references the 2010 list) and the EIAR does not address the likely effects of the

proposed development on the potential Outstanding Universal Value (OUV) of the Hill of Uisneach, as referenced in the tentative list submission (see link to submission from the Department's submission: www.worldheritageireland.ie/tentative-property/the-royal-sites-of-ireland/). I note the submission on the tentative list in its conclusion states 'There is the potential for threats to affect the visual links of the sites to their cultural landscapes but these are controlled through the spatial planning processes'. It is not clear to me from the reading of this submission what elements of the cultural landscape when viewed from the Hill of Uisneach are key to its OUV and this is a key element of information missing/element of assessment missing in order for the spatial planning process to be effective. I note the windfarm does not interfere with the intervisibility between the Hill of Uisneach and Knockastia, however, other such cultural elements of significance in the wider hinterland are not identified as important views/line of sights from the Hill, indeed the line of sight to Knockastia is not specifically identified in any documentation.

11.5.10. As a working landscape, it can be expected that the landscape is constantly changing and evolving, however, the context of the extent or viewshed from the Hill which a development such as this would affect in terms of what elements/viewshed when viewed from the Hill are significant is not clear. I note that when one looks south from the Hill of Uisneach a windfarm exists along the horizon which in my view is not a significant impact. There is a balance needed in determining the impact on cultural heritage while allowing a landscape to continue to work, and windfarms are a working element within the modern landscape. In this case, the lack of information and assessment in terms of what elements of the working landscape are important when viewed from the Hill of Uisneach means a decision on this application as submitted cannot ensure protection of its OUV and standing within the tentative list.

11.5.11. As indicated in the Department's submission, while the site is not yet a UNESCO site it would be best practice for the EIAR for any project with potential impacts to have regard to both the UNESCO Guidance and Toolkit for Impact Assessment in a World Heritage Context and the UNESCO Guidance for Wind Energy Projects in a World Heritage Context. I note these guidance documents are supported by real life examples of planning assessments of developments against the guidance provided. Neither of these documents have been considered in the EIAR.

11.5.12. Recognising the importance locally, nationally and potentially internationally of the Hill of Uisneach, I consider the analysis of cultural heritage and visual impact assessment in the EIAR to be deficient. Notwithstanding the issue I have raised in Section 11.4 of this report in relation to development at this location being in material contravention of policy objective CPO10.145, I recommend (should the Board wish to further progress its assessment of this application), further information would be required to request the applicant to undertake a revised AIA and to assess the potential impacts of the proposed development against the relevant UNESCO guidance documents. It is important that any assessment using such guidance documents would be undertaken by a person suitably qualified and experienced in the assessment of UNESCO sites and such an assessment would need to be undertaken in consultation with the DHLGH and Westmeath County Council.

11.6. Matters Relevant to the Grid Connection Route

11.6.1. I note that the proposed grid connection route (GCR) does not form part of this application and will be subject of a separate planning application, however, it is considered in the EIAR and NIS submitted with this application in terms of potential environmental impacts and cumulative impacts.

11.6.2. The route of the proposed underground grid connection is described as follows in the submitted NIS:

> The underground electrical cabling route will originate at the proposed onsite substation and run south for 0.2km within an agricultural field within the Wind Farm Site before meeting the local public road L5336 in the townland of Umma More. The underground electrical cabling route will continue southwest along local roads for approx. 10.4km before joining the R446, in the townland of Newtown. The underground electrical cabling route will continue east along the R446 for approx. 8.4km and continues south onto the R436 at the western boundary of the town of Kilbeggan, in the townland of Kilbeggan. The underground electrical cabling route will continue south along the R436 for 0.2km before continuing east on to the L5213 local road in a residential housing estate (Meadow Park, Co. Westmeath) in the townland of Meadowpark for approx. 0.1km before reaching the River Brosna. As detailed

in Section 3.2.6.7.4 below, the cable ducts for the underground electrical cabling route will be installed under this watercourse via directional drilling (DD). This crossing methodology for the River Brosna (identified as Grid Connection underground electrical cabling trench watercourse crossing no. 7) will ensure that no contact will be made with the watercourse during the works. Once the River Brosna is crossed, the underground electrical cabling route will continue east into a residential housing estate (Brosna Park, Co. Westmeath) along the L52084 and L52085 in the townland of Kilbeggan for 0.2 km. The underground electrical cabling route will continue south along the L5208 for 0.8km before reaching a footpath that runs adjacent to the M6 motorway in the townland of Kilbeggan and Kilbeggan South. The underground electrical cabling route will continue under the M6 via a footpath that joins local roads north and south of the M6 for approx. 0.4km, the underground electrical cabling route will continue along the local road for 1km before continuing onto the N52 in the townland of Hallsfarm. The underground electrical cabling route will continue south along the N52 for approx. 7.9km until it meets the Ardan roundabout at Tullamore. The underground electrical cabling route meets the local road off the roundabout and will continue along the local roads for approx. 1.4km before entering the 110kV Thornsberry substation property and connecting into the substation compound.

11.6.3. Some submissions raise concerns in relation to project splitting. Project splitting arises where an overall project is split into different components in order to circumvent the requirement to carry out EIA, as each component of the project would be compartmentalised to fall below the threshold for which EIA would be required. The EIA Directive does not preclude projects from being subject to separate decisions provided that all the impacts have been properly assessed. The connection to the national grid does not form part of the application, however, a grid connection option has been put forward with the preferred route and a full consideration and assessment of the grid connection is provided for in the EIAR and in my assessment. I am satisfied that the level of detail provided is such to enable a proper assessment of the potential environmental impacts arising. This approach follows the High Court judgement ‘O’Grianna and others v. An Bord Pleanála [2015]

IEHC 248'. The grid connection route is assessed in greater detail within Section 12 of this report relating to EIA.

11.6.4. The TII submission highlights concerns relating to a future road scheme which TII considers will be adversely impacted by the grid connection route (GCR). The national route referred to by the TII and also referred to by Offaly County Council in their submission, is the N52 Tullamore to Kilbeggan Link Road Scheme. Both consultees object to the proposed GCR on the basis of the impact on the existing route and on the planned link road. TII considers the proposal to lay high voltage cabling in the N52 Tullamore to Kilbeggan Scheme constraints study area prior to the finalisation of the proposed preferred route corridor for the N52 works is premature.

11.6.5. I note the emerging preferred route corridor has been selected for public consultation, however, no detailed route or design has yet been proposed. The emerging preferred route is indicated to be located east of the existing N52 and along the existing road alignment. The objectives of the WCDP 2021-2027 include to support and provide for improvements to the national road network including preserving corridors for proposed routes free from development so as not to compromise future road schemes (CPO 10.47 and CPO 10.63). The Offaly County Development Plan further supports the upgrade of the N52 within its boundary under policy SMAO-11. As to whether or not the development would be considered to be premature, is not something that can be considered within the remit of this application. I would reiterate that this application is not assessing the grid connection route as it does not form part of this application, but assesses the potential environmental issues along the identified route, which are considered in terms of alternatives within Chapter 2 in the EIAR and within the other chapters of the EIAR. While not being assessed as part of this application, I note the proposed GCR is underground and there are numerous cases where cabling is accommodated within various scaled road corridors. I consider it appropriate to assess the route as proposed in the EIAR and I refer the Board to Section 12 hereunder. I note no significant environmental issues arise in relation to the proposed route of the underground grid connection.

11.6.6. I conclude that the proposed development does not contravene the relevant policy provisions and that the proposed development is not premature pending a road

layout being designed, adopted and constructed for the N52. The grid connection will be subject to a separate planning permission.

11.7. Other Matters

Compliance with SID Parameters

11.7.1. Regarding the observers' concern that the application does not specify the actual size, make and model of the turbines. I have reviewed the information submitted and note that while the exact turbine model to be selected is not given as this will be subject to future tendering process, the dimensions are stated for assessment.

11.7.2. Observers have questioned the strategic infrastructure status under the Act and one submission presents detailed arguments to support their claim that the 50 MW capacity cannot be met. There is discussion on the wind energy capacity factors relevant to the area and assumptions made by the developer and it is stated that the information provided by the applicant is lacking. The applicant states that the site while located within an area of low wind energy capacity as per the current development plan, it was rated as a medium capacity area under the previous development plan. The applicant considers the wind farm can operate at over 50MW capacity as proposed.

11.7.3. Having regard to the content of submissions and the application documentation, I note that the policy of the development plan does not preclude low wind speed areas from the development of wind farms and while a variation in energy production may arise due to a variation on wind speeds, it is not clear to me that the proposal could not meet the minimum requirements to be considered a SID project. I can only assess the information before me and I do not consider sufficient evidence has been submitted to counter the applicant's figures in terms of potential output.

Unoccupied Dwellings and New Dwellings

11.7.4. Observers raise issue with the lack of consideration of unoccupied and derelict dwellings in the assessment for visual, noise and flicker impacts and lack of consideration for renovation of said dwellings or construction of new dwellings for family members of existing rural dwellers.

11.7.5. The applicant has in my opinion submitted a robust assessment of occupied dwellings and set distances within which certain parameters were considered. I refer the Board to Section 12 of this report on EIA for more detailed assessment. I do not consider it reasonable to have included all dwellings on the basis that they may one day be re-occupied or on the basis of the potential of the lands in the area to accommodate rural dwellings, which may or may not ever be applied for or permitted. I am assessing the proposal on the basis of the existing environment and all relevant planning considerations. I am satisfied based on the submissions made and information submitted, that I have sufficient information before me to undertake this assessment.

Public Consultation and Community Report

11.7.6. I note the number of observations which question the level and genuine nature of the public engagement, accuracy of information within leaflets circulated in the area and the similarity in content of the community report with other such reports for other developments.

11.7.7. Chapter 2 of the EIAR on Background outlines community consultation undertaken and Appendix 2-2 comprises a community report. While I note the objections and concerns raised, the applicant's approach has had regard to the relevant guidance for wind farms and the proposal has complied with statutory requirements with regard to publication of site and newspaper notices. I note in this regard the significant number of observations made to the Board, which is indicative of the wide level of public awareness of the proposed development. The observations set out detailed concerns regarding the potential planning and environmental impacts of the proposed development and associated mitigation measures. These issues will be addressed throughout this report, however, I conclude that the applicant has demonstrated that adequate public and stakeholder engagement took place.

Legal Entitlement

11.7.8. I note that a grant of permission does not permit the applicant to encroach on 3rd party lands to facilitate any works including road improvement/realignment works. In addition, should permission be granted the development would be required to be carried out strictly in accordance with the plans and details accompanying the application. The applicant should also be advised of Section 37H(6) of the Planning

and Development Act, as amended, which states that a person shall not be entitled solely by reason of a permission under section 37G to carry out any development.

12.0 Environmental Impact Assessment

12.1. Statutory Provisions

12.1.1. Part 1 of Schedule 5 of the Planning and Development Regulations 2001 (as amended), includes a list of projects for which mandatory EIA is required. Part 2 of Schedule 5 provides a list of projects where, if specified thresholds are exceeded, an EIA is also required.

12.1.2. The proposed development falls within the definition of a project under the EIA Directive as amended by Directive 2014/52 and falls within the scope of Class 3 (i) of Part 2 of Schedule 5 of the Planning and Development Regulations 2001, as amended:

> Energy Industry
>
> (i) 'Installations for the harnessing of wind power for energy production (wind farms) with more than 5 turbines or having a total output of greater than 5 megawatts' require EIA.

12.1.3. The proposed development with a total of 9 no. turbines with an estimated total output in the region of 55.8 MW (mid-range) exceeds these thresholds and is therefore subject to mandatory EIA.

12.1.4. The EIAR is laid out in three volumes.

- Volume 1a comprises a non-technical summary and includes chapters 1-9. Chapter 1 sets out the introduction and methodology including a list of the competent experts involved in preparing the EIAR. Chapter 2 provides a background to the development Chapter 3 examines site selection and reasonable alternatives. Chapter 4 provides a description of the site, context, and proposed development.

- Volume 1b comprises chapters 10 to 17 - Chapter 15 examines potential of interactions between the various factors. Chapter 17 provides a summary of mitigation measures.

- Volume 2 comprises a photomontage booklet.

- Volume 3 comprises appendices 2-1 to 9-4.

12.1.5. I have carried out an examination of the information presented by the applicant, including the EIAR, and the submissions made during the course of the application. A summary of the results of the submissions made by the planning authority, prescribed bodies, and observers has been set out at Sections 8-10 of this report respectively. The main issues raised specific to the EIA can be summarised as follows:

- Visual impact on the immediate and wider area
- Impact on cultural heritage of the area
- Residential Amenity with regard to noise and shadow flicker
- Biodiversity and impact on birds
- Water quality
- Material Assets –Transport

These issues are addressed below under the relevant headings, and as appropriate in the reasoned conclusion and recommendation.

12.1.6. As is required under Article 3(1) of the amending Directive, the EIAR describes and assesses the direct and indirect significant effects of the project on the following factors:

(a) population and human health;

(b) biodiversity with particular attention to the species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;

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

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

It also considers the interaction between the factors referred to in points (a) to (d).

12.1.7. In compliance with the provisions of Article 5(3), the EIAR tabulates the inputs and qualifications of the study team and contributors under Section 1.8 of Chapter 1. I am satisfied that the EIAR has been prepared by competent experts to ensure its completeness and quality.

12.1.8. This EIA has had regard to the application documentation, including the EIAR, and the observations received, as well as to the assessment of other relevant issues set out in Section 12 of this report above. This EIA Section of the report should therefore, where appropriate, be read in conjunction with the relevant parts of the Planning Assessment.

Major Accidents/Disasters

12.1.9. Article 3(2) of the Directive requires the consideration of effects deriving from the vulnerability of the projects to risks of major accidents and/or disasters that are relevant to the project concerned.

12.1.10. This aspect is addressed under Chapter 16 of the EIAR. In summary there is limited potential for significant natural disasters to occur at the proposed wind farm site. Potential natural disasters that may occur are flooding and fire. The risk of significant fire affecting the wind farm and causing the wind farm to have significant environmental effects is limited. There is a potential for mechanical failures and fires in any given energy generation facility/industrial facility but that mechanical/technical failure and fires at substations are very rare. I refer the Board to the emergency response plan set out in Section 5 of the CEMP provided in Appendix 4-2.

12.1.11. The proposed development site is relatively flat and is not a peatland site, therefore there is low/no potential for peat slides or landslides. There is some fen peat identified on the EPA and GSI mapping related to the site, but no peat has been logged or identified on the site. The Gird Connection Route (GCR) has been assessed and no significant impact in terms of landslide has been identified.

12.1.12. In terms of potential flooding, a SSFRA has been carried out on the site (Appendix 9-1) and areas at risk of flooding have been identified. All proposed turbine locations, substation, construction compounds, mast, and access roads are outside the identified flood zones, with the exception of a 110m section of access track between T4 and T5, which can be mitigated by building up the road in this section above the modelled flood elevation. No issues arise along the GCR due to the depth of the underground cabling route.

12.1.13. Modern turbine design incorporates mechanisms that come into play under extreme weather conditions including automatic shut down in periods of excessively high wind-speeds. I am satisfied the wind turbines themselves pose no threat to the

health and safety of the general public. The wind farm site is not regulated or connected to or close to any site regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations i.e. SEVESO and so there is no potential effects from this source.

12.1.14. In terms of Aircraft Collision/Loss, a submission from the IAA set out lighting requirements for turbines. The coordinates and elevations for built turbines will be supplied to the IAA, as is standard practice for wind farm developments. The Grid Connection will not affect any air strips or aircraft during both its construction and operational phase.

12.1.15. It is considered that having regard to the nature and scale of the development, there are unlikely to be any effects deriving from major accidents and or disasters and I am satisfied that this issue has been addressed satisfactorily in the EIAR.

Alternatives

EIAR

12.1.1. Consideration of reasonable alternatives is addressed in Chapter 3 of the EIAR. This chapter assesses a do-nothing scenario, as well as consideration of alternative locations, renewable energy technologies, turbine numbers and model, layout and design, design of ancillary structures, grid connection cabling route options, transport route and site access and alternative mitigation measures.

12.1.2. The EIAR assesses the potential for continuation of existing low intensity agriculture and forestry on the site. Alternatives were discounted as there would be a loss of an opportunity to contribute to the national and EU targets for the reduction in greenhouse gas emissions, the loss of an opportunity to generate local employment and investment and to reverse the trends of population decline and rural deprivation.

12.1.3. With respect to alternative locations, the strategic site selection process which was undertaken is described with reference to development plan policy, designated sites, wind speeds as per the Irish Wind Atlas by SEAI, set back from sensitive receptors, and access to the national grid. Transport route and grid connection options are also considered. The low wind capacity of this part of the country is commented upon by observers and is also acknowledged in the EIAR, however, it is stated that wind speed in the area would indicate the site is commercially viable, with wind speeds of

7-8m/s. The applicant notes the previous development plan classified the area as having a medium capacity. The applicant also notes that the development plan policy favours cutover cutaway peatlands in the county as the preferred location for large-scale energy production.

12.1.4. In terms of alternative renewable energy technologies which would be suitable for the site, an assessment is presented of an alternative of solar energy which for the same electrical output would require a larger site. Table 3-2 presents a comparison of environmental effects of a solar development option.

12.1.5. With respect to the consideration of alternative turbine numbers and the turbine model, the potential power output from each turbine is stated to be in the range of 4MW to 7MW, with a total output in the region of 55.8 MW (mid-range). The applicant states that similar output could be achieved with smaller turbines, however 22 turbines would be required in place of the proposed 9 turbines. It is considered that smaller wind turbines would not be the most efficient in terms of the wind resource, the land to be occupied and increased potential for environmental impacts. The turbine model to be installed will be subject of a competitive tendering process and it is proposed that it will have an overall ground-to-blade tip height of 185 metres; a rotor diameter of 162 metres; and hub height of 104 metres. The potential environmental effects of installing a larger number of smaller wind turbines are presented in table 3-3 of the EIAR.

12.1.6. The layout of the proposed development is stated to have been revised and refined throughout the preparation of the EIAR and informed by site investigations, collaboration between specialists involved, and comments of the statutory and non-statutory organisations.

12.1.7. The design and layout are stated to have considered the 2006 Wind Energy Development Guidelines (WEDGs) and proposed changes under the new draft guidelines. The constraints map for the site is stated to have incorporated a minimum of 720m buffer from residential dwellings, except in the case of one derelict dwelling which is 571m from T4, in compliance with the requirement of the draft WEDGs. There is a 200m plus buffer from European sites, 50m minimum from natural water courses, 30m buffer plus from archaeological sites and zones of notification, telecoms operator setback requirement, and site-specific flood modelling

for 100-yr and 1000-yr events. I note that 4 times the tip height of 185m is 740m from the nearest point of the curtilage of a dwelling, and not 720m as indicated, however the constraints map included (figure 3-2) does indicate a 740m buffer from third party properties, therefore the reference to 720m appears to be a typographical error. I note this section of the report relates to alternatives considered and the issues of distances from sensitive receptors is discussed in more detail in Section 12.3.25 of this report (Visual Impact).

12.1.8. The turbine layout takes account of the site constraints and distances to be maintained between turbines and buffer zones. The results of noise, landscape and visual and shadow flicker assessments was also taken into account in the layout proposed.

12.1.9. The proposed development went through eight layout iterations, which are shown on Figure 3-3 and Figure 3-6. Following identification of the location of the proposed turbines the internal road network connection between the turbines was designed.

12.1.10. Material for construction of the development will be mainly obtained from four quarries, with the location of these shown in Figure 4-23. Consideration was given to the use of on-site borrow pits, but the impacts were considered greater than that which would be generated from construction traffic travelling from the quarries identified to the site. Table 3-5 compares the environmental effects of the use of an on-site borrow pit compared with sourcing the material off site.

12.1.11. Underground cabling was considered by the applicant to be preferable to overhead lines, as supported by the 2006 WEDGs. The underground cables will follow the route of existing public roads thereby minimising the amount of ground disturbance required.

12.1.12. There are three 110kV substations within 25km of the site, namely at Athlone, Thornsberry and Mullingar. Mullingar is congested, therefore the other two substations were examined, having regard to ecological, hydrological and geological constraints. The connection preferred is to the existing 110 kV substation at Thornsberry. The final underground cable route is presented in Figure 3-10.

Assessment

12.1.13. I consider that the EIAR contains a description of reasonable alternatives which is thorough, and which includes revisions made in response to issues arising. It is clear that a wide range of options were considered and that environmental factors were considered in the judgements made, leading to the final design including the construction methodology and the associated infrastructure.

12.1.14. With respect to the observers' comments relating to consideration of solar and other renewable energy types, I consider that the topic has been adequately addressed in the application documentation.

12.1.15. The suitability of the site in principle is questioned by observers and is considered unacceptable to the planning authority on the basis of CDP policy. This is addressed in detail in the planning assessment above. I do not consider that any further information is required on this point.

12.1.16. I conclude that the legislative requirement to provide information relating to the reasonable alternatives which were considered, has been met.

Consultations

12.1.17. Details of the consultations entered into by the applicant as part of the preparation of the application and EIAR are set out in chapter 2, supported by Appendix 2-1 Scoping Responses and Appendix 2-2 Community Report.

12.1.18. I am satisfied that the participation of the public has been effective, and the application has been made accessible to the public by electronic and hard copy means with adequate timelines afforded for submissions.

12.2. Likely Significant Direct and Indirect Effects

12.2.1. This section of the EIA identifies, describes and assesses the potential direct, indirect and cumulative effects of the project under each of the environmental factors referred to in Article 3 (1) of the Directive. I will address the environmental factors in the following chronology in line with that set out in the Directive:

- (a) Population and human health
- (b) Biodiversity, with particular attention to the species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC
- (c) Land, soil, water, air and climate

- (d) Material assets, cultural heritage and the landscape;
- The interaction between the factors referred to in points (a) to (d).

12.2.2. My assessment is based on the information provided by the applicant, including the EIAR, in addition to the submissions made in the course of the application, as well as my site visit.

12.2.3. I note that no technical difficulties were encountered in the preparation of the EIAR (Section 1.9). In terms of the content and scope of the EIAR, the information contained in the EIAR generally complies with article 94 of the Planning and Development Regulations 2001, as amended. Save for the referenced matters below relevant to birds/ornithology, landscape and visual impact, and cultural heritage, I consider that the EIAR is compliant with legislative requirements, is comprehensive, and up to date.

12.3. Population and Human Health

EIAR

12.3.1. Chapter 5 of the EIAR addresses population and human health under the subheadings employment and economic activity, land-use, services, tourism, public perception of wind energy, health impacts and studies, vulnerability to natural disasters and major accidents, property values, shadow flicker, and residential amenity (landscape and visual amenity, cultural heritage and noise are discussed in more detail elsewhere in the EIAR and in this report).

12.3.2. The methodology for assessment is described as well as the receiving environment.

12.3.3. The site is approximately 2 kilometres southwest of Ballymore, Co. Westmeath, 6.6 kilometres to the north of Moate, Co Westmeath and 12.2 kilometres northeast of Athlone, Co. Westmeath.

12.3.4. There are 41 properties located within 1km of the proposed turbines, with 8 of those properties belonging to landowners who form part of the development. The closest dwelling is located approximately 757 metres from the nearest proposed turbine location (T1). There is a derelict property that is located approximately 571m from the nearest proposed turbine location (T4). Of the 41 no. properties located within 1 kilometres of the proposed turbines, 40 are inhabitable dwellings and 1 is derelict.

There is an existing derelict property located within the wind farm site which was historically Umma House and it is stated it will not be occupied should the development be granted planning permission. I note it is not included in the assessment, which I consider acceptable.

12.3.5. There is a total of 115 No. receptors identified within the Shadow Flicker Study Area (ten times rotor diameter of 1.62km), of which 113 are inhabitable dwellings and 2 are derelict properties.

12.3.6. The population density is 23.46 persons per km2, which is significantly lower than national average of 70.05 persons per km2 and county density of 48.23 per km2. The highest level of employment within the Population Study Area was recorded in the Non-Manual category.

12.3.7. Key tourist attractions within County Westmeath include Athlone Castle, Kilbeggan Distillery, The Hill of Uisneach, The Old Rail Trail Greenway, Tullynally Castle and the Royal Canal Greenway.

12.3.8. The EIAR reports on studies undertaken regarding public attitudes to wind farms and the potential for health impacts including from noise, turbine safety, and electromagnetic interference.

12.3.9. Based on a review of international literature presented in section 5.6, it is concluded that there will be no impact on property values (Appendix 5-4 relates to House Prices Study-CXC Scotland 2017).

12.3.10. Potential natural disasters that may occur at the site are limited to flooding and fire. It is considered that a significant effect on human health from natural disasters affecting the wind turbine site is limited.

12.3.11. The development will result in a positive employment, including 80-100 jobs during 18 to 24 months of construction. A Community Fund will be established under the RESS guidelines, which will operate for the first 15 years of the windfarm in accordance with RESS guidelines.

12.3.12. The construction of the development will not have a significant effect on forestry and agriculture existing in the area and the grid connection will not affect the road network in terms of its use being retained.

Shadow Flicker

12.3.13. Shadow flicker against the 2006 Wind Energy Development Guidelines (WEDGs) is considered, in addition to consideration of the draft guidelines. The assessment is based on compliance with the 2006 WEDGs limit (30 hours per year or 30 minutes per day). Software package ReSoft WindFarm Version 5.0.1.2 has been used to predict the level of shadow flicker. Turbine dimensions utilised in the software include ground-to-blade tip height of 185 metres; blade rotor diameter of 162 metres and hub height of 104 metres. The study area is ten times the rotor diameter from each turbine (1.62km) which incorporates 113 dwellings and 2 derelict properties. It is noted that while the draft guidelines includes this diameter measurement, the 2006 WEDGs indicate the 30 hours per yr/30 mins per day standard be applied to dwellings within 500m. Umma House is not considered in the assessment as it is derelict and will not be occupied in the future. The closest dwelling is 759m from T5.

12.3.14. Shadow flicker calculations were carried out based on 4 no. notional windows facing north, east, south and west, labelled Windows 1, 2, 3 and 4 respectively. It is noted that shadow flicker impacts are only possible at properties 130 degrees either side to the north as turbines do not cast shadows on their southern side. It was not considered necessary or practical to measure the dimensions of every window on every property in the Shadow Flicker Study Area. It is stated that while the actual size of a window will marginally influence the incidence and duration of any potential shadow flicker impact, with larger windows resulting in slightly longer shadow flicker durations, any incidences or durations or shadow flicker can be countered by mitigation measures. The use of computer models to predict the amount of shadow flicker that will occur is known to produce an over-estimate of possible impact due to assumptions used. The model results assume theoretical precautionary conditions, including 100% sunshine during all daylight hours throughout the year; absence of any screening (vegetation or other buildings); the sun is behind the turbine blades; the turbine blades are facing the property; and the turbine blades are moving.

12.3.15. It is stated that 70 properties may experience daily shadow flicker levels in excess of the Guidelines threshold of 30 minutes per day, of which 69 properties are inhabitable and include 7 participating properties, and 1 property is derelict.

12.3.16. The applicant has made a submission on 5th April 2023 subsequent to the application being made, titled ‘Briefing Note’, the subject of which is ‘EIAR Main

Report: Chapter 5 – Tables 5-9 to 5-11', which relates to the mis-identification of participating properties due to a formatting error. Corrected tables are submitted in the briefing note. It is stated that the corrections do not present any changes in the residual impact assessment for shadow flicker and the findings of the shadow flicker assessment as presented in the EIAR remain the same in light of these corrections.

12.3.17. Where 30% of sunshine average is applied in place of the assumption of 100% sunshine, the limit of 30 hours per year is predicted to be exceeded at 8 properties, 6 of which are owned by third parties and 1 is derelict.

12.3.18. Section 5.9.3.10 outlines the mitigation strategy, which is to undertake site visits of properties in question, determine the existing screening and window orientation, determine if there is a line of sight to any turbine, and then apply mitigation measures of screening and/or turbine shut down through use of a shut down unit. No cumulative impacts from other wind farms in the area are predicted given distances involved.

Noise

12.3.19. Noise impacts and assessment is based on modelling presented in Chapter 11 and associated appendices (see Section 12.9 of this report hereunder). All required guidelines in relation to noise thresholds are stated to be met for the operational phase. The potential effects of noise are also considered at construction stage, which will be mitigated by standard approaches.

12.3.20. With regard to tourist attractions and amenity use around the site, traffic management safety measures will be in place to ensure no significant construction impact and where the cabling crosses under the Old Rail Trail tourist attraction, construction impacts will be temporary and short term.

12.3.21. The increase in noise levels during construction could cause nuisance to sensitive receptors. The noisiest activities associated with the wind farm development are excavation and pouring of turbine bases. Excavation of a base can be completed in one to two days and the main concrete pours are generally continuous and done within a matter of hours. There would be short-term noise impacts along the ground cabling route (GCR). A range of best practice measures will mitigate the slight short term negative impact associated with the construction of

the development. These include restriction on hours of construction and adherence to standards.

Dust

12.3.22. Dust emissions could cause a nuisance to sensitive receptors in the immediate vicinity of the site and along the GCR. Mitigation measures include sourcing aggregate materials from local quarries to reduce emissions and dust suppression measures. Along the GCR two crews will work short lengths. A range of best practice measures will mitigate the slight short term negative impact arising from dust.

Vehicles

12.3.23. Specific traffic related impacts could adversely affect sensitive receptors. The turbine delivery route will include turbine components coming in at Galway Port, via the M6 National Road (other ports such as Shannon Port or Dublin Port could also be used). The proposed turbine transport route from Galway Port is via the M6 National Road, N6 at Athlone, northeast along the N55 for approx. 2.7km, and east onto R390 to the Wind Farm Site for 13.5km before turning south onto the L5363 local road where the route continues south along this road for approximately 1km before turning east into the Wind Farm Site entrance. Non-turbine construction traffic will be comprised of Heavy Goods Vehicle (HGV) and Light Goods Vehicle (LGV) movements involved in the delivery of construction materials to the Wind Farm Site from nearby quarries and the export of excess construction materials and plant from the Wind Farm Site. Traffic associated with the construction phase of the Grid Connection will be predominantly comprised of LGV's and small excavators. A detailed assessment of the geometry of the proposed route was undertaken given proposal of abnormal loads.

12.3.24. Temporary alterations to the road network at critical junctions will be implements as highlighted in Section 13.1.8 of the EIAR. Construction of the grid connection cabling will result in local traffic restrictions. A TTA has been undertaken and the implementation of a traffic management plan (TMP) will ensure impacts are short term and of slight significance.

Visual Impact

12.3.25. The Visual Impact Assessment is presented in detail in Chapter 12. No turbines are located within 757 metres of an inhabitable dwelling and the development achieves the four times tip height (740m) separation distance recommended in the draft Guidelines to mitigate the impact on the visual amenity of dwellings. With the implementation of the mitigation measures outlined in relation to noise and vibration, dust, traffic, shadow flicker and visual amenity, it is considered in the EIAR that the proposal will have an imperceptible effect on residential amenity during the operational phase.

Health and Safety

12.3.26. During the operational phase, there is a very remote possibility of injury from fragments of ice or from a damaged blade, which will be mitigated by the design of the system. A lightning earthing system will be installed and there will be no impact on health and safety. The extremely low frequency (ELF) electric and magnetic fields (EMF) associated with the operation of the proposed cables fully comply with the international guidelines for ELF-EMF set by the International Commission on Non-Ionizing Radiation Protection (ICNIRP), as well as the EU guidelines for human exposure to EMF. Accordingly, there will be no operational impact on properties (residential or other uses) as the ICNIRP guidelines will not be exceeded at any distances even directly above the cables. Operation of the wind farm in accordance with specified mitigation measures will ensure no risks to staff and landowners. Measures will include inspection and maintenance and a health and safety plan.

12.3.27. The operation of the windfarm will generate 2-4 direct jobs. Rental money to landowners will generate income in the local economy and rates payments to Westmeath County Council will go to funding local authority services, which overall will have a positive effect.

12.3.28. Renewable energy production will support reductions in greenhouse gas emissions and in this regard, it will have a long-term significant positive effect.

12.3.29. Following consultation with the relevant broadcasters and phone operators measures to ameliorate interference have been undertaken in the layout of turbines to ensure no interference.

12.3.30. In the decommissioning phase the wind turbines may be removed. The cabling and substation will remain in place. The decommissioning plan is set out in

Appendix 4-6 of the EIAR. The impact and consequential effects will be similar to that during construction.

12.3.31. With regard to potential cumulative impacts, the EIAR considers the impacts of the overall development, including the grid connection works and turbine delivery route works that do not form part of the proposed development before the Board. Other developments have been considered and are listed in Chapter 2 of the EIAR. The closest wind farm to the site is 16km away, therefore there is no potential for cumulative noise, shadow flicker and residential visual effects. When considered in combination with other wind energy developments there will be a long term imperceptible cumulative effect. Overall, it is considered unlikely that any significant adverse cumulative impacts on population and human health would arise.

12.3.32. The residual impacts will not be significant.

Assessment

12.3.33. A broad range of third-party submissions are relevant to the topic of population and human health. The observations which are most relevant to human health relate to noise and air and health impacts due to proximity to turbines including visual effects, shadow flicker and impact on health due to operational noise. There are objections to traffic related disturbance and delays and traffic hazards arising on the selected routes for access. The photomontages, specifically related to the Hill of Uisneach, are considered insufficient and it is contended that the overall visual impact and impact on cultural heritage will be negative. The information submitted in relation to participating properties is stated to be inaccurate and the distances from the turbines do not follow the draft guidelines.

12.3.34. Construction of the proposed wind farm development would result in substantial investment in the area with employment opportunities for construction workers and secondary benefits for local services and materials providers. Given the short-term nature of the construction phase I do not consider that there would be any significant impact on the population or economy during the construction phase.

12.3.35. Reference is made to individual cultural heritage monuments and to features of cultural heritage importance, specifically the Hill of Uisneach. I am of the opinion that the proposed development could potentially detract from the Hill of Uisneach

and a more detailed visual and cultural assessment is required. I refer the Board to Sections 12.15 and 12.16 of this report for more detail.

12.3.36. The community facilities in the area include schools. I do not consider that it is likely there would be any adverse impacts on the school 2km away in Ballymore by reason of noise effects apart from short term traffic related disturbance which in particular could result in increased journey time and could for a period discourage cycling to school. In my opinion these impacts would be short-term and not significant. I am satisfied that construction traffic can be managed under a CEMP and TMP.

12.3.37. Some observers state that the development will lead to further population decline and increased numbers of derelict houses. If the Board considers that the proposed development would be acceptable in terms of local visual impacts, noise and shadow flicker, I consider that there is no basis for concluding that there would be a population decline.

Shadow Flicker

12.3.38. The concern of residents in relation to shadow flicker impacts includes health effects, including impacts on those with special needs who would be very susceptible to such effects. Concerns are raised in relation to the methodology adopted and the lack of specific surveys of all houses and the orientation of their windows prior to the assessment, which is considered to overall result in discrepancies in the results.

12.3.39. The Wind Energy Guidelines 2006 state that it is recommended that shadow flicker at neighbouring offices and dwellings within 500m should not exceed 30 hours per year or 30 minutes per day. The guidelines state that at distances greater than 10 rotor diameters from a turbine, the potential for shadow flicker is very low. Where shadow flicker could be a problem, developers should provide calculations to quantify the effect and where appropriate take measures to prevent or ameliorate the potential effect, such as by turning off a particular turbine at certain times. The Draft Wind Energy Guidelines further highlight that generally only properties within 130 degrees either side of north, relative to the turbines, can be affected at these latitudes in the UK and Ireland- turbines do not cast long shadows on their southern side. It is stated that the relevant planning authority or An Bord Pleanála should require that the applicant shall provide evidence as part of the planning application

that shadow flicker control mechanisms will be in place for the operational duration of the wind energy development project.

12.3.40. I have reviewed the methodology adopted by the applicant and the rationale presented in relation to window surveys. The model results assume theoretical precautionary conditions, including 100% sunshine during all daylight hours throughout the year; absence of any screening (vegetation or other buildings); the sun is behind the turbine blades; the turbine blades are facing the property; and the turbine blades are moving. I do not consider the assumptions made have skewed the model to the disadvantage of the houses input and I am satisfied that the methodology adopted is acceptable and the modeling can be relied upon for the prediction of impacts. I am satisfied that mitigation by way of shut down of turbines at relevant times will prevent shadow flicker, in addition to any screening. This requires application of control modules in the turbines, with software to prevent turbine operation during the specific periods when shadow flicker exceeds the thresholds. The use of such control mechanisms to address potential shadow flicker is a relatively standard feature in modern wind turbines and, given that shadow flicker effects, by their nature, lend themselves to accurate prediction, there is no reason to believe that the shut-down protocols would be ineffective in mitigating the potential impacts in the limited cases where they arise. I consider that it would be appropriate if permission is granted that a condition be attached to require the turbines be shut down as the sole means of mitigation to achieve zero shadow flicker.

12.3.41. I note issues raised by observers with regard to identified participating properties being inaccurate. The applicant has submitted a 'Briefing Note' (dated 05.04.23) correcting what they have identified as a formatting error in the setting out of the tables, stating the outcome is the same. I have reviewed the briefing note and accept that the error has been corrected.

Noise and Human Health

12.3.42. Having regard to relevant guidance on EIA including international guidance the assessment of human health focuses on the environmental factors of significance. I note specifically concerns raised in relation to noise and sleep deprivation affecting human health.

12.3.43. As part of the EIAR's human health assessment, an analysis of literature on potential health impacts arising from wind energy projects was undertaken in Section 5.5 of Chapter 5. It is stated that this identified anecdotal reports of negative health impacts in people living in close proximity to wind turbines but that peer-reviewed research has generally not supported these statements and the literature review did not find any published, credible scientific sources that link wind turbines to adverse health effects. With regard to 'Infrasound', which has been cited as a cause of potential health impacts, the EIAR states that wind turbines do not produce infrasound at amplitudes capable of causing annoyance and reference is made to a Finnish study.

12.3.44. I note that an observer submission references peer reviewed research papers including his own research and submission to Open Journal of Social Sciences. It is stated in the papers that there is an emerging international consensus for separation distance of 2 km by reason of maintaining good health. It is stated that as an important minority can be severely impacted by wind farm noise, therefore a precautionary approach is needed. The concerns outlined by the observer focus on night-time effects and low frequency and amplitude modulation. I accept statements by the observer that sleep disturbance is potentially harmful to health as well as giving rise to nuisance.

12.3.45. I acknowledge the concerns expressed, however, the limits and setbacks applicable in place in relation to noise are designed to protect humans. The Position Paper on Wind Turbines and Public Health issued by the HSE in February 2017 determines that current scientific evidence on adverse impacts of wind farms on health is weak or absent with the need for further research and investigative process at a larger scale. The WHO Environmental Noise Guidelines for the European Union issued in 2018 whilst recognising the potential for increased annoyance risk at levels below 45 dB $_{Lden}$ said it cannot be determined whether this increased risk can impact health. Neither paper references exclusion of persons to whom the limits would be applicable. I am satisfied that should any effects relating to noise, including in relation to low frequency noise, occur that the mitigation measures set out in the application documents will ensure that there will be no adverse impacts on the local population (I refer the Board to Section 12.9 hereunder in relation to Noise and Vibration).

12.3.46. The potential for human health effects related to air emissions is limited to construction dust emissions from traffic. Taking into account the mitigation which largely involves best practice on site, I accept that there is no likelihood of significant adverse impacts related to dust (or any other emission) and no health effects can be anticipated.

12.3.47. The construction phase noise is further assessed and it is concluded that the short-term effects would not adversely impact the local area. Subject to the proposed mitigation measures relevant to the exceedances of operational limits for the turbines, which is discussed further under Noise, it can be concluded that there is no possibility of health effects as a result of the operation of the windfarm.

12.3.48. I note observers contend that the difficulties in the assessment of health issues arise as turbines of this height have never been constructed in Ireland and the actual turbine has not been specified. The applicant's assessment measures relevant effects and presents a robust assessment and demonstrates adherence to adopted criteria. I consider that the likelihood of significant health effects related to the scale of the structure have not been demonstrated.

12.3.49. Observers contend that construction would mean that the local roads would not be suitable for walking, particularly the straight road along the southern boundary which is stated to be well utilised. I acknowledge that there will be some potential indirect impacts in this respect but disagree that they would be significant effects having regard to the low-level population in the area and the availability of a number of other rural routes suitable for exercise. I also note such impacts will be short term in nature while construction is underway.

12.3.50. The EIAR contains a range of health and safety measures which will be relevant to workers at the construction site but also to residents in the area. This includes measures such as emergency response plans, health and safety plans, and others. These plans and particulars are the basis for avoidance of adverse health effects during the construction phase. Subject to finalisation of plans and their implementation there should be no concerns relating to health and safety.

12.3.51. I accept the EIAR conclusion that the noise (and vibration) associated with the construction, operation and decommissioning phases are not expected to have any

significant residual impact subject to the implementation of listed mitigation measures and that there would be no significant residual human health effects.

Visual Impact on Dwellings

12.3.52. One observer objects to the manner in which the draft wind energy guidelines reference of 4 times the tip height has been applied to the distances from properties and considers it has been incorrectly applied to the curtilages of dwellings. It is contended that T4 is not 740m to curtilage of nearest two dwellings but is 710m from one and 735m from another; T5 is within 740m of one dwelling; and T9 is well within 740m of one dwelling; T1 is less than 740m from H1 and H12. In general, it is stated by observers that the visual impact on families whose houses are very close to the turbines has not been adequately assessed.

12.3.53. Under the Planning Assessment section of this report (Section 11) I have referenced the development plan policies CPO 10.143 and concluded that there is no requirement for a specified separation between dwellinghouses and turbines (removed by way of Ministerial Direction from the Westmeath County Development Plan). Nonetheless, I do consider that it is reasonable to have regard to the 2019 Draft WEDGs which set a setback distance for visual amenity purposes of 4 times the tip height between a wind turbine and the nearest point of the curtilage of any residential property in the vicinity of the proposed development, subject to a mandatory minimum setback of 500 metres. In this case a separation distance of 4 times the tip height equates to 740m.

12.3.54. I note the observers calculations in relation to dwellings proximate to T1, T4, T5 and T9. I note there is a disparity in the distances presented, which appears to arise from where the applicant determined the curtilage to be. In this regard a map showing distance from curtilages to the turbines would have been helpful. Nonetheless, having reviewed the distances on the maps on the basis of my own measurements, I note that not all residents are 740m from the turbines on the basis of distances from curtilages, however, I note that the discrepancies are relatively marginal, being over 700m at a minimum. I consider that a difference of c. 5-30m as I have noted would not in my opinion be significant in terms of adverse visual impacts. I note furthermore that in relation to T1 the proposed turbine is at a significantly lower ground level to the dwellings along the road to the west, with the

visual impact mitigated further by this significant difference in levels. Overall, the majority of dwellings are beyond the 740m zone (4 times tip height) and a minimum of 500m separation distance from inhabitable dwellings is maintained, as established under the 2019 Draft WEDGs. I am satisfied that further assessment by the applicant, including further photomontages, are not required. Should the draft WEDGs guidelines be adopted in the interim of a decision being made, the Board may wish to review this position in terms of the location of T1, T4, and T5.

12.3.55. An observer raises an issue that two houses have been left out of the Noise and Shadow Flicker Assessments, with eircodes referenced. I note that one of the two houses has been identified on figure 5-6 Shadow Flicker Study Area, identified as house no. 3, which is included in the mitigation strategy table. I am satisfied that given the proximity of the two dwellings (being next door to each other), that the impacts identified for one house would be likely applicable to the other. Should the Board be minded to grant permission, a condition would be warranted requiring the submission of an updated map to reflect the missing dwelling and to ensure that the mitigation measure of turbine shut down includes an updated report with this dwelling identified and addressed. I consider the mitigation measure of turbine shutdown will be effective in all instances and can be applied to all dwellings where an issue arises.

12.3.56. I conclude that the development is acceptable in terms of the visual impact at individual dwelling houses and that the proposed development would not reduce residential amenity by reason of visual effects.

Land Use and Property Devaluation

12.3.57. Observers refer to devaluation of residential properties and farmland. Observers also raise concerns about the implications for obtaining permission for rural dwellings in the area for local residents if the wind farm gets permission. While any individual application cannot be prejudged, I acknowledge that there could be a conflict between two such developments given required separation distances. I accept that the renewable energy facility could impact the future development of an individual rural dwelling. However, this must be balanced against EU, national and regional and local imperatives to reduce greenhouse gas emissions through the delivery of renewable energy projects.

12.3.58. With regard to residential properties, I have concluded that in terms of residential amenity, no significant impacts arise in relation to visual effects, shadow flicker, noise and health effects. Accordingly, there is also no reasonable likelihood of widespread property devaluation. The issue of property values is assessed in Section 5.6 of the EIAR, where an American and Scottish study were reviewed and the findings were that there is no evidence of a consistent negative effect on house prices due to the presence of wind turbines. I note the studies references in the EIAR are based on America and Scotland given that no Irish study exists, nonetheless given the findings of such studies, separation distances involved in this case which exceed the minimum, and my findings in terms of impact on residential amenity, I consider it reasonable to conclude that the proposed development is not likely to result in a significant impact on property values in the area.

12.3.59. I note that impacts on agricultural land are not specifically addressed in guidelines. There is to my knowledge no proven connection between wind energy developments and adverse impacts on agriculture, albeit there is a visual impact on farmers working the land. I do not consider that there is any evidence submitted to support a conclusion that there would be a significant effect on agricultural activities, and I do not consider the visual impact to be significant.

12.3.60. It is stated by observers that the Board should refuse permission on account of lack of clarity and uncertainty regarding the grid connection. I consider that the EIAR presents considerable information regarding the proposed development including the detailed information provided in Chapter 4 and various drawings which show the types of works which are proposed and while the GCR will be subject to a separate application, I do not consider it reasonable to describe the application documentation as lacking clarity or detail.

Traffic

12.3.61. Traffic related impacts on human beings particularly related to general disturbance and local issues which might arise during construction are assessed throughout this report. I am of the opinion that there will be no significant adverse effects on the local population and no human health impacts as a result of construction phase or operation phase traffic by reason of dust, vehicle emissions,

noise and delays. The construction will require amendment to road junctions which are discussed under Material Assets.

12.3.62. Following mitigation I am satisfied that there will be no residual impacts.

Conclusion

12.3.63. I have considered all of the written submissions made in relation to population and human health. I consider that the proposed development will have significant positive impacts on the local socio-economic environment. I am also satisfied that the potential for significant adverse impacts on population and human health can be avoided, managed and mitigated by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on population or human health.

12.4. Biodiversity with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC

EIAR

12.4.1. Chapters 6 of the EIAR relates to Biodiversity (excluding Birds, which is addressed in Chapter 7 and addressed separately hereunder Section 12.5). Chapter 6 is supported by the following appendices: Appendix 6-1 Botanical Study, Appendix 6-2 Bat Report, Appendix 6-3 Aquatic Invertebrate Survey Report, and Appendix 6-4 Biodiversity Management and Enhancement Plan.

12.4.2. The application site is not located within or adjoining any European sites. A Natura Impact Statement has been submitted which considers the proposed development in relation to European sites of Lough Ree SAC [000440], Lough Ree SPA [004064], River Shannon Callows SAC [000216], and Middle Shannon Callows SPA [004096]. The likely effects, direct and indirect, of the proposed development on species and habitats for which European sites within the zone of influence of the site are designated is considered in Section 13 of this report relating to Appropriate Assessment, which informs the conclusions of this EIA.

12.4.3. The assessment methodology includes a combination of desk top studies using recognised ecological data bases, and field surveys, which were undertaken on the

29th July 2021, 4th August 2021, 17th February, 2022, 11th March 2022, 19th August 2022. The habitat surveys of the site covered the recognised optimum period for vegetation surveys/habitat mapping, i.e. April to September (Smith et al., 2011). Records also include other dedicated species/habitat specific surveys including for otter, bats, aquatic invertebrate surveys and quadrat surveys. Dedicated badger surveys were conducted on the 25th October, 17th December 2019, 8th & 22nd May, 22nd July, 04th September & 24th September 2020 and 30th March 2021. Otter surveys relating to watercourses on the site and along the grid route, where relevant, were undertaken on 17th February 2022. Bats surveys were undertaken between May 2020 and September 2020 and reviewed by an ecologist in 2022, which I consider acceptable. Aquatic surveys of watercourses within the site and along the proposed GCR were undertaken on 19th August 2022. Overall, I consider the methodologies and survey timelines appropriate.

12.4.4. With regard to watercourses on the site, the Dungolman River (EPA Coe: 26d06) flows to the northeast between T4 and T5. This watercourse then flows along the site boundary to the east of T2 and T3 before veering to the northeast to the east of T1. Drainage in this river sub-basin is directed towards the Dungolman River via several smaller streams and drains. The Dungolman River continues to flow to the north before discharging into the Tang River (EPA Code: 26T02) approximately 5.15km north of the site. The southwest of the wind farm site drains towards the Dungolman River via the Toorbeg stream (EPA Code: 26T25). Within the Inny_110 River sub-basin, the northwest of the Wind Farm Site drains to the northwest via the Ardnacrany south stream (EPA Code: 26A50) which discharges into the Dungolman River approximately 4.3km north of the wind farm site.

12.4.5. The Grid Connection underground electrical cabling route is located within the Inny (Shannon) SC_090, the Brosna_SC_030, Brosna_SC_020, Silver [Tullamore]_SC_010 and Tullamore_SC_010 subcatchments. Apart from the Inny (Shannon) SC_090 subcatchment, all the associated subcatchment rivers flow generally southwest towards the Lower Shannon catchment. The primary watercourse within this Lower Shannon catchment (of the underground electrical cabling route) is the River Brosna. The Silver River and Tullamore River drain into the River Brosna.

12.4.6. A number of watercourses that drain the site, ultimately lead to the following downstream European sites, and are further considered in the Natura Impact Statement: Lough Ree SAC [000440] Lough Ree SPA [004064] River Shannon Callows SAC [000216] Middle Shannon Callows SPA [004096]. The following nationally designated sites have been identified as having potential hydrological connectivity to the site: Lough Ree pNHA River Shannon Callows pNHA.

12.4.7. The dominant habitat type on the wind farm site is Improved agricultural grassland (GA1) pasture, and the majority of the wind turbines and associated infrastructure are within this habitat. An area of Conifer planation (WD4) forestry habitat is present within the western area of the site. There is an extensive network of hedgerows within the site, forming boundaries to agricultural fields, with the majority having drainage ditches associated with them. Figure 4-2 in the submitted NIS shows the habitat map overlain with the wind farm layout.

12.4.8. The Grid Connection onsite substation and temporary construction compound are located within site on lands made up of wet grassland. The majority of the lands on either side of the road along the length of the Grid Connection underground electrical cabling route is made up of improved agricultural grassland, with associated Stonewalls and other stonework (BL1), hedgerow (WL1) Treelines (WL2), spoil and bare ground (ED2), associated buildings with depositing lowland rivers (FW2) and drainage ditches (FW4) crossing the underground electrical cabling route. There are a total of 34 identified watercourse and existing culvert crossings along the underground electrical cabling route, of which 11 no. are EPA/OSI mapped crossings, the methodology of which indicates no instream works required for these 11 locations. The remaining crossings are classified as culverts over minor channels or manmade drains.

12.4.9. No third Schedule (EC Birds and Natural Habitats Regulations) invasive species have identified on the site.

12.4.10. No rare or protected flora were found during surveys.

12.4.11. Evidence of otter and badgers were recorded on the site. No evidence of otter was recorded along watercourses where the Grid Connection underground electrical cabling route crossings are proposed. A pine marten den was recorded within conifer plantation within the western area of the site. Given the location of the badgers setts

and pine martin den, the initially proposed access road to turbine T4 was re-located to the current location to avoid disturbance to these features.

12.4.12. White-clawed crayfish were found within the watercourses that flow through the wind farm site.

12.4.13. Result of bat surveys undertaken, including roost surveys, manual transect surveys and ground-level static surveys on the wind farm site and along the GCR are detailed within Appendix 6-2. A number of mature broadleaf trees were identified within the buffer zones of Turbine 1, Turbine 4 and Turbine 5 presenting Moderate and High roosting potential. Habitat features along the underground electrical cabling route, including wet grassland and scrub, were assessed as having Negligible suitability. Three structures containing potential suitable bat roost features were identified: a derelict building (Umma House) and its associated outbuildings, and an agricultural shed. These structures will not be impacted by the development. From the transect surveys bats were observed and recorded commuting along the linear features between the surveyed derelict building and treelines to surrounding areas. From the ground level static surveys, common pipistrelles were the most frequently recorded, followed by soprano pipistrelle, leisler's bat, myotis, brown long-eared bat and nathusius pipistrelle. The habitats within the wind farm site are states to be utilised by a regularly occurring bat population of Local Importance.

12.4.14. Receptors and habitats identified as Key Ecological Receptors are set out in Table 6.6 of the EIAR and include designated sites, rivers and streams, aquatic fauna, hedgerows and treelines, otter, bats, badgers, pine martin, fisheries and aquatic fauna. With the exception of European designated sites, which have an international importance rating, the other KERs are rated as being of Local Importance (Higher Value).

12.4.15. There will be no direct impacts on any European sites, with potential for indirect impacts identified for Lough Ree SAC, River Shannon Callows SAC, Lough Ree SPA and Middle Shannon Callows SPA. I refer the Board to Section 13 of this report hereunder in relation to AA.

Construction Phase Impacts

12.4.16. Effects on habitats during construction are set out in table 6-19 of the EIAR and includes loss of 2.3km of the trees and hedgerows KER (7.8% of total area), in

addition to some loss of other habitats which are of local importance (lower value) and not identified as KERs, including agricultural grassland, wet grassland, and conifer plantation of low ecological value.

12.4.17. Effects of construction on rivers/streams and sensitive aquatic faunal species is considered in table 6-20 with potential for indirect water pollution.

12.4.18. In terms of trees and hedgerows, approximately 2,338m of hedgerow/scrub will be permanently removed within and around the footprint of the site. Removal of this combined length hedgerow/treeline is required to accommodate roads widening and construction; and to achieve the required buffer distance for the protection of bats, from the turbines to the canopy of the nearest habitat feature, as recommended by the Natural England (2014) and NatureScot (2021). A total of 6.4 hectares of commercial forestry will be permanently felled within and around Turbine No. 4 and its associated infrastructure, along with some treeline boundaries of 1,412m to provide for protected buffers around the wind turbines (table 6-1 of the Bat Report identifies location and length of habitat features for removal). 926m of the linear habitat which will be lost is required for road widening and construction. Trees located within the felling buffers of Turbines 1, 4 and 5 are potential bat roosts, however, no evidence of bat use was identified during daytime inspection of the trees. A potential for indirect effects on bats was identified in the form of loss of roosting habitat resources. Factors such as increased noise and artificial lighting during construction have the potential to lead to displacement effects on bats where working hours coincide with periods of bat activity. Overall, loss of foraging and commuting habitat will result from the implementation of felling buffers, road widening, and construction works.

12.4.19. There is potential for indirect disturbance to an outlier badger sett recorded within the western forestry area as a result of proposed commercial forestry felling, while all other setts recorded are located outside of the likely zone of impact from the proposed development.

12.4.20. There is potential for the construction activity to result in the run-off of silt, nutrients and other pollutants such as hydrocarbons and cementitious material into watercourses. This represents a potential indirect effect on Otter in the form of habitat degradation through water pollution.

12.4.21. A number of mature broadleaf trees within the forestry area that may have potentially suitable features for pine martin denning or would likely develop such features over time, will be lost to facilitate the development.

Operational Phase Impacts

12.4.22. In terms of operational impacts, consideration has been given to indirect pollution effects from faster run off from increased hardstanding areas and potential erosion, leading to deterioration of surface water and supporting habitat quality.

12.4.23. The operational phase poses a potential risk to bats in the form of collision mortality, barotrauma and other injuries cause by bats coming into contact or close proximity to operational turbines. Any increase in artificial lighting at night would have the potential to result in displacement effects.

Mitigation Measures

12.4.24. The likely significant effects on KER habitats and species as a result of the construction phase are described in table 6-19 to 6-25 which sets out a description of the likely effect, mitigation and any residual and cumulative effects. The operational phase KERs are addressed in tables 6-26 to 6-27.

12.4.25. In terms of mitigation related to rivers/streams, a detailed drainage maintenance plan is set out in Chapter 4 and Chapter 9 of the EIAR, including mitigation by avoidance, design, tree felling, water treatment measures and surface water quality monitoring and application of measures within the CEMP, provided in Appendix 4-2 of the EIAR. No instream works are proposed to natural watercourses, and a suite of measures are in place to avoid any adverse effects on watercourses.

12.4.26. In relation to trees/hedgerows, it is proposed to plant 3,350m of new hedgerow habitat to offset potential loss and to provide additional habitat connectivity, which will result in a net gain of approximately 1,012m in the linear landscape. Details are elaborated upon within Appendix 6-2 Bat Report (figure 6-1, indicative planting areas) and Appendix 6-4 Biodiversity Management and Enhancement Plan (BMEP; figure 2.1 Proposed Loss of Linear Habitat Features and Replanting). The mitigation for bats during the construction phase overlaps in part with mitigation relating to trees/hedgerows. A bat derogation licence will be obtained from the NPWS for the loss of the roost resource, prior to felling, and the felling

activity will be supervised by a qualified ecologist. Tree felling will be undertaken in accordance with standard best practice measures. The EIAR states that compensation for the loss of trees with alternative potential roosting features will be implemented on a like-for-like basis, through veteranisation of retained trees (artificially aging trees by introducing non-lethal damage, which helps to create areas of deadwood within a living tree, a critical habitat for a wide range of wildlife), or the provision of bat boxes. Noise and lighting restrictions will be put in place during construction.

12.4.27. Taking a precautionary approach to badgers and pine martin, exclusion zones will be established during the construction phase to mitigate potential impacts.

12.4.28. In accordance with industry best practice further surveys for mammals will be undertaken prior to construction.

12.4.29. With respect to the assessment of potential impacts in the operational period, mitigation measures include establishing a buffer of at least 50m between the tip of the blade and any trees or other tall vegetation that could provide high quality foraging habitat for bat species; all wind turbines are subject to 'feathering' of turbine blades when wind speeds are below the cut-in speed of the proposed turbine to significantly reduce bat fatalities; lighting and noise mitigation measures will be implemented; and an adaptive monitoring and mitigation strategy has been devised in line with the case study example provided in Appendix 5 of the NatureScot (2021) Guidance and based on the site-specific data. Monitoring of bat activity will be undertaken for three years minimum and a corpse search undertaken.

12.4.30. The operational impact on rivers and streams is considered in the EIAR. The increase in runoff from the permanent development footprint within the site is calculated as being of negligible volume. Mitigation to ensure protection of water quality has been included within the design, which is detailed in Chapter 9 on Water (see section 12.7 hereunder). It is also noted that all turbines are a minimum of 50m from EPA mapped watercourses, and no in-stream works are proposed.

12.4.31. It is concluded with respect to all KER habitats and species that there would be no significant residual effect and no cumulative effect.

12.4.32. The decommissioning phase would result in similar impacts but of a smaller scale.

Assessment

12.4.33. Observations submitted include detailed comments from the DHLGH and observers in relation to birds, which I refer to separately in Section 12.5 hereunder.

12.4.34. Observers raise concerns over removal of forestry and hedgerows having a negative impact on local wildlife, farming community and the environment, and disease such as ash die back affecting screening of the site.

12.4.35. These issues are summarised and assessed below and (as relevant) in the section dealing with appropriate assessment.

12.4.36. With respect to the topic of biodiversity, which is addressed in Chapter 6, I consider that a suite of surveys are presented which are robust. Aside from the issue of birds, which is addressed separately in this report, the impact on biodiversity has been adequately assessed.

Habitat Loss

12.4.37. There is a loss of approximately 7.8% of hedgerow/treeline habitat and 13% of conifer plantation. I consider the combined effect of woodland and treeline removal may be considered to be a local level effect. I accept that suitable measures are presented as mitigation including replanting. I consider that it is reasonable to conclude that the residual effect would not be significant, following mitigation of planting of trees/hedgerows with a net gain of 1012m.

12.4.38. The development involves removal of 6.4 ha of coniferous forestry. The conifer plantation is not considered a KER. I do not consider the removal of trees within the commercial plantation to be a significant issue with respect to biodiversity. The EIAR indicates that the forestry felling will be the subject of a Limited Felling Licence application to the Forest Service in accordance with the Forestry Act 2014 and the Forestry Regulations 2017 (SI 191/2017) and as per the Forest Service's policy on granting felling licenses for wind farm developments. The policy requires that a copy of the planning permission for the proposed development be submitted with the felling licence application. I consider that the removal of this area of commercial forestry would not constitute a significant direct or indirect effect on local habitat. I note that in terms of mitigation, the estimated 6.4 hectares to be felled will

be replaced or replanted on a hectare for hectare basis as a condition of any felling licence, as required under the Forestry Act.

Bats - Collison and Barotrauma Impacts

12.4.39. I note that wind farms present four potential risks to bats: loss or damage to commuting and foraging habitats (considered above); loss of or damage to roosts (considered above); displacement of individuals of populations (considered above) and the issue of collision risk and barotrauma and other injuries, considered hereunder.

12.4.40. Collision risk and barotrauma was identified in the EIAR. The site is identified as 'Medium Site Risk' for collision. It is noted that the habitats within the site provide suitable foraging habitat for bats and is connected to the wider landscape by linear features such as tree lines, hedgerows and streams. However, it is stated that the site does not provide a diverse habitat mosaic of high quality for foraging bats and is not located near the edge of range and/or on an important flyway or close to a key roost or swarming site.

12.4.41. It is proposed to mitigate impacts on bats through the maintenance of a vegetation free buffer zone of 50m around each turbine (see also Appendix 6-2 Bat Report). It is proposed that all wind turbines are subject to 'feathering' of turbine blades when wind speeds are below the cut-in speed of the proposed turbine. The turbine blades are pitched at 90 degrees or parallel to the wind to reduce their rotation speed to below two revolutions per minute while idling. This measure has been shown to significantly reduce bat fatalities (by up to 50%) in some studies (NIEA, 2021). Best practice mitigation measures are further identified for the construction phase in relation to noise and lighting, in addition to previously mentioned measures of blade feathering, and buffering with mitigations around associated felling, including pre-construction surveys and derogation licences where required.

12.4.42. I note that a comprehensive suite of monitoring proposals is proposed. This includes bat fatality monitoring at regular intervals over the operational life of the proposed development (including years 1, 2 and 3), and monitoring of the effectiveness of the curtailment measures to address any inefficiencies.

12.4.43. I consider that the EIAR demonstrates an adequate understanding of the bat species and potential for roosts present within the site and its surrounds and has outlined a suitably comprehensive range of mitigation and monitoring measures to reduce the potential impacts on bats.

12.4.44. I am satisfied that the report in Appendix 6–2 of the EIAR provides the basis for robust assessment of bats. In terms of construction phase, mitigation measures are suitably detailed and I do not have any reservations regarding their implementation. I note with regard to pre-construction surveys, that this is industry best practice and does not constitute a lacuna in the assessment. I am satisfied that, subject to the implementation of the proposed mitigation measures and the monitoring programme, the proposed development will not have a significant residual effect on bat populations.

12.4.45. Observers comments relating to species which are not identified as KERs include reference to Pine marten, hare and other species which local residents state are known to utilise lands in the vicinity. The EIAR does not provide a detailed assessment of the relevant species on the basis of relative lack of conservation importance and / or absence of likely significant impacts and this approach is acceptable. I note that a number of observations reference potential impacts on species protected by legislation. I refer to Section 13 hereunder in relation to AA.

12.4.46. Regarding aquatic ecology, I am satisfied that following implementation of site drainage and water quality mitigation measures as presented in the EIAR, there will be no significant impacts on aquatic species. I accept that the EIAR presents suitable measures to avoid adverse water quality effects.

12.4.47. With respect to potential effects during construction on Otter, the species was recorded using the watercourses in the site, but no evidence of holts or resting places have been identified. Water quality measures will ensure no deterioration of their habitat and it is noted that while disturbance is highly unlikely (as demonstrated in various studies), there is a buffer of 50m from watercourses of construction work. I accept the applicant's submission there will be no significant residual effect on otter as a result of the proposed development.

Conclusion

12.4.48. I have considered all of the written submissions made in relation to biodiversity and the relevant contents of the file including the EIAR. I am satisfied that the potential for significant adverse impacts on biodiversity can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on biodiversity.

12.5. **Birds**

EIAR

12.5.1. Chapter 7 of the EIAR addresses birds. Chapter 7 is supported by the following appendices: Appendix 7-1 Species List, Appendix 7-2 Survey Effort, Appendix 7-3 Summary Tables, Appendix 7-4 Survey Data, Appendix 7-5 Collision Risk Assessment, and Appendix 7-6 Bird Monitoring Programme.

12.5.2. The site is described, and the methodology set out. Field surveys were undertaken over a two-year period from April 2019 and March 2021, consisting of two breeding seasons (April – September) and two non-breeding seasons (October – March). The proposed Grid Connection underground electrical cabling route was surveyed as part of a multidisciplinary walkover. Vantage point surveys were undertaken in accordance with SNH (2017) from April 2019 to March 2021 to monitor flight activity within 500m radius of the proposed wind turbine locations.

12.5.3. The potential risks to birds from wind farms is described as being associated with direct habitat loss, displacement (indirect habitat loss - birds avoid wind farm due to turbines), and deaths by collision. These risks are assessed against the construction, operation and decommissioning phases. Two assessment criteria have been utilised to characterise impacts – EPA impact assessment criteria, and Percival methodology (2003). The modelling method used in the collision risk calculation follows the Band Model (Band et al., 2007), recommended by NatureScot guidance.

12.5.4. The application site is not located within or adjoining any European sites. Lough Ree SPA and Middle Shannon Callows SPA are considered to be within the Likely Zone of Impact in relation to hydrological connectivity. The following birds were recorded within 500m of the wind farm site during the two years of surveys: Whooper swan,

golden plover, lapwing and black-headed gull. In relation to European sites, I refer the Board to section 13 of this report for more detail.

12.5.5. The wind farm site lies within hectads N14 and N24, with the desktop survey showing 42 bird species within these 10km grids. A request from the NPWS Rare and Protected Species Database indicated two peregrine nests recorded in hectad N24 (the wind farm site is partially within hectad N24); a confirmed hen harrier breeding site recorded in hectad N25 (outside wind farm site) during the 2015 National Hen Harrier Survey. Irish Hen Harrier Winter Survey carried out by volunteer organisation between 2004-2020 showed one confirmed hen harrier non breeding roost location in two 20km grids with the wind farm located between these grids.

12.5.6. Field survey results indicate 70 species of birds identified, with 20 of these being targeted species within the zone of influence. Table 7-10 identified the targeted species, of which four are annex 1 birds, namely whooper swan, golden plover, peregrine falcon, and merlin); five are SCIs of Lough Ree SPA, namely lapwing (also SCI of Middle Shannon Callows SPA), tufted duck (also SCI of Lough Ennell SPA), little grebe, mallard, and teal; blackheaded gull is an SCI of Middle Shannon Callows SPA. Eight birds observed are on the red list with respect to breeding/wintering populations, namely snipe, kestrel, grey wagtail, meadow pipit, redwing, stock dover, swift and whinchat. Two birds observed are raptors under the Wildlife Acts, namely buzzard and sparrowhawk.

12.5.7. Receptor evaluation is based on a determination of the population importance, with some receptors being of such low volume that the wind farm site is not considered of significance to this species. Six number receptors observed are classified as being of County Importance, namely peregrine falcon, merlin, lapwing, mallard, teal, and snipe. The kestrel, buzzard, and sparrowhawk are rated as being of Local Importance (Higher Value) and Passerines of grey wagtail, meadow pipit, redwing, stock dove, swift and whinchat are rated as being of Local Importance (Lower Value). The following species are included as key ornithological receptors (KORs) within the assessment (see table 7-11 of the EIAR, which indicates why species are included or excluded): Peregrine (all seasons), Merlin (breeding), Lapwing (wintering), Black-headed Gull (breeding and wintering), Mallard (all seasons), Teal (wintering), Snipe (wintering), Kestrel (all seasons), Buzzard (all seasons), and

Sparrowhawk (all seasons). A Collision Risk Assessment (CRA) of these KORs is included in Appendix 7-5 of the EIAR. The CRA is based on vantage point surveys undertaken over a 24 month period and is calculated using a mathematical model known as the Band Model.

12.5.8. Section 7.5.2 identifies the effects on KORs during construction and operation, based on information from the surveys undertaken, consideration of the location of elements of the proposed development and the likelihood of displacement and barrier effects and collisions taking into account the results of the collision risk analysis. The significance of effects are rated against both EPA and Percival criteria.

12.5.9. The assessment as set out in section 7.5.2 shows that effects on the identified KORs are rated as either 'low effect significance' and 'very low effect significance' based on the EPA definitions and rated as either 'not significant negative effect' or 'slight negative effect' based on Percival, 2003. Effects during decommissioning are indicated to be the same as for the construction phase.

12.5.10. Separately there is consideration in section 7.5.4 of the effects associated with the GCR (grid connection route) and the TDR (turbine delivery route). Given the routes along existing roads primarily, it is considered that such habitats do not have the potential to support other species of conservation interest in the area, although some temporary displacement may occur during works. Significant displacement effects are not predicted, with the effect significance for all KORs classed as no greater than low (Percival, 2003) or a likely short-term frequent slight negative effect (EPA, 2022). Significant residual effects on the KORs with regard to direct habitat loss, displacement or collision mortality are not anticipated.

12.5.11. Cumulative impacts in terms of other projects and plans were considered and is set out in chapter 2 of the EIAR. There are no existing wind farms within 25km of the proposed turbines. Three early stage proposed windfarms have been considered. Significant cumulative impacts are not predicted.

Mitigation

12.5.12. Mitigation measures are stated to be incorporated within the overall design, having regard to the approach to minimise all proposed hardstanding areas, and location of GCR beneath existing public roads to avoid effects on roadside hedgerows and disturbance to nesting birds.

12.5.13. The general construction phase mitigation measures are presented in section 7.6.2.1 and include implementation of a Construction and Environmental Management Plan (CEMP) under a Clerk of Works and Project Ecologist. The CEMP establishes industry best practice requirements to be followed, and includes inter alia, that works are to be undertaken outside of bird nesting season, utilisation of pre-construction bird surveys where construction works run into next breeding season, silt fences around existing watercourses and noise limits, noise control measures, hours of operation (i.e. dusk and dawn is high faunal activity time) and selection of plant items will be considered in relation to disturbance of birds. No mitigation was deemed necessary for the operation phase. Decommissioning measures will be as per construction phase. In terms of monitoring measures pre and post construction bird surveys are proposed. In relation to pre-construction, it is stated that if winter roosting or breeding activity of birds of high conservation concern is identified, the roost or nest site will be located and earmarked for monitoring at the beginning of the first winter or breeding season of the construction phase; if it is found to be active during the construction phase, no works shall be undertaken within a disturbance buffer in line with industry best practice (e.g. Forestry Commission Scotland, 2006; Ruddock and Whitfield, 2007); and no works shall be permitted within the buffer until it can be demonstrated that the roost/nest is no longer occupied. Post construction monitoring will include surveys with Years 1, 2, 3, 5, 10 and 15 of the lifetime of the wind farm, to include: Vantage point surveys to monitor flight activity in the vicinity of the turbines; Breeding walkover surveys to monitor breeding bird activity at the Wind Farm Site; Collision monitoring, including carcass searches with trained dogs to monitor bird fatalities due to collision. These will include searcher efficiency and scavenger removal trails as a best practice measure.

Assessment

12.5.14. Observations of note include the submission of DHLGH, DAU unit. With respect to impacts on birds the matters raised include:

- Issues with the methodology applied to determine the magnitude of impacts: The EIAR does not accurately use the Percival methodology outlined to characterise collisions with the proposed turbines. In the determination of collision risk on key ornithological receptors (KOR) in the operation phase, consideration should be given

to available habitat, site fidelity, and the behaviour of each species assessed. Specific reference is made to the peregrine falcon, black-headed gull and lapwings.

- Hen Harriers were not recorded within the collision risk zone during the surveys undertaken and are therefore not considered as a key ornithological receptor in the EIAR. However, the NPWS has recorded a nesting site for this species within 5km of the proposed development which constitutes a rare example of lowland nesting site for this species. Regional NPWS staff have also reported hen harrier foraging within the vicinity of the proposed development during 2021 and 2022. The location of the proposed development is within the foraging range for males during the breeding season. The Department considers the application would benefit from further targeted surveys for this species.

- Barn Owls were not recorded during the surveys undertaken and are therefore not considered as a key ornithological receptor in the EIAR. However, the NPWS has records for two active barn owl nests that occur within the vicinity of the application site boundary and may occur within the site boundary. The EIAR does not explicitly state if barn owl surveys were undertaken in accordance with the methodology from Hardey et al (2013) that has been applied. As this species has nocturnal and crepuscular habits it is unlikely to be detected through the standard transect and vantage point surveys undertaken. Clarity is required in relation to whether this species was specifically targeted during the surveys. Further surveys targeting this species may be necessary within the vicinity of the application.

12.5.15. Third party observers also raise concerns in relation to wildlife and birds in the area, including impacts on river and species of otter and waterfowl. It is stated that this area has the last remaining wetland, which has a large population of lapwing and population of otters.

12.5.16. I have reviewed the documentation and all submissions raised.

12.5.17. In terms of the issue of survey methodology relating to the key ornithological receptors, as raised by the DHLGH, I consider that given the lack of certainty in terms of impact on KORs due to issues raised in relation to the methodology, further information is required to make a full assessment. In addition, due to the detected presence of hen harrier by the NPWS and lack of clarity and potential lack of survey work in relation to the barn owl, the EIAR is in this regard deficient.

I note there is no wetland area within the site, although an area of wet grassland has been identified in the biodiversity analysis in Chapter 6 of the EIAR. An assessment of birds associated with the proximity of Lough Swedy has been included within the surveys undertaken.

Conclusion

12.5.18. I have considered all of the written submissions made in relation to birds and the relevant contents of the file including the EIAR. I am not satisfied that the potential for significant adverse impacts on birds can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, therefore I am concerned that the proposed development would have unacceptable direct, indirect or cumulative impacts on birds. Further information in relation to birds would be required to clarify these matters.

Land, Soil, Water, Air and Climate

12.6. Land, Soil and Geology

EIAR

12.6.1. Chapter 8 of the EIAR addresses land, soils, and geology, and accompanying appendices 8-1 Dynamic Core Penetration Results and 8-2 Trial Pitting Report.

12.6.2. Geology maps and soil maps are provided. The assessment methodology consists of a desk top study using published maps, aerial photography and recognised data sets. Field surveys were undertaken and included walkover surveys and intrusive site investigations (trial pits and dynamic core penetration).

12.6.3. The topography of the site is undulating and ranges from 55m and 98m AOD, the highest elevation being to the northwest. The overall slope is to the east. The wind farm site comprises mainly improved grassland and agricultural pastures separated by hedgerows. A small area of forestry exists in the southwest of the wind farm site. All proposed turbine locations (T1-T9), with the exception of T4, are situated on improved grassland. T4 located in the southwest of the Wind Farm Site is situated in an area of coniferous forestry. The access roads are mainly located on improved grassland, but also through a small section of forestry near T4. The footprint of the Proposed Development measures approximately 8.2 hectares. The overall site is a

stated 949 hectares. In terms of the grid connection, the electrical cabling route is 31km in length, through the village of Horseleap and bypassing the town of Kilbeggan until its termination point at the Thornsberry 110 kV substation, 2km northeast of Tullamore. The route is located primarily within public roads, with elevation ranging between 60-80mOD.

12.6.4. As per submitted EPA soil mapping, the site comprises basic deep well drained mineral soils (BminDW) in the north of the Wind Farm Site, including at T2, and in the southeast at T7, T8 and T9. In the northeast of the Wind Farm Site, T1 is mapped on basic shallow well drained mineral soils (BminSW). A small area of poorly drained mineral soils with a peaty topsoil is mapped to the east of T3, however during hand augering only relatively sandy, free draining subsoil was noted. Towards the centre of the Wind Farm Site, T5 and T6 are located on basic deep poorly drained mineral soil (BminPD), while T7 is situated on alluvium (Lac). Mineral alluvium is also mapped along the Dungolman River to the northeast of the Wind Farm Site.

12.6.5. As per subsoil GSI mapping, it is indicated that the majority of the Wind Farm Site is underlain by till derived from limestones (TLs). Localised pockets of Lacustrine sediments (Lac) occur throughout the south of the Wind Farm Site and are mapped immediately to the north of both T6 and T7. Fen peat (FenPt) is mapped in the west of the Wind Farm Site, underlying T3 and immediately to the east of T4, however this soil type was not identified during walkover surveys and hand augering. Other subsoils include alluvium (A) along the Dungolman River to the east of T1 and T2 and eskers comprised of gravels of basic reaction (BasEsk) to the north of T3.

12.6.6. Based on the bedrock GSI mapping, the underlying bedrock across the majority of the Wind Farm Site is mapped as the Lucan Formation which comprises dark limestone and shale. There are no mapped faults running through the Wind Farm Site. The southeast of the Wind Farm Site including the proposed location of T9, is mapped to be underlain by massive, unbedded lime mudstones of the Waulsortian Limestone Formation. No karst features were identified.

12.6.7. A Ground Investigation Survey was undertaken, comprising 8 trial pits undertaken on 7th July 2021 and 1 no. face bank of exposed granular deposits was logged. The trial pits were generally logged as 0.2 – 0.4m TOPSOIL over SILT/SAND/GRAVEL. Clay

was logged in TP-1.2, TP-2 and TP-5. No peat was logged in any of the 8 no. trial pits. No bedrock was encountered during the excavation of the trial pits. The water level is indicated to be relatively shallow to ground, with seepages in TP-1 at 1.2m and fast inflows into TP-1.3 at 0.7m, located on the floor of the existing pit (existing excavated pit located adjoining TP-1). Dynamic cone penetration (DCP) testing was undertaken at 42 no. locations along the proposed access roads within the Wind Farm Site. The mapped soils and subsoils along the electrical cabling route were also assessed. The bedrock geology along the underground electrical cabling route consists mostly of Waulsortian Limestone, with areas of Lucan Formation Limestone towards the north of the underground electrical cabling route and Ballysteen Formation and Allenwood Formation Limestone towards the centre and south of the underground electrical cabling route. There is 1 no. geological heritage site located along the underground electrical cabling route, called the Clonmacnoise Esker (along the N52 road, 4km south of Kilbeggan).

12.6.8. In a do-nothing scenario, coniferous plantation and agriculture would continue and coniferous forestry felled. Re-planting of these areas with coniferous plantation would be likely to occur.

Construction Phase Impacts

12.6.9. The following works are identified as having a potential impact on soils and geology during construction:

- Soil, subsoil excavation and bedrock excavation.
- Contamination of soil by leakages and spillages from construction plant.
- Erosion of exposed subsoils during construction of the windfarm with potential to give rise to pollution of watercourses.
- Erosion of exposed subsoils during construction of the grid connection give rise to pollution of watercourses**.**

Operational Phase Impacts

12.6.10. The following works are identified as having a potential impact on soils and geology during operation:

- Some construction traffic may be necessary for maintenance of turbines which could result in minor accidental leaks or spills of fuel/oil.
- The grid transformer in the onsite substation and transformers in each turbine are oil cooled. There is potential for spills / leaks of oils from this equipment resulting in contamination of soils and groundwater.
- Emergency repair works to the underground electrical cabling which are highly unlikely.

12.6.11. Impacts associated with decommissioning will be similar to those associated with construction but of reduced magnitude.

12.6.12. With regard to cumulative impacts, I note that the EIAR considers the potential impacts of the overall development, i.e. including the grid connection and turbine delivery route works which do not form part of the proposed development before the Board. No significant cumulative impacts on land, soils and geology are identified.

Mitigation Measures

12.6.13. Mitigation measures are described for the construction phase and include, inter alia, the following:

- The soils and subsoil removed during the construction of turbine hardstands will be localised to the turbine locations.
- The soil/subsoil will be placed/spread locally alongside the excavations or accommodated within the spoil management areas.
- Excavated soils/subsoils shall be excavated and stored separately to topsoil; this will prevent mixing of materials and facilitate reuse afterwards;
- All materials which require storage will be stockpiled at low angles (< 5-10°) to ensure their stability and secured using silt fencing where necessary. This will help to mitigate erosion and unnecessary additions of suspended solids to the drainage system;
- Spoil will be deposited, in layers of 0.50m and will not exceed a total thickness of 1m;

- No turbines or related infrastructure will be constructed in any designated sites such as NHAs or SACs;
- Placement of internal cable trenching will also be volume neutral, and all excess material will be managed locally;
- Excess spoil from the underground electrical cabling route works will be placed within the spoil management areas within the Wind Farm Site or disposed at an off-site licenced facility.
- Where possible maintenance of construction vehicles or plant will take place off-site. This applies to both at the Wind Farm Site and the Grid Connection.
- Minimal maintenance of construction vehicles or plant will take place on-site;
- On-site re-fuelling will be undertaken using a double skinned bowser with spill kits on the ready for any minor accidental leakages or spillages;
- Fuels stored on Site will be minimised but will be appropriately bunded;
- All waste tar and chip material arising during construction of the underground electrical cabling route will be removed off-site and taken to an appropriately licenced facility;
- The plant used during construction will be regularly inspected for leaks and fitness for purpose; and,
- An emergency plan for the construction phase to deal with accidental spillages will be contained within the Construction Environmental Management Plan (CEMP) Appendix 4-2 of this EIAR. Spill kits will be available to deal with accidental spillage in and outside of re-fuelling areas.
- Soil/subsoil removed from the Wind Farm Site infrastructure footprint will be used for landscaping, or accommodated in the identified spoil management areas within the Wind Farm Site.
- Temporary drainage systems will limit runoff impacts during the construction phase.
- In forestry areas (near T4) brash mats will be used to support vehicles on soft ground, reducing soil erosion and avoiding the formation of rutted areas, in which

surface water ponding can occur. Brash mat renewal will take place when they become heavily used and worn. Provision will be made for brash mats along all off-road routes, to protect the soil from compaction and rutting.

- Soil/subsoil removed from the underground electrical cabling route trench will be transported to the on-site spoil management areas or to a local licenced facility.

- Temporary drainage systems will limit runoff impacts during the construction phase. The underground electrical cabling route will be constructed in a stepwise manner along its length. This will minimise the time any particular section of the underground electrical cabling route trench is open before being reinstated.

12.6.14. Mitigation measures are described for the operational phase and include the following:

- Use of aggregate to maintain access tracks, where required, from authorised quarries

- Oil used in transformers (at the substation and within each turbine) and storage of oils in tanks at the substation will be bunded, capable of holding 110% of the oil in the transformer and storage tanks.

- Turbine transformers are located within the turbines, so any leaks would be contained.

12.6.15. Following implementation of the mitigation measures, no significant residual impacts on the land, soils, and geology environment are anticipated as a result of the construction, operation and decommissioning of the proposed development.

12.6.16. A Decommissioning Plan is included as Appendix 4-6 of this EIAR and the effects of decommissioning have been adequately considered in the EIAR.

Assessment

12.6.17. I consider that the proposed development does not give rise to significant impacts on land taking into account the small scale of the overall area which is to be devoted to the windfarm and the GCR and associated infrastructure and having regard to the normal cycles in forestry felling for that area of forestry affected by T4.

12.6.18. Tree felling has negligible effects on land, soils and geology as no significant excavations are required during tree felling and therefore the surrounding

commercial forestry will not contribute to cumulative effects associated with wind farm or cable route construction.

Conclusion

12.6.19. I have considered all of the written submissions made in relation to land, soil, and geology. 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. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative effects in terms of land and soil.

12.7. Water

EIAR

12.7.1. Chapter 9 of the EIAR addresses water and associated appendices 9-1 Flooding, 9-2 WFD Assessment Report, 9-3 Water Quality Lab Reports, and 9-4 Drainage Drawings. Appendix 2 of the submitted NIS comprises a Hydrological Assessment undertaken.

12.7.2. The assessment describes the existing environment and identifies the likely significant effects on surface water and groundwater during the construction, operational and decommissioning stages of the proposed development. It also sets out a suite of mitigation measures to offset any potential impacts. The EIAR also assesses potential cumulative impacts.

12.7.3. Desktop studies and site investigations are set out to describe the existing baseline environment. Site investigations included desktop study, surveys of the Dungolman and Mullenmeehan streams at 24 locations, baseline water quality monitoring/sampling of site and grid route, (03rd May 2021, 14th May, 07th July and 14th July 2021), eight trial pits, and hydrological mapping.

Existing Surface Water

12.7.4. Till is mapped over much of the wind farm site, however, areas in the west are underlain by less permeable subsoils including lacustrine clays, which means that the hydrology of the site is characterised by high surface water runoff rates and moderate to low groundwater recharge rates.

12.7.5. Figure 9.2 within Chapter 9 illustrates the local hydrology map and figure 9.3 illustrates the hydrology related to the grid connection. The majority of the wind farm site is located in the Dungolman_030 River sub-basin, the surface water draining towards the Dungolman River via several smaller streams and agricultural drains. In the southeast of the Wind Farm Site, the Raheen stream (EPA Code: 26R36) flows to the west approximately 150m south of T9. This waterbody discharges into the Moneynamanagh stream (EPA Code: 26M40) 1km southwest of T9 before veering to the northwest and discharging into the Dungolman River 800m southwest of T5. The EPA also map a small stream, the Mullenmeehan stream (EPA Code: 26M12) to flow along the northern EIAR Site Boundary, approximately 300m to the north of T6. The Mullenmeehan stream confluences with the Dungolman River approximately 450m northeast of T3.

12.7.6. The Dungolman River (EPA Code: 26D06) flows to the northeast between T4 and T5. This watercourse then flows along the EIAR Site Boundary to the east of T2 and T3 before veering to the northeast to the east of T1. Drainage in this river sub-basin is directed towards the Dungolman River via several smaller streams and drains. The Dungolman River continues to flow to the north before discharging into the Tang River (EPA Code: 26T02) approximately 5.15km north of the wind farm site. The Tang River continues to flow to the northwest and eventually discharges into the Inny River (EPA Code: 26I01) approximately 8.3km northwest of the site, which further drains into the eastern side of Lough Ree, approximately 10.6km northwest of the site. The southwest of the site drains towards the Dungolman River via the Toorbeg stream (EPA Code: 26T25). Meanwhile within the Inny_110 River sub-basin, the northwest of the site drains to the northwest via the Ardnacrany south stream (EPA Code: 26A50) which discharges into the Dungolman River approximately 4.3km north of the site.

12.7.7. The surface water quality status (2016-2021) for the Dungolman River (IE_SH_26D060200) is Poor, while the Mullenmeehan stream (IE_SH_26M120080) upstream of the Wind Farm Site is classified as Moderate with a risk result of “Not at risk”. In the vicinity of the wind farm site the Dungolman River (IE_SH_26D060400) has been assigned Poor status with this waterbody deemed to be “At risk” and under significant pressure from urban wastewater. Further downstream the Inny River (IE_SH_26I011400) is assigned a Moderate status but is deemed to be under

significant pressure from agricultural activities in the surrounding catchment. Lough Ree (IE_SH_26_750a) achieved Good status and is deemed to be “Not at risk”. The EIAR also indicated that surface water quality status of SUBs along the grid connection route.

12.7.8. Lough Ree SAC, SPA and pNHA is located approximately 10km northwest and downstream of the Wind Farm Site. This designated site is hydrologically linked with the development site via the Dungolman and Inny Rivers. With regard to the grid connection route, the River Shannon Callows SAC and Middle Shannon Callows SPA are situated ~38km downgradient of surface watercourses along the proposed underground electrical cabling route and are hydrological connected with streams along the underground electrical cabling route. I refer the Board to Section 13 of this report in relation to Appropriate Assessment.

Flood Risk

12.7.9. In terms of flood risk, a Stage III Flood Risk Assessment has been undertaken. The majority of the wind farm site is identified as being Benefited Land, whereby an arterial drainage scheme was undertaken in the past due to lands being subject to flooding or poor drainage.

12.7.10. PFRA flood maps were queried for potential areas prone to flooding. The maps show that areas in the west and north of the Wind Farm Site are mapped in the 100-year and the Extreme Event fluvial flood zones (Zones A and B respectively). The majority of the site is located in Flood Zone C (Low Risk). It is indicated that the flood zone extends up to 200m from the mapped river course and is mapped approx. 60m from T4. T2 is mapped on the border of the Flood Zone B area, approx. 300m west of the main river channel associated with flooding on the Dungolman River. T1 and T3 are located 50m and 180m west of this mapped flood zone respectively. Turbines T1 – T6 are located outside the Low probability and Medium probability flood zones. Turbine T3 is located within both probability zones.

12.7.11. As the PFRA mapping and NIFM is considered “broad scale” and based on OSI contour data, site-specific surveying and flood modelling was used in conjunction with Lidar Data to investigate the potential for flooding within the site (i.e., 10-year,100-yr and 1000-yr) along for the river and its flood plain. The results of this modelling indicate there are no turbines located within mapped flood zones. The

onsite substation and temporary access roads are also located outside of the modelled flood zones. The access roads (proposed/upgraded) are located outside of the modelled flood zones apart from 1 no. section (110m) of access road located c.300m west of T5. All proposed wind farm access tracks within modelled flood pluvial zones will have the track surface raised at least 500mm above the 1000-year flood level. No mitigation is required with respect to downstream flood risk as they are all outside of the modelled flood zone, apart from a 110m section of access road. There is an existing field drain which will be culverted under the proposed access track. This culvert will provide a drainage outlet for flood water following a significant flood event. This will prevent any damming effect from the proposed access road within this section. Based on the iterative design process, designed around the site-specific flood modelling, any potential upstream and downstream flood impacts associated with the development are stated to be unmeasurable/imperceptible.

12.7.12. The underground electrical cabling route has been assessed in terms of flooding and area which may be prone to flooding identified, principally along the N52 near the Silver River and the Tullamore River and near the River Brosna. Due to the depth of the underground electrical cabling route, it is stated that this will have no impact during the operational phase of the proposed development. It is stated that during the construction phase, works along the underground electrical cabling route may have to be postponed following heavy rainfall events which could cause flooding in these areas.

Groundwater

12.7.13. In terms of groundwater, the site is over a Locally Important Aquifer (LI – Bedrock which is generally moderately productive only in local zones) and is underlain by the Inny Groundwater Body (GWB). Groundwater within the Wind Farm Site is expected to discharge to the Dungolman River as this will be the dominant hydraulic boundary or discharge zone for groundwater flow in the area. The Wind Farm Site slopes to the east/northeast and groundwater flow will reflect this change in topography.

12.7.14. In terms of changes in drainage, a buffer zone of 50m has been put in place for on-site streams and 10m buffer zone for drains.

Description of Potential Impacts

12.7.15. Under the do-nothing scenario there would be no alteration to the hydrological environment.

12.7.16. Effects on groundwater are considered to be negligible, with surface water the main sensitive receptor.

12.7.17. Construction phase activities which could have a likely significant impact relation to:

- earthworks resulting in suspended solids entering surface water;
- felling of trees (6.4ha of commercial forestry to be felled around turbine no. 4) and treeline boundaries and potential for release of sediment;
- excavation dewatering from turbine base excavations particularly T1-T4;
- release of effluent from on-site temporary wastewater treatment systems; potential release of hydrocarbons during refuelling;
- diversion, culverting, road and underground electrical cabling route crossing of surface watercourses can result in morphological changes, changes to drainage patterns and alteration of aquatic habitats;
- construction of structures over watercourses has the potential to interfere with water quality and flows during the construction phase;
- potential for temporary junction works to impact on surface and groundwater; potential of groundwater to impact on wells; and
- potential for surface water quality impacts during trench excavation work for underground electrical cabling route relating to the grid connection route.

12.7.18. During the operational phase, the main impact on the water regime relates to the increase in hardstanding areas which will increase surface water runoff and potential for pollution.

12.7.19. During the decommissioning phase, no impact on the qualitative status of the receiving waters is anticipated.

12.7.20. Section 9.5.5 of the EIAR addresses cumulative impacts, which addresses all planning applications (granted and awaiting decisions) within a combined river sub-basin zone within the vicinity of the Wind Farm Site defined in Section 2.7 of this

EIAR and within Appendix 2-3. A further assessment has been completed within a 2km buffer zone of the turbine locations and within a 200m buffer zone of the proposed underground electrical cabling route. I note the cabling route does not form part of the application but has been fully assessed in the EIAR. No significant cumulative impacts on water quality and hydrology are identified.

Mitigation

12.7.21. In terms of mitigation, the overarching objective of the proposed mitigation measures is to ensure that all surface water is comprehensively treated and attenuated so that no silt or sediment laden waters or deleterious material is discharged into the local drainage system. The EIAR sets out detailed measures, which include, inter alia, mitigation by design in relation to each of the potential effects identified above. Figure 9.4 in Chapter 9 of the EIAR illustrates the site drainage map, indicating proposed buffers of 50m from watercourses and 10m from drains.

12.7.22. Mitigation measures:

- Runoff from individual turbine hardstanding areas will not be discharged into the existing drain network, but discharged locally at each turbine location through settlement ponds and buffered outfalls onto vegetated surfaces;
- Interceptor drains will be installed up-gradient of all proposed infrastructure within the site to collect clean surface runoff, in order to minimise the amount of runoff reaching areas where suspended sediment could become entrained. It will then be directed to areas where it can be re-distributed over the ground by means of a level spreader;
- Swales/road side drains will be used to collect runoff from access roads and turbine hardstanding areas of the Wind Farm Site, likely to have entrained suspended sediment, and channel it to settlement ponds for sediment settling;
- On steep sections of access road transverse drains (‘grips’) will be constructed where appropriate in the surface layer of the road to divert any runoff off the road into swales/road side drains;
- Check dams will be used along sections of access road drains to intercept silts at source;

- Check dams will be constructed from a 4/40mm non-friable crushed rock;
- Settlement ponds, emplaced downstream of road swale sections and at turbine locations, will buffer volumes of runoff discharging from the drainage system during periods of high rainfall, by retaining water until the storm hydrograph has receded, thus reducing the hydraulic loading to watercourses; and,
- Settlement ponds will be designed in consideration of the greenfield runoff rate.
- Onsite re-fuelling of machinery will not be carried out during the operational phase of the development. All plant/machinery will be refuelled offsite;
- Fuels stored on site will be minimised and any diesel or fuel oils stored on-site will be bunded. The bund capacity will be sufficient to contain 110% of the storage tank's maximum capacity;
- The electrical control building at the wind farm site will be bunded appropriately to the volume of oils likely to be stored, and to prevent leakage of any associated chemicals and to groundwater or surface water. The bunded area will be fitted with a storm drainage system and an appropriate oil interceptor;
- Any plant used during the operational phase of the proposed development will be regularly inspected for leaks and fitness for purpose; and,
- Spill kits will be available to deal with accidental spillages.

12.7.23. It is concluded that overall the proposed development presents no likelihood for significant effects on surface or groundwater following the implementation of the proposed mitigation measures, furthermore there is no likelihood for significant cumulative effects arising from the construction operation or decommissioning phases.

12.7.24. Following implementation of the mitigation measures, no significant residual impacts on the water environment are anticipated.

Conclusion

12.7.25. The EIAR outlines significant measures to protect surface water. There will no direct discharges to any watercourse during any phase of the development. Mitigation will be achieved by avoidance and design. A 50m buffer zone will be maintained from the main watercourses and 10m from drainage channels during

construction and proven best practice methodologies will be employed to mitigate impacts on water quality. New settlement ponds and silt traps are proposed which will provide an increased level of treatment and attenuation. Subject to the implementation of these measures, I do not consider that the proposed development will impacts on water quality in adjacent water courses.

12.7.26. I am satisfied therefore that the impacts identified can be avoided, managed or mitigated by these measures and through suitable conditions. I am, therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impact on surface water or groundwater in the area. I consider that the information provided in the planning application documentation is sufficient to allow the impacts of the proposed development to be fully assessed.

12.8. **Air and Climate**

EIAR - Air

12.8.1. Air and climate are addressed in chapter 10 of the EIAR. The document sets out the background to the proposal and the relevant legislation and guidance on air quality.

12.8.2. Current land-use on the Wind Farm Site comprises coniferous forestry, and agriculture. Current land-use along the Grid Connection comprises of public road corridor, public open space, discontinuous urban fabric and agriculture.

12.8.3. Air quality sampling was deemed to be unnecessary for this EIAR given the non-industrial rural nature of the area. I consider this an acceptable approach.

12.8.4. In the do-nothing scenario, no changes would be made to the current land-use practice of agriculture and coniferous forestry. However there would be an increase in greenhouse gas emissions at a national level if increasing electricity needs were not met by alternative renewable energy sources, resulting in an indirect negative impact on air quality nationally, regionally and locally.

Description of Likely Significant Impacts

12.8.5. The primary sources of potential impacts during construction phase would arise from exhaust emissions and dust emissions associated with construction vehicles and plant at the wind farm site and along the electrical cabling route, from transport vehicles going to/from the site, as well as emissions from excavation and

construction waste including material surpluses and damaged materials and packaging waste.

12.8.6. During the operational phase, the main air quality considerations relate to exhaust emissions from machinery and vehicles that are intermittently required onsite for maintenance.

12.8.7. Traffic movements associated with decommissioning will be less than construction phase.

Mitigation Measures

12.8.8. Mitigation measures addressed in relation to air and dust are summarised as follows:

- All construction vehicles and plant will be maintained in good operational order.
- Turbines and construction materials will be transported to the site on specified routes only, unless otherwise agreed with the Planning Authority.
- When stationary, delivery and on-site vehicles will be required to turn off engines.
- The majority of aggregate materials for the construction of the development will be obtained from local quarries. This will significantly reduce the number of delivery vehicles accessing the site and the length of such journeys, thereby reducing the amount of emissions associated with vehicle movements.
- Where applicable, low carbon intensive construction materials will be sourced and utilised onsite.
- Users of the Site will be required to ensure that all plant and vehicles are suitably maintained to ensure that emissions of engine generated pollutants is kept to a minimum.
- The expected waste volumes generated onsite are unlikely to be large enough to warrant source segregation, therefore, all wastes streams generated onsite will be deposited into a single waste skip which will be covered. This waste material will be transferred to a licensed /permitted Materials Recovery Facility (MRF) by a fully licensed waste contractor where the waste will be sorted into individual waste streams for recycling, recovery or disposal. The MRF facility will be local to the site to reduce the amount of emissions associated with vehicle movements. The nearest licensed waste facility to the site is Ballydonagh Landfill which is located

approximately 11.25km to the south-west of the windfarm. Waste associated with the construction of the Grid Connection underground electrical cabling route will be disposed of at the closest MRF to where waste is generated along the underground electrical cabling route. There are two licensed waste facilities in the vicinity of the underground electrical cabling route, and these are the Ballydonagh Landfill as outlined above and the Derryclure Landfill which is located approximately 6.5km to the south of the Thornsberry 110kV substation at Tullamore.

EIAR - Climate

12.8.9. An overall significant positive impact is anticipated, as the proposal, by providing an alternative to electricity derived from coal, oil or gas-fired power stations, will result in emission savings of carbon dioxide (CO2), oxides of nitrogen (NOx), and sulphur dioxide SO2. No significant health effects are recorded. Exhaust and dust emissions are controlled through site layout design and mitigation measures.

12.8.10. In the do-nothing scenario, the opportunity to further significantly reduce emissions of greenhouse gas emissions, including carbon dioxide (CO2), oxides of nitrogen (NOx), and sulphur dioxide (SO2) from fossil fuels to the atmosphere would be lost, resulting in a long-term slight negative effect.

12.8.11. Cumulative impacts are considered in chapter 2 of the EIAR and within each individual chapter. There will be no measurable negative cumulative effect with other developments on air quality and climate.

Mitigation Measures

12.8.12. Mitigation measures relating to climate are summarised as follows:

- All construction vehicles and plant will be maintained in good operational order.
- Turbines and construction materials will be transported to the site on specified routes only unless otherwise agreed with the Planning Authority.
- The majority of aggregate materials for construction, reducing the number of delivery vehicles accessing the site and the length of such journeys, thereby reducing the amount of emissions associated with vehicle movements.
- Where applicable, low carbon intensive construction materials will be sourced and utilised onsite.

12.8.13. During the operational phase, the energy generated will offset energy and the associated emission of greenhouse gases from electricity-generating stations dependent on fossil fuels, thereby having a positive effect on climate. The proposed development will result in losses of c. 84,462-85,610 tonnes of CO2 equivalent over the 30 year life of the windfarm, however, the displacement of fossil fuels equates to 59,503 tonnes of carbon dioxide being displaced per annum and over 30 years this equates to 1,785,090 tonnes of carbon dioxide displaced from traditional carbon-based electricity generation. Overall, therefore, a positive impact is predicted in the operational phase, due to the displacement of fossil fuels, with a carbon payback time after approximately 17 months of operation.

12.8.14. The potential for effects during the decommissioning phase are limited due to mitigation measures proposed. A Decommissioning Plan is included as Appendix 4-6 of this EIAR and has been adequately considered in the EIAR.

12.8.15. There will be no measurable negative cumulative effect with other developments on air quality and climate.

Assessment

12.8.16. An observer notes that Ballydonagh Landfill closed down in 2010 and that local quarries referenced cannot provide the level of material required for such a development. Concern is raised that such inaccuracies exist within the EIAR.

12.8.17. Should permission by granted by the Board, a revised and updated CEMP should be submitted to the PA for their written agreement, which will address issues around sources of aggregate, access routes and waste disposal licences. While considerations in relation to available facilities appear to be inaccurate a raised by observers, there are waste facilities within the county/region which could adequately manage waste generated from the proposed development and supply aggregates needed. I do not consider this issue to be sufficient grounds for refusal and could be addressed by way of condition.

12.8.18. With regard to climate impacts, carbon loss/saving is calculated using the Scottish Government online carbon calculator and modified to the Irish context. I consider the methodology applied to be reasonable and acceptable. Carbon losses as a result of felling are calculated from the area of forestry to be felled, the average carbon sequestered annually, and the lifetime of the proposed development. Alterations in

soil carbon levels following felling are calculated. Carbon dioxide losses due to manufacture, construction and decommissioning of turbines are also calculated. I am satisfied that significant carbon savings will be achieved compared to power derived from more conventional forms of power generation and will have a positive impact in terms of climate.

Air and Climate - Conclusion

12.8.19. I have considered all of the written submissions made in relation to air quality and climate. I am satisfied that the identified impacts would be avoided, managed and mitigated by the measures which form part of proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of air quality and climate.

12.9. Noise and Vibration

EIAR

12.9.1. Noise and Vibration are addressed in Chapter 11 of the EIAR, with Appendix 11-1 comprising a Construction Noise Report and Appendix 11-2 comprises an Operational Noise Report.

12.9.2. Chapter 11 identifies the existing noise baseline, methodology adopted, significance criteria, potential effects, mitigation and residual effects remaining. The assessment has been undertaken with reference to:

- British Standard 5228:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites Part 1 Noise; UK Institute of Acoustics',
- A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, 2013 (IoA GPG); and
- Wind Energy Development Guidelines 2006 and
- International Standard ISO 9613-2, 'Acoustics – Attenuation of sound during propagation outdoors' (ISO 1996).

12.9.3. With regard to the Draft Revised Wind Energy Development Guidelines (WEDG) 2019, I note that they have not yet been finalised and the noise limits from the

WEDG 2006 are therefore used. Reference is also made to the World Health Organisation issued noise guidelines 'Environmental Noise Guidelines for the European Region', whereby two conditional recommendations in the guidance and limitations in relation to using Lden levels as a measurement of wind turbine noise.

12.9.4. In the EIAR the daytime WEDG Noise Limit was set at 40 dB(A) where background noise levels are below 30 dB; and 45dB(A) or background noise plus 5 dB, whichever is the greater, where background noise levels are greater than 30 dB. The night time WEDG Noise Limit was set at 43 dB(A) or background plus 5 dB whichever is the greater.

12.9.5. All buildings within c.3 km of the proposed turbines within the wind farm site were identified. Of the 341 buildings identified, a number were subsequently classified as derelict (H1, H77, H116, H131, H177, H224, H228 and H237) and are not considered further in the EIAR. 16 were chosen as Noise Assessment Locations (NALs) for the operational noise assessment and 20 Construction Noise Assessment Locations (CNALs) were selected for the construction noise assessment.

12.9.6. Background noise monitoring was undertaken between 1st March and 3rd May 2022. It is acknowledged that the equipment at NML3 was knocked over by cattle at some point during the second month, therefore the data collected during the second month was discarded. There was a malfunction of equipment at NML5. All other NMLs functioned correctly over the duration of the survey. While I acknowledge the limitations experienced at the two identified points, the overall survey results as set out are in my opinion robust and the failings at two locations does not undermine the overall results, which are what one would expect in a rural location, with the existing background noise reported to be low. The noise survey considered the operation of the nearby quarry to the north of the site in the background noise survey and omitted it from the background noise data. I consider this standard and reasonable as per the methodology for the assessment of background noise.

12.9.7. Identified sources of construction phase noise include the machinery (static and mobile) at the wind farm site, turbine foundations, associated turbine hardstandings, tree felling, construction and upgrading of tracks and roads, construction of the grid connection, directional drilling at some watercourse/culvert/drain crossings, and construction of construction compounds.

12.9.8. The predicted noise levels for all construction scenarios are below the weekday and Saturday daytime Category A threshold level of 65 dBA and are also below the evening and weekend Category A threshold level of 55 dBA. Some generation plant or similar may operate during night-time hours within the construction compounds, however, predicted noise levels are below the night-time Category A threshold levels of 45 dBA.

12.9.9. In terms of vibration, given the separation distances between the construction activity areas on the site and the nearest receptors, no significant effects are anticipated. Where construction activities on the underground electrical cabling route are close to residential receptors, some local vibration effects may be present, however, levels are expected to be low and of limited duration.

12.9.10. In terms of operational noise, the principal sources of noise are stated to be aerodynamic noise from the blades rotating and mechanical noise from the machinery (e.g. gearbox and generator). The background noise and predicted wind turbine noise were assessed against LA90 and the exceedance level established. The results of the operational noise assessment indicate noise immissions predicted at all identified Noise Sensitive Receptors (NSRs) were below the WEDG Noise Limits when considering a candidate turbine with a 162 m rotor diameter, 6.2 MW with serrated trailing edge blades (see Appendix 11-2 and table A5.2). The turbine is considered to be representative of the type of turbine that could be installed on the site and the EIAR states the final choice of turbine would have to meet the derived WEDG 2006 noise limits and/or noise limits determined and contained within any planning permission condition imposed.

12.9.11. Cumulative effects on noise and vibration are addressed in chapter 2 as well as chapter 11 of the EIAR. The nearest proposed, permitted or existing wind farm is 16.3km from the proposed turbines, therefore, no potential for operational cumulative noise effects is anticipated. There is potential for cumulative impacts with the quarry located adjacent to the northeastern boundary of the wind farm site. It is stated that the turbine noise will have a different characteristic than existing nearby sources such as the quarry, and will vary significantly with wind speed, just as quarry activities vary day by day. Once each development is within its respective noise criteria, the potential for cumulative noise effects is unlikely. While observers criticise the omission of quarry noise in the Operational Noise Report (Appendix 11-2), I note

the methodology is set out against the relevant guidelines and I accept that best practice is for intermittent noise sources to be filtered out in order to obtain an accurate baseline against which to assess the predicted turbine noise. I also accept that there is a difference in tone and frequency of a quarry type noise versus a wind farm noise and the quarry is subject to controls on its noise emissions which if met should not give rise to significant cumulative impacts.

12.9.12. In relation to the construction of the proposed development, no cumulative impacts are anticipated. No cumulative noise effects are anticipated in relation to construction of the underground electrical cabling route and other permitted or proposed projects and plans in the area.

Mitigation Measures

12.9.13. A range of mitigation measures are proposed, particularly in relation to plant and machinery during the construction phase. A range of good practice measures are presented in the Construction Environmental Management Plan (CEMP) for the site and grid connection route (Appendix 4-2 of EIAR), and these will be employed to minimise noise impacts.

12.9.14. Where the BS5228 threshold levels are anticipated to be exceeded due to directional drilling activities along the underground electrical cabling route for water crossings 3, 7 and 11, which are in close proximity to sensitive receptors, the following are examples of measures that will be considered, where necessary, to mitigate noise emissions from these activities are as follows:

- Temporary boarding alongside the drilling rig or use of ‘acoustic blanket panels’ to hang from heras fencing or similar. Installation will be as close to the drilling rig as is practicable and fitted so as to interrupt any direct line of site between the drilling rig and the closest residential receptors.

- Examples of appropriate products include Echo Noise Defender and Soundex DeciBloc. It is anticipated that this will be required should directional drilling be used for water crossings 3, 7 and 11, which are in close proximity to sensitive receptors.

12.9.15. During the operational phase it is stated that the predicted noise levels will be within relevant best practice for wind farms, therefore, noise mitigation measures are not required. However, noise curtailment measures are discussed in section 11.7.2

to demonstrate that all modern wind turbines have the capability of operating in reduced noise modes should it be necessary to reduce noise emissions from any installed turbine.

12.9.16. No significant effects will arise in respect of vibration during the operational and construction phase.

12.9.17. In terms of residual effects, no significant effects are anticipated given all the NALs and NSRs lie below the WEDG daytime and night time Noise Limits. Emissions from site traffic and other construction activities are discussed separately in Section 13.11 of this report. The predicted noise levels associated with the operational phase will be within best practice noise criteria curves recommended in the 2006 guidelines.

Assessment

12.9.18. The operational noise impacts are of significant concern to local residents. It is stated that the existing 2006 WEGs are out of date and cannot be relied on by the developer. I reiterate that these continue to apply. I have also had regard to the 2019 Draft WEGs.

12.9.19. I consider that it is clearly demonstrated that the applicant has presented a comprehensive baseline survey taking into account the relevant properties in the area. The WEGs do not set down a requirement to assess derelict houses and accordingly it is acceptable the applicant discounted these properties.

12.9.20. A number of observers make reference to the WHO Environmental Noise Guidelines for the European Region, published in 2018 and contend that they should be utilised in assessing the proposed development, as per WMCDP policy objective CPO10.146.

12.9.21. Given that the current section 28 Ministerial Guidelines (i.e. WEDG) date from 2006 and the 2019 guidelines remain in draft form, the EIAR states that the assessment methodology has been supplemented by the guidance in ETSU-R-97 and the IOA GPG. The 2018 the World Health Organisation guidelines are considered in the EIAR. The WHO issued noise guidelines 'Environmental Noise Guidelines for the European Region contain two conditional recommendations in relation to wind turbine noise, whereby recommendations are based on noise

exposure levels characterised using the Lden parameter, which is a weighted annual average, more typically used for road noise. The Guidelines state that the acoustical description of wind turbine noise by means of Lden or Lnight may be a poor characterisation of wind turbine noise and may limit the ability to observe associations between wind turbine noise and health outcomes.

12.9.22. In relation to wind turbine noise, the following recommendations and strength ratings are set out in the Guidelines:

Recommendation	**Strength**
For average noise exposure, the GDG conditionally recommends reducing noise levels produced by wind turbines below 45 dBLden, as wind turbine noise above this level is associated with adverse health effects	Conditional
No recommendation is made for average night noise exposure Lnight of wind turbines. The quality of evidence of night-time exposure to wind turbine noise is too low to allow a recommendation.	Conditional
To reduce health effects, the GDG conditionally recommends that policymakers implement suitable measures to reduce noise exposure from wind turbines in the population exposed to levels above the guideline values for average noise exposure. No evidence is available, however, to facilitate the recommendation of one particular type of intervention over another	Conditional

12.9.23. In relation to 'conditional' recommendations, the Guidelines state that these require "a policy-making process with substantial debate and involvement of various stakeholders. There is less certainty of its efficacy owing to lower quality of evidence of a net benefit, opposing values and preferences of individuals and populations affected or the high resource implications of the recommendation, meaning there may be circumstances or settings in which it will not apply". Conversely, with regard to 'strong' recommendations, which have not been utilised with regard to wind

turbine noise, the Guidelines state that these “can be adopted as policy in most situations”.

12.9.24. I note that the evidence for health outcomes associated with wind turbine noise, as summarised in Table 36 of the Guidelines, is either stated to be low quality or that no studies were available. The Guidelines also state that “further work is required to assess fully the benefits and harms of exposure to environmental noise from wind turbines and to clarify whether the potential benefits associated with reducing exposure to environmental noise for individuals living in the vicinity of wind turbines outweigh the impact on the development of renewable energy policies in the WHO European Region”.

12.9.25. Having regard to the foregoing, I conclude that the WHO Guidelines, while useful in understanding the possible relationship between noise and health issues, are primarily of benefit in terms of informing a policy-making process at a strategic and land use planning policy level, rather than in the case of specific wind energy projects. I note, in this regard, the reported low quality of evidence, the ‘conditional’ nature of the recommendations and the stated uncertainty with regard to the appropriate noise measurement parameters.

12.9.26. Having reviewed the information submitted by the applicant in the EIAR, associated appendices and the further information response, I consider that a robust noise assessment, informed by adequate background noise monitoring, was undertaken. The assessment demonstrates that the proposed development complies with the daytime and nighttime noise limit criteria at noise sensitive receptors as per the WEDG 2006 and no significant cumulative impacts will arise.

12.9.27. In terms of construction noise, I am satisfied that the applicant has set out appropriate site management measures and protocols in the EIAR and associated CEMP which generally comprise good practice construction methods. I am satisfied that the implementation of these measures would be sufficient to reduce noise nuisance and disturbance during the construction phase to an acceptable level, noting the potential impact on nearest residential receptors along grid routes can be protected by way of additional measures. Overall, I do not consider that construction phase noise impacts would be significant.

12.9.28. The decommissioning phase works will be similar to the construction phase, but of less magnitude given that various elements will be left in situ. I therefore consider it reasonable to draw similar conclusions for the decommissioning phase as those drawn for the construction phase, i.e. that the impacts would be short-term and would not be significant.

12.9.29. Should the Board be minded to grant permission, I recommend that a suitable condition be included to limit daytime and night-time noise at noise sensitive receptors in line with the WEDG 2006 and that the applicant be required to submit and agree a noise compliance monitoring programme for the proposed development with the planning authority, to include the mitigation measures required to achieve compliance with the noise limits, such as the curtailing of particular turbines. The condition should also require that the results of the initial noise compliance monitoring be submitted to, and agreed in writing with, the planning authority within six months of commissioning of the wind farm.

12.9.30. Subject to compliance with the identified mitigation measures and noise limits and noting the significant separation distances between the proposed turbines and the nearest residential receptors, I do not consider that the proposed development would be likely to have a significant negative impact on sensitive receptors by way of noise disturbance.

Conclusion

12.9.31. I have considered all of the written submissions made in relation to noise and vibration and the relevant contents of the file including the EIAR. I am satisfied that the potential for significant adverse noise and vibration impacts can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative noise and vibration impacts.

Material Assets, Cultural Heritage and Landscape

12.10. Chapter 14 of the EIAR addresses Traffic and Transport, Telecommunications and Aviation and Other Material Assets including Existing Built Services and Utilities, and Waste Management.

12.11. Material Assets – Traffic and Transport

EIAR

12.11.1. Chapter 14, Section 14.1 of the EIAR addresses Traffic and Transport. The EIAR assessment makes use of desktop studies, traffic data collection from 2022 from two automated counted maintained by TII on the N6 and M6 and from eight traffic counts undertaken in June 2022, consultations (TII, Westmeath County Council and Offaly County Council) and utilises guidance published by TII.

12.11.2. An 18-24 month construction programme is envisaged and the EIAR assumes a compressed 18 month construction programme for the purposes of construction traffic generation calculations and a 'worst case' assessment.

12.11.3. The proposed access to the site is via an existing track off the L5363 to the northwest of the site, which will be upgraded to accommodate construction traffic and an improved access will be retained for maintenance traffic.

12.11.4. Traffic generation during construction arises from two identified stages:

- Stage 1 – Wind Farm Site preparation, groundworks, tree felling, construction of temporary construction compounds, turbine foundations, met mast foundations, onsite substation, internal electrical cabling, and Grid Connection underground electrical cabling route laying.
- Stage 2 – Wind turbine component delivery and construction.

12.11.5. Over an 18 month period, it is estimated that a total of 10,484 deliveries by truck or standard articulated HGVs will be made to the site during stage 1 (960 truck loads based on 9 concrete pouring days for the 9 turbines; 9524 trucks for site preparation and groundworks). Table 14-10 outlines the total trip generation calculated for stage 2 at 108 truck movements for the movement of the wind turbines to the site. Staff is estimated to be 70 max at any one time, reducing to 45 during construction of the turbines. 3 employees will be employed during the operational stage.

12.11.6. In the construction phase, the 'abnormal delivery route' to accommodate blades, towers and nacelles, is detailed. The proposed port of entry for the large wind turbine components is Galway Harbour from where it will travel to the M6

motorway and exit from N6 national road in Athlone to the N55, travelling northeast through the N55/R916 Cornamaddy Roundabout, on to the R390, with the site access junction off the east side of the L5363, 1km south from the R390. The types of vehicles that will be required to negotiate the local network will be up to 87.5 metres long and will carry a blade 81.0 metres in length. At one location where the geometry is constrained (the left turn off the M6 slip road onto the N55 in Athlone) it is proposed to transport the blade using a blade lifter system. Locations where it is established that the existing road geometry will not accommodate all of the vehicles associated with the development, remedial works are identified to allow turning movements.

12.11.7. In relation to the construction phase haul route (outside of the abnormal load delivery route), rock and hardcore material is proposed to be sourced from local authorise quarries with potential quarries identified in Chapter 4 of the EIAR and routes identified.

12.11.8. Traffics effects during construction, operation, and decommissioning are considered for the wind farm site and the GCR.

12.11.9. The percentage increase in traffic is calculated for each stage of construction at the link roads on the construction traffic route. During the 24 days when the various component parts of the wind turbine plant are delivered to the site using extended articulated HGVs, the effect of the additional traffic will be slight to moderate along the turbine delivery route due to the size of vehicles involved, resulting in increased traffic volumes ranging from +0.2% on the N6 west of Athlone, to +0.7% on the N55 south of the R390, to 2.7% on the R390 exiting Athlone, to +5.3% on the R390 approaching the site. On the L5363 leading to the site it is forecast that traffic flows will increase by +34%. It is forecast that impacts on the route during this phase will reduce in severity to imperceptible to slight if the delivery of the abnormally sized loads is undertaken at night. During the 9 days when the concrete foundations are poured the effect on the surrounding road network will be negative, resulting in an increase in traffic levels, which for the M6 is rated as a temporary imperceptible negative effect; a temporary slight negative effect on the R390; and a temporary slight to moderate negative effect on the L5363 (traffic increase of 188% during the 9 days). During the other site preparation and ground works, on the L5363 leading to the site it is forecast that traffic flows will increase by

66%, which will have a temporary negative effect on the M6, and a temporary slight negative effect on the rest of the delivery route.

12.11.10. The effect of increased traffic on junctions along the delivery route are assessed during the construction phase and set out in table 14-24 of the EIAR, with no significant capacity issues caused by the wind farm construction.

12.11.11. With regard to the construction of the GCR, this is anticipated to take 9 months to complete. It is estimated that there will be approximately 14 daily return trips made by a truck transporting materials, and made by a minibus to transport construction staff which would hold approximately 10 staff, to and from the Site. The impacts on the network is stated to be transient, temporary and slight. A detailed Traffic Management Plan (TMP), incorporating all the mitigation measures set out in the CEMP included as Appendix 4-2 of this EIAR, will be submitted for agreement with the roads authority and An Garda Siochana.

Mitigation Measures

12.11.12. Mitigation by way of design has been incorporated, with the delivery route selected on basis of it being the most appropriate route capable of transporting the wind turbine components and requiring the minimum remedial works to accommodate the vehicles. The construction phase of the Proposed Development will be carried out in accordance with the CEMP, included as Appendix 4-2 of this EIAR, which will be agreed with the relevant Local Authority.

12.11.13. The traffic management measures to be implemented include, inter alia:

- Appointment of a Traffic Management Co-Ordinator.
- A delivery programme to be agreed with the relevant authorities.
- Information to locals of any upcoming traffic related matters, eg delivery of turbine components at night. An out of hours emergency number will be supplied.
- A pre and post condition survey.
- Implementation of temporary alterations to road network at critical junctions.
- Identification of delivery routes, which will be agreed and adhered to by all contractors.

- Travel plan for construction workers to wind farm site and identification of a parking area.
- Travel plan for construction workers to underground electric cabling route - Due to the transient nature of the underground grid connection construction site which will generally be on a section of the public road, construction workers will be transported to and from the site by the construction company at the beginning and end of each shift.
- Temporary traffic signs will be put in place at all key junctions. A member of construction staff (flagman) will be present at key junctions during peak delivery times.
- The management plan will include the delivery of large wind turbine plant components at night in order to minimise disruption.
- Additional measures will be put in place in order to minimise the effects of the development traffic on the surrounding road network, including wheel washing facilities and sweeping / cleaning of local roads as required.
- All road surfaces and boundaries will be re-instated to pre-development condition, as agreed with the local authority engineers.

12.11.14. No mitigation measures are required for the operation phase given the low level of traffic generation involved. It is anticipated that three number of employees will be required to maintain the site. The development will have a negligible effect on the local network once constructed.

12.11.15. A decommissioning plan, including a material recycling / disposal and traffic management plan, will be prepared for agreement with the local authority prior to decommissioning.

12.11.16. Overall, the additional traffic during construction will have a short-term slight to imperceptible negative effect on existing road users, which will be minimised with the implementation of the mitigation measures included in the proposed traffic management plan. No significant residual impacts during construction, operation or decommissioning are anticipated.

Assessment

Construction Traffic

12.11.17. Having regard to the nature and scale of the proposed development, it is clear that the greatest potential for negative impacts on traffic and transportation arises during the construction phase, since there will be minimal traffic generated during the operational phase.

12.11.18. The Planning Authority consider the construction period to be critical and require a Transport Management Plan with full details of road network/haulage routes and vehicle types to be used to transport materials on and off the site is required, in addition to swept path analysis of all junctions/nodes in County Westmeath. I note that the spoil volume associated with the access roads is indicated as being 24,500m3 and I note the volume of trucks required to construct the development of the internal roads is indicated.

12.11.19. The TII raise a number of issues with the proposed grid connection route and potential impact on safety and strategic function of the national road network; traffic management in relation to gird connection route; potential to impact on the proposed N52 Tullamore to Kilbeggan national road scheme.

12.11.20. A number of third party appellants and observers have also raised issues relating to traffic and transportation, including road safety, capacity to accommodate HGV traffic, and impacts on other road users, as well as the source of stone from quarries, amount required and excessive distance to be travelled.

12.11.21. I consider that construction traffic management can, as proposed, be addressed through engagement with the local authority, timing of HGV movements, use of convoy systems, flag men etc. Given the short term and temporary nature of the impacts, I consider that a robust Construction Traffic Management Plan could adequately address the concerns raised by observers.

12.11.22. With regard to potential conflicts between wind farm construction traffic and local road users, I note the relatively limited length of time related to the construction period, the sparsely populated rural nature of the site and the low level of traffic currently utilising the roads. While I accept that there are likely to be short-term temporary negative impacts on the receiving environment due to construction traffic, they are of a type that lend themselves to effective mitigation through a comprehensive CTMP and suitable planning conditions.

12.11.23. With regard to the issue of the use of quarries over on-site borrow pits and suitability of certain quarries to supply stone and concrete to the site with respect to traffic generated and distances travelled, I am satisfied that the applicant in the EIAR has addressed the issue of advantages of utilising quarries over an on-site borrow pit which has its own environmental implications. While there is travel involved to/from quarries, I consider that the traffic generated can be managed by way of a CTMP and the impacts will be short term in nature. I consider the exact suitability of stone and supply availability cannot be predetermined at this stage, however, the applicant has considered sources in terms of distances involved, and the road network likely to be used to access the site and I am satisfied in this regard, noting again that impacts arising during the construction phase will be limited in duration.

Road Condition

12.11.24. The Planning Authority has raised concerns with regard to the condition of the local road network and potential impacts on road surfaces and drainage. The applicant has proposed to undertake pre- and post-construction condition surveys to a specification and timing to be agreed with the local authority and to reinstate all roads to their pre-construction condition to the satisfaction of the local authority.

12.11.25. I note that such surveys and reinstatement requirements, including the imposition of bonds for the satisfactory completion of such works, have been imposed by the Board on other wind farm developments, by way of condition, which I consider appropriate given the temporary nature of construction works and the negligible level of operational traffic. This matter can be adequately addressed by way of condition, should the Board be minded to grant permission.

Construction Traffic Volumes

12.11.26. The average number of HGV trips per day for the wind farm (excluding the grid connection works which will take place separately) is 21, increasing to 32 during peak construction periods. Spread over a typical work day, and notwithstanding the generally narrow road width of the local roads, I do not consider this to be such a significant volume of additional traffic on the existing road network as to warrant refusal of permission. There may be times, such as during the pouring of the turbine foundations, where HGV movements are concentrated, due to the need to complete sizable concrete pours in a timely manner. However, noting that only 9 no. turbines

are proposed, such occurrences would be limited in number and duration and would be capable of being mitigated to an acceptable level by means of agreement and implementation of a CTMP. I note the PA raises concerns that volumes of material required are not specified for internal tracks. I note the applicant under table 14-7 on site preparation and groundworks assesses the number of trucks required for road construction, however, I note the exact volume of material is not specified. While it would have been beneficial to have this information for cross-check purposes, I note the applicant has considered the traffic implications of this. I consider the overall traffic implications can be addressed by CEMP in agreement with the planning authority.

12.11.27. With regard to turbine component deliveries, the total number of such movements will be limited given that only 9 no. turbines are proposed, and the specialised nature of such deliveries means that it will be done under highly controlled circumstances, with a convoy, escort vehicles, garda escort etc. The applicant has considered the effects on junctions during construction and indicated where temporary measures are required, including at the junction of the R390 and , or where garda escort/closure of a road may be required based on their swept path analysis. I consider the temporary works and mitigation measures required to move components will not have a significant negative impact on residential amenity of dwellings in proximity and the land will be restored when finished.

12.11.28. While the TII has raised issues with the delivery route and lack of detail in relation to abnormal weight, it is also acknowledged in the TII report that while the turbine deliveries will be abnormal in terms of dimensions this does not mean abnormal weights are involved. It is a matter for the applicant to obtain the necessary consents to implement the required accommodation works, but noting the information, I am satisfied that the suitably controlled delivery of turbine components can be achieved without impacting on public safety by reason of a traffic hazard or otherwise impacting on traffic and transportation. I consider issues relating to the haul route can be addressed by way of agreement and implementation of a CTMP.

12.11.29. Should the Board be minded to grant permission, I recommend that conditions be included requiring that the Construction Traffic Management Plan be updated prior to the commencement of development and submitted for the agreement of the planning authority

12.11.30. Subject to the mitigation outlined in the EIAR and the above mentioned recommended conditions, I consider that there would be a negative impact on the locality due to the construction traffic, but that this can be mitigated such that the impacts would not be significant. I consider that the short-term negative impacts of construction traffic would be outweighed by the long-term positive impacts of a renewable energy project.

Operational Traffic

12.11.31. In the operational phase I concur with the applicant's assessment that the impacts will not be significant, due to the nature of the proposed development and the minimal traffic it will generate. With regard to the decommissioning phase, the nature of works will be similar to the construction phase, but the extent of works will be substantially less. I am satisfied that, subject to compliance with a decommissioning plan to be agreed with the planning authority, the traffic impacts associated with the decommissioning phase would not be significant.

Conclusion

12.11.32. I have considered all of the written submissions made in relation to traffic and transportation and the relevant contents of the file including the EIAR. I am satisfied that the potential for significant adverse impacts on traffic and transportation can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on traffic and transportation.

12.11.33. I refer the Board to Section 11 of this report (planning assessment), where consideration is given to issues raised in relation to the proposed GCR, which does not form part of this application but has been considered fully in terms of potential environmental effects, as referenced throughout the EIAR and within this EIA assessment.

12.12. Material Assets – Telecommunications and Aviation

12.12.1. Consultations have taken place with a number of telecommunications and aviation consultees. Two operators noted there are links in the area, however there is no overlap with the windfarm and no interference with their links is anticipated. The

IAA identify mitigation requirements in terms of an aeronautical obstacle warning light scheme and as-constructed maps of the turbines to be submitted to them. In addition notification of crane operation 30 days prior to erection of turbines is requested. While I note observer concerns in relation to flight paths, I am satisfied the conditions required by the IAA can adequately address the issue.

12.12.2. I conclude that there will be no significant effects and no residual effects on telecommunications.

12.13. Material Assets – Existing Built Services and Utilities

12.13.1. There are no overhead electricity cables on the wind farm site. There are overhead electricity lines crossing the public road corridor along the proposed grid connection route, however, no impacts on overhead electricity lines are likely to occur. There are no underground services or cables on the wind farm site. There are underground services of water, sewage, telecommunications and gas line along the proposed GCR. A survey has been undertaken which identifies all existing services and utilities and the proposed GCR has been designed to avoid any impacts.

12.13.2. In terms of mitigation, a pre-construction survey of the route will be repeated and updated, to ensure any new services and utilities will not be impacted; liaison will take place with the local authority to ensure all services are identified; excavation permits will be obtained and all staff inducted in relation to existing underground services; standard construction codes of practice will be applied in terms of working with electricity, gas, water, sewage and telecommunications networks.

12.13.3. I conclude that there will be no significant effects and no residual effects on existing built services and utilities.

12.14. Material Assets – Waste Management

12.14.1. A Waste Management Plan (WMP) is incorporated within the Construction and Environmental Management Plan (CEMP) in Appendix 4-2 of the EIAR. The WMP outlines the methods of waste prevention and minimisation by recycling, recovery and reuse at each stage of construction, with disposal of waste a last resort. Site personnel will be instructed at induction that no waste be brought to site for disposal in the on-site waste skip and the burning of waste material is forbidden.

12.14.2. I conclude that there will be no significant effects and no residual effects with regard to waste management.

Overall Conclusion on Material Assets

12.14.3. I have considered all of the written submissions made in relation to material assets and the relevant contents of the file including the EIAR. I am satisfied that the potential for significant adverse impacts on traffic and transportation can be avoided, managed and/or mitigated by measures that form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct, indirect or cumulative impacts on traffic and transportation.

12.15. Landscape

EIAR

12.15.1. Chapter 12 addresses Landscape and Visual and is supported by Appendices 12-1 LVIA Methodology, 12-2 LCA Assessment Tables, 12-3 Viewpoint Assessment Tables, 12-4 LVIA Baseline Map, and 12-5 Photowire Visualisations. The submitted landscape and visual impact assessment (LVIA) utilises visibility mapping, representative viewpoints and photomontages. Views from within Westmeath are considered, as are potential impacts on Offaly and Longford, where some visibility may occur, with consideration of all relevant development plans, associated landscape character assessments where available, consideration of heritage and cultural sites, scenic views and scenic routes.

12.15.2. In terms of mitigation by design, it is stated that the turbines are located in a small river valley of undulating agricultural land, which contains the proposed infrastructure. The Dungolman River is a small stream which traverses the wind farm site in a north-south orientation, and it is the flat plain around this river and its tributary where the turbines are located. The flat agricultural fields throughout the wind farm site are drained to this watercourse via man-made drainage ditches. Turbines 1-7 are sited at a base elevation of 56-60 metres AOD. Turbines T8 & T9 are sited at a slightly higher elevation, approximately 69m and 70m AOD. The L shaped layout of the proposed turbines is stated to be sympathetic to the shape and characteristics of the landscape, with siting at a lower base relative to receptors

reducing their visual prominence. The landscape surrounding the wind farm site is described as comprising irregular, undulating topography, enclosing the low-lying area where the proposed turbines are sited. It is stated that the 'L-Shaped' arrangement of proposed turbines lie parallel to elevated ridgelines of the river valley, providing screening to the north, east and west.

12.15.3. With regard to limitations, it is stated at the outset of chapter 12, that no access was permitted to the Hill of Uisneach (which is in private ownership) for the capture and production of photomontages. It is stated that the landowner formally notified the authors of the LVIA and other EIAR professionals involved in the proposed development that no imagery was to be captured for the production of photomontages from the Hill. Tools such as ZTV mapping, aerial imagery and online imagery (e.g., Google Street View imagery) were used to assess the likely impacts of the proposed turbines on the landscape character of the Hill of Uisneach and a 'Rendered Wireline' was produced to assess visual effects from the hill – See VP 16 in the EIAR Volume 2: Photomontage Booklet.

12.15.4. The methodology and guidelines followed are set out and described. A Zone of Theoretical Visibility has been established at 25 kilometres to include Clonmacnoise. A LVIA Study Area of 15km has been selected to assess effects on landscape character areas. The ZTV shows which areas of the LVIA Study Area will have theoretical visibility of the proposed turbines and which areas will have no visibility, noting ZTV does not account for screening elements within the landscape. Route Screening Analysis (RSA) was conducted in April 2022 to assess the varying characteristics of screening factors existent on roads surrounding the site and the actual likely visibility of the proposed turbines in comparison with theoretical visibility on all public roads within 3 km of the wind farm site. Screening along the R390 Regional Road was recorded to a distance of 5 km as it is a relatively prominent transport route in the LVIA Study Area.

12.15.5. In accordance with the WMCDP, the site is located in LCA 7 - Western Lowlands. Eight County Westmeath LCAs (including LCA 7) are located within the LVIA Study Area for assessment of landscape character (15 km from the Wind Farm Site). All LCAs in Westmeath are designated as 'Low Capacity', ie low wind energy capacity, except for LCA 9 – Uisneach, which has 'No Capacity' for wind energy. Five lake areas are considered to have high amenity and recreational value, and

include areas around the following: Lough Ree area, Lough Lene area, Lough Owel area, Lough Ennell area and Lough Derravaragh area. The Hill of Uisneach is also designated as an Area of High Amenity. The development plan notes under Section 13.15 on LCA 9 that 'the elevation of the Hill of Uisneach confers both panoramic views, as well as visual prominence, which ensures that the site and its immediate context is very sensitive to adverse visual impacts'. A map is produced showing buffer zones around the hill and arrows indicating protected views to the north (three arrows), west (two arrows), south (one arrow) and east (one arrow). The nearest proposed turbine is located approximately 8.8km west (T7) of the western cairn of the Hill of Uisneach. Lough Ree is located approximately 9.8 km northwest of the nearest proposed turbine (T1) at its closest point. Areas of High Amenity surrounding Lough Ennel and Lough Owel are partially located within the LVIA Study Area to the east and north-east of the Wind Farm Site respectively. Six identified scenic routes are located within the LVIA. There are 36 designated views and prospects within the LVIA.

12.15.6. Table 12.5 sets out indicators of landscape value and sensitivity. The landscape value of the site is deemed to be 'Low' value in a local context, it is not the subject of any designated scenic views or cultural heritage, and it is also located within an LCA with no areas of high amenity. The sensitivity of the landscape is deemed to be low.

12.15.7. Visual receptors in the LVIA Study Area were selected based on designated scenic amenity, viewing areas, settlements, recreational and tourist destinations, recreational routes and transport routes and are identified in Table 12-6. Fifteen photomontage viewpoints were selected to assess the impact on the selected visual receptors and a Hill of Uisneach Rendered Wireline (VP16) is included as a photomontage could not be produced. Eleven additional photomontage viewpoint locations representing residential properties located in close proximity to the site were selected. Appendix 12-3 assesses the various viewpoints in conjunction with the photomontages and the Hill of Uisneach wireline. Cumulative effects are also considered in relation to each viewpoint.

12.15.8. Construction phase and operational phase effects are considered as well as decommissioning effects.

12.15.9. In terms of construction phase effects, there will be impacts from earthworks such as cut and fill and spoil and visual effects at the time of the construction of the turbines with use of large cranes and large haulage vehicles, and construction of the underground cabling route within existing public road corridors. Construction works will be 'slight', temporary/short-term, negative, in nature and will comply with best construction practice methods to reduce impacts as set out in the CEMP (Appendix 4-2 of the EIAR). With regard to the turbine delivery route, this will require removal of hedgerows and earthworks for the provision of temporary roads at locations 6 and 7 as detailed in Section 14.1.9 in Chapter 14. The landscape value and sensitivity of the site of the TDR accommodation works are deemed to be low and the change to occur will be highly localised, resulting in 'Slight' temporary, negative landscape and visual effects, with ultimately no visual impacts once planting and reinstatement of these features is implemented and vegetation has re-established. The other visible structures associated with the windfarm site include the proposed substation, site access roads and hardstand areas, and the meteorological mast. The visual effects during construction are rated as negative, short-term 'Moderate' for the substation and 'Slight' for the access roads/hardstands/meteorological mast.

12.15.10. In terms of the operational phase, visual effects of the turbines have been assessed using the ZTV, the route screening analysis and the photomontages. Several viewpoints which indicated full theoretical visibility based on the ZTV map were found on visiting to have no visibility of the proposed turbines as a result of the screening and several of these were protected views which consequently were not included in the photomontages. The photomontages show that potential effects range from no impact to full visibility of all 9 turbines.

12.15.11. It is stated that the proposed turbines are likely to be most visible from areas within 5km of the site due to the screening from vegetation and the ridgelines of the small valley, and from elevated areas to the southeast and east into the South Central Hills LCA. Individual assessments of the photomontages are presented in Appendix 12–3 and summarised in Table 12-19 which are read in conjunction with the photomontage booklet in volume 2. The individual assessments for each LCA are summarised in Table 12-18 and are included in detail in Appendix 12-2 of this EIAR.

12.15.12. In terms of the photomontages, the significance of the residual visual effect from the 16 photomontages was not considered to be profound, very significant or significant at any of the viewpoint locations but instead the viewpoints were assessed as resulting in Moderate (6 locations, including VP16 Hill of Uisneach, VP6 from Knockastia Hill and from local roads V09, VP10, and VP12), Slight (6), or Not Significant (4) residual visual effects. With regard to VP16, all turbines are likely to be visible from the top of the Hill of Uisneach where open views are permitted to the west. As shown by the Rendered Wireline, it is contended that the proposed turbines will appear as a neat linear array across the background of the view and at a distance of approximately 8.8km to the nearest proposed turbine (T7), they will be viewed as small background features and comprise a small horizontal extent in the panoramic landscape view. The magnitude of change from VP 16 was deemed to be 'Slight'. VP6 from Knockastia is one of the most elevated locations in close proximity (within 5km) to the site and represents one of the most open views of all the proposed turbines. The residual visual effects were deemed to be 'Moderate', as the proposed turbines read coherently and are effectively absorbed in the expansive and long ranging landscape view. VP9, VP10 and VP 12 are considered in terms of impact on residential dwellings given proximity.

12.15.13. In terms of the Landscape Character Assessments (LCA), the residual effects identified ranged from:

- Moderate (1 location – Hill of Uisneach),
- Slight (4 locations: western lowlands, southern central hills, Lough Ree/Shannon corridor and Shannon Basin/Lough Ree LCAs),
- Not significant (3 locations: South Westmeath Eskers, Longford Inny Basin, and Offaly Northwestern Lowland Farmland and Marginal Peat) or
- Imperceptible (2 in Longford).

12.15.14. The EIAR elaborates on the Hill of Uisneach. The LCA of the Hill of Uisneach is deemed to be of Very High Sensitivity, given its recognition as an internationally important cultural landscape. There is full theoretical visibility from the top of the Hill of Uisneach. As the Hill of Uisneach provides panoramic views over the landscape there is potential of cumulative effects, as there is theoretical visibility of the proposed Kepak, Lemanaghan and Derryadd turbines. However, the EIAR states

that due to the distance, cumulative effects are deemed to be negligible. The magnitude of change is deemed to be 'Slight', and the overall residual effect is deemed to be 'Moderate'.

12.15.15. The other visible structures associated with the windfarm site included the proposed substation, site access roads and hardstand areas, and the meteorological mast, the impacts of which are rated as 'Slight' given their location and scale. The grid connection underground cabling route will have visible impacts due to construction, after which the effect will be 'Imperceptible' once vegetation has re-established.

12.15.16. Cumulative visual effects considered the proposed Kepak turbine 18.3km to the southeast, proposed Derryadd turbines 18km away in Longford, and the proposed Lemangahan turbines 16km away in Offaly. There are no existing wind farms in close proximity and the cumulative landscape effects are localised.

12.15.17. Decommissioning impacts are considered to be of a similar nature to that occurring during construction. A Decommissioning Plan has been prepared (Appendix 4-6) the detail of which will be agreed with the local authority prior to any decommissioning.

Assessment

12.15.18. A number of observers raise concerns in relation to visual impacts on their residential properties, as well as on their farms, and reject the conclusion of the EIAR in terms of significance of effects on views and landscapes. Observers also raise a number of issues in relation to landscape and visual impact, in particular, the visual dominance of large turbines on this low-lying area; significant negative impact on the Hill of Uisneach and panoramic view from the Hill of Uisneach and inadequacy of submitted wireline image from the Hill. It is considered that the landscape will be undermined by the siting of the industrial scale windfarm and screening from local landscape will be inadequate.

12.15.19. I accept the conclusion of the EIAR that construction phase effects would not be significant from a landscape and visual perspective. It is the operational phase effects which require further consideration.

12.15.20. The EIAR indicates that given the valley area within which the wind turbines are located, the main extent of local level visibility is within the 5km radius and impact on dwellings within this radius is focussed upon in the assessment of residential amenity. The assessment of the viewpoints by way of photomontages and wireframes within the immediate vicinity of the WFS is robust (with the exception of the Hill of Uisneach, which is discussed separately hereunder). I have no reason to believe the photomontages submitted have been altered to distort views and I am satisfied that the views chosen are adequate. I acknowledge that within the 5 km zone some houses will have direct views to the turbines and that there will be a change to the landscape which residents may experience as an adverse visual effect, as well as for farmers working adjoining landholdings. However, given the separation distances of a minimum of 500m from dwellings; the presence of significant vegetative screening features within this undulating landscape; no significant negative impacts on the operational ability of any adjoining farmland; views of the wind turbines are to a degree mitigated and would not result in significant adverse effects. Having reviewed the photomontages submitted and having viewed the site from various locations, I do not consider that there would significant negative visual effects on existing residential dwellings. I refer the Board to Section 12.3 above, where this issue is discussed in more detail.

12.15.21. With regard to the position of the substation and effect on potential for additional rural dwellings in the area, I do not consider the location of the proposed substation will have a significant negative visual impact on adjoining lands or existing rural dwellings. Furthermore the 'potential' for a rural dwelling application cannot be considered as part of this assessment, only what has been permitted. While I accept the proposed development may have an impact on site location of a rural dwelling due to distance requirements, I cannot pre-empt a potential proposal for a rural dwelling at some time in the future, on lands where permission for a dwelling is not guaranteed. I can only assess the landscape as it exists, and any application would be subject to its own planning assessment. The proposal for a wind farm is in compliance with the national policy imperative for development of renewable energy supplies.

12.15.22. I accept the assessment by the applicant that having regard to the Western Lowlands LCA within which the turbines are located, the landscape sensitivity to the

windfarm development can be described as low and the magnitude of change as a result of the development would reasonably be described as moderate from within the existing LCA and the significance of the landscape character effect based on the EPA terminology would be slight. I note the extent of roadside screening which will reduce visibility from large areas within the LCA and the low lying nature of the site inside with undulating land in the immediate area. Notwithstanding the scale of the turbines, which will alter an area of land and in places will be highly visible and will modify the landscape character, my conclusion with respect to the impact on the Western Lowlands LCA is that the development would not result in significant adverse landscape effects.

12.15.23. Regarding landscape receptors of medium/high/very high sensitivity within Westmeath and adjacent counties, the relevant landscapes of high sensitivity include Clonmacnoise, Hill of Uisneach, Lough Ree, River Inny, Royal Canal, Clara Bog, and River Shannon. Excluding the Hill of Uisneach which is considered separately hereunder and under Section 11.5 above, I accept that there would be limited visibility of the wind turbines from the other sites identified and there would be no significant landscape and visual effects by virtue of distance and intervening landscapes.

12.15.24. Regarding views to/from Hill of Uisneach, I note the nearest turbine is 8.7km to the west of the Hill. I note that Knockastia Hill (nearest turbine is 4.3km to the northwest) is visible from the wind farm site, and is connected with the Hill of Uisneach. Knockastia is to the southwest of the Hill of Uisneach and therefore is not in a direct line between the Hill of Uisneach and the wind farm site. While the applicant states that there is no view of the Hill of Uisneach from the wind farm site, it is clear that this national monument is important in terms of panoramic views from the Hill of Uisneach within which the wind turbines will be visible. Having regard to the submission from the prescribed bodies of the DHLGH and OPW as well as the submission from Westmeath County Council, I am not satisfied that the submitted information is sufficient for the Board to make a definitive assessment of the impact of the development on the landscape as viewed from the Hill of Uisneach. Notwithstanding that a photomontage is stated not to have been possible due to access issues, I note that there is a lack of detailed analysis within the EIAR of the Hill of Uisneach which in on the Tentative List of World Heritage Sites. There are two

guidance documents from UNESCO, one of which specifically relates to wind farm sites, which the Department recommends be utilised in an assessment of the proposed development. I further note there is a view of a wind farm site visible on the horizon to the south of the Hill of Uisneach, and while this does not in my opinion have a significant impact on the Hill nor would it be visible from the application site, it is a consideration in examining the context of the Hill of Uisneach and the potential for cumulative impacts with this development on it. As noted previously in this report, further information would be required to fully address the visual impact on the Hill of Uisneach, with a requirement for a revised AIA and assessment of the potential impacts of the proposed development against the relevant UNESCO guidance documents. It is important that any assessment using such guidance documents would be undertaken by a person suitably qualified and experienced in the assessment of UNESCO sites and such an assessment would need to be undertaken in consultation with the DHLGH and Westmeath County Council.

Conclusion

12.15.25. I acknowledge that there is a balance to be achieved in assessing impacts on cultural heritage sites against the benefits of a wind farm proposal which will become part of the existing working landscape and which goes to tackling climate change and the imperative of achieving national climate change targets by decreasing dependence on fossil fuels, with subsequent reductions in greenhouse gas emissions. However, based on the information submitted I am unclear as to whether the development plan objective CPO 13.7 to protect this and other views would be undermined by the proposed wind farm given the lack of assessment against UNESCO guidance as recommended by the Department and the lack of a sufficient photomontage image combined.

12.15.26. I have considered all of the written submissions made in relation to landscape and the relevant contents of the file including the EIAR. I am not satisfied that potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, therefore I have concerns that the proposed development would have unacceptable direct, indirect or cumulative effects in terms of landscape, with specific reference to the Hill of Uisneach.

12.16. Cultural Heritage

EIAR

12.16.1. Cultural Heritage is addressed within Chapter 13 of the EIAR.

12.16.2. The assessment includes desktops studies and a walk-over field survey. The assessment of impacts on visual setting was undertaken using both the Zone of Theoretical Visibility (ZTV) map in the Landscape and Visual Impact Assessment (LVIA), as presented in Chapter 12 of the EIAR, and also photomontage / wireline technology from specific cultural heritage assets.

12.16.3. A study area of 25km was adopted in the consideration of UNESCO World Heritage Sites and those on the tentative list. The Hill of Uisneach which is c. 8.5km east of the wind farm site is an ancient ceremonial site of national importance (National Monument no. 155). Clonmacnoise is an early medieval ecclesiastic site 23.5km southwest of the wind farm site. National monuments generally within 10 km of the proposed turbines were assessed for impact on visual setting including Ushnagh Hill, Twyford, and Dunnamona.

12.16.4. There are four recorded archaeological monuments within the wind farm site, comprising two enclosures (proximate to T7 and T4) and two ringfort-raths (proximate to T9). A total of two hundred and twenty two (222) archaeological monuments are located within 5km of the proposed turbines and these are detailed in Table 13-7 of the EIAR. The ZTV shows that 215 of the 222 have some visibility varying from 1 turbine to 9 turbines. The majority of monuments are Enclosures, Ringforts and Souterrains (Early Medieval Period).

12.16.5. There are 47 no. protected structures within 5 km of the proposed turbines. The ZTV, when overlaid on the project GIS mapping shows that 9 turbines are theoretically visible from the locations of 46 RPS Structures. 72 structures listed in the NIAH are located within 5km of the nearest proposed turbine, of which 2 have no visibility of any turbines. Umma House, which is 295m west of T8 and is marked on the 1st Editiion OS map of the late 1800s, it not on the list of Record of Protected Structures and is not on the NIAH. The house and its outbuildings are considered to be of low architectural merit, while of local cultural heritage value.

12.16.6. In terms of the Grid Connection Route, cultural heritage assets within 100m of either side of the cabling route are included in the assessment. 11 SMR sites are located within 100m of either side of the underground electrical cabling route, 12 RPS structures are also within that parameter distance, and 5 NIAH structures.

12.16.7. In terms of the Turbine Delivery Route, no impacts are predicted.

12.16.8. Mitigation measures are proposed for recorded monuments within the site, including 30m buffer zones to be maintained around the monuments the details of which appear in the CEMP; and no ground works or storage of materials or tracking of machinery will take place within the buffer zones. With regard to the GCR, archaeological monitoring will be carried out along the relevant sections, a report on the monitoring should be compiled on completion of the work and submitted to the relevant authorities, and further mitigation such as preservation in situ (avoidance), preservation by record (excavation) may be required depending on the results of the monitoring. With regard to the potential for undiscovered sub-surface archaeology during construction, pre-development archaeological testing is to be carried out under licence from the NMS, a report on testing to be compiled, further mitigation such as preservation in situ (avoidance), preservation by record (excavation), buffer zones may be required depending on the results of the testing, and there will be archaeological monitoring of all groundworks with reporting and additional mitigation where required. No residual direct effects are identified. No impacts on protected structure are identified within the site. Along the GCR, mitigation measures include inter alia, archaeological monitoring along the underground electrical cabling route adjacent to those structures identified, a report compiled and further mitigation applied where required, fencing off the structure 038-064 NIAH 15403808 Milestone at Ballinderry Big prior to construction, and protective traffic barriers will be placed around the structure 031-019 NIAH 15403124 Water pump at Ballybrickoge during construction. Mitigation measures related to features of local cultural heritage merit are set out in section 13.4.2.15 of the EIAR. No residual effects are identified. No significant cumulative impacts have been identified.

12.16.9. Operational phase indirect potential impacts on the setting of cultural heritage sites, specifically UNESCO World Heritage Sites, are considered with regard to the effects of the proposed turbines, which are the main elements of the development which could give rise to the potential for dominance in the wider landscape. The

EIAR acknowledges that while a proposal may not physically impact on a site, it may alter the setting of a monument or group of monuments. For purposes of assessing visual impact on setting, the EIAR considers the uniqueness of the monuments, the potential interrelationships of monuments, the inter-visibility of monuments, visual dominance and whether a setting is altered or unaltered, as well as the nature and dominance of the proposal and the topography within which the proposal is located. Operational effects are considered largely as a result of the proposed turbines.

12.16.10. With regard to the Hill of Uisneach, it is stated in the EIAR that the immediate setting of the monuments on Uisneach Hill will not be impacted due mainly to the intervening distance and physical intervening landscape buffer of highly vegetated and undulating farmland. The important connection to other monuments such as Frewin Hill and Lough Crew will not be impacted. The inter-visibility of the monuments may be regarded as an important aspect of these monuments and their relationship with similar monuments and sites in the surrounding landscape. A 'Rendered Wireline' of the Hill was produced and is presented in detail in Chapter 12. It is stated that the scaling and modelling of turbines in the Rendered Wireline is consistent with all other photomontages, ultimately enabling a robust visual impact assessment. It is recognised that all turbines are likely to be visible from the top of the Hill of Uisneach where open views are permitted to the west. The linear array will appear as small background features and comprise a small horizontal extent in the panoramic landscape view. The change is considered to be slight/moderate. The view from the catstone monument on the Hill of Uisneach is also considered and while the turbines will be visible it is stated that there will be partial screening by the intervening ridgeline and treeline on the horizon and the impact is also rated as slight/moderate. No significant effects are stated and overall significance is slight/moderate.

12.16.11. With regard to Clonmacnoise, it is noted that it is located at a low elevation on the southern banks of the Shannon River, approximately 23.5km south-west of the nearest proposed turbine, therefore due to distance visibility is low and views are also limited by a line of evergreen trees enclosing the eastern graveyard of the site. Given the substantial set back distance, physical buffers in the intervening landscape and enclosed eastern boundary, the proposed wind farm will cause an Imperceptible effect and overall no significant visual effects will occur from Clonmacnoise.

12.16.12. Indirect effects on the setting of national monuments within 15 km and RMPs, protected structures and structures on the NIAH within 5 km were assessed and no significant indirect effects were identified. It is stated that there will be no significant potential impacts on the archaeological, architectural and cultural heritage environment during the decommissioning of the proposed development.

Assessment

12.16.13. A report from the Department of Housing, Local Government and Heritage, Archaeology, dated 4th May 2023, raises issues in relation to the likely effect of this development on the Hill of Uisneach, elements of which are a National Monument and are in the ownership of the Minister. It is highlighted that the Hill of Uisneach is on the current World Heritage Tentative List as part of the Royal Sites of Ireland. The OPW in its submission, dated 4th May 2023, also raises concerns in relation to the impact on protected panorama views from the Hill of Uisneach and from National Monument no. 155 in this important cultural landscape.

12.16.14. The Hill of Uisneach together with the group of royal sites including Tara was placed on Ireland's tentative list for UNESCO World Heritage status in 2010. In 2023 the list was reduced to 3 no. sites on the tentative list, the Transatlantic Cable Ensemble, The Passage Tomb Landscape of County Sligo and the Royal Sites of Ireland was retained, the Hill of UIsneach being part of the Royal Sites.

12.16.15. The importance of the setting of the Hill of Uisneach is clear from the information submitted, the development plan references and by its inclusion on the World Heritage Tentative List as part of the Royal Sites of Ireland. If accepted as a World Heritage Site there will be an onus on the state to protect the 'outstanding universal value' of the site which is described on the UNESCO Ireland website and which I note includes reference to the importance of the sites in the early mediaeval period, in the national psyche and notes that they are placed in and retain their prominent hilltop positions with panoramic views across the surrounding cultural landscapes. From the information submitted, I am not clear as to the impact of the development on the panoramic view from the Hill of Uisneach, given the use of a wireline image and the generic manner in which the impact is assessed. I note reference to UNESCO guidance documents by the DHLGH (I refer the Board also to section 12.3 of this report). While the site has not been confirmed as a UNESCO

site, I consider assessment in the context of this historic site would be more robust had these documents been utilised and a suitably qualified person with experience in the field of UNESCO sites was engaged to consider the matter fully. Further information would be required to address the concerns of the DHLGH and the OPW.

12.16.16. I note observer submissions in relation to the lack of protection being afforded to Umma House. I would note that the EIAR has confirmed, as per the operative development plan, that there are no protected structures on the site of the windfarm and Umma House is not a protected structure. It is not proposed to carry out any works to Umma House and mitigation is proposed to prevent its accidental damage during construction. With regard to protected structures in the area, the EIAR states the nearest protected structure is RPS 023-001 a single-arched road bridge over the Dungolman River, built c.1855 on the southern Wind Farm Site boundary. No direct impacts to this bridge or any other RPS structure will therefore occur. Should unauthorised works have been undertaken to date on this bridge or any other protected bridge by the applicant, as referenced by an observer, it is within the remit of the local authority to undertake enforcement investigations.

Conclusion

12.16.17. I have considered all of the written submissions made in relation to cultural heritage and the relevant contents of the file including the EIAR. I am not satisfied that potential impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, therefore I have concerns that the proposed development would have unacceptable direct, indirect or cumulative effects in terms of cultural heritage.

12.17. Reasoned Conclusions on Significant Effects

12.17.1. 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, the contents of which I have noted, it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows:

Population and Human Health: Shadow flicker during the operational phase such as would impact negatively on sensitive receptors and populations in the vicinity of the site. These impacts are to be mitigated by a curtailment strategy for all turbines that have the potential to cause an exceedance in the existing daily and annual shadow flicker limits.

Noise impact will arise from construction activities such a site preparation and construction of the turbine foundations and roads. A suite of mitigation measures to manage noise during the construction phase are set out in the Environmental Impact Assessment Report. Predicted operational noise levels will be within the relevant best practice noise criteria for wind farms. Post commissioning monitoring will be necessary to ensure the operational noise levels comply with the relevant day and night time criteria.

Landscape and Visual: Localised visual impacts of the development from sections of the local roads in the vicinity and on local properties. These impacts will not be avoided, mitigated, or otherwise addressed by means of condition. The impact is balanced by the nature of the landscape which is considered to be a moderated, working landscape, which is robust.

Panoramic views from the Hill of Uisneach toward the site have not been adequately assessed in the EIAR and could give rise to significant visual impacts.

Cultural Heritage: Significant adverse impacts cannot be ruled out in relation to the Hill of Uisneach given the level of assessment in relation to protected panoramic views from this site, which is on the tentative list of UNESCO sites for Ireland.

Biodiversity: Habitat loss associated with construction will impact on habitats of generally low ecological value with no rare or protected species recorded. Potential impacts to habitats and faunal species (including badger, and bats), aquatic fauna and invertebrates would be mitigated by the implementation of the measures during the construction and/or operational phases set out in the Environmental Impact Assessment Report and overseen by a project ecologist.

Potential significant collision risks on birds including Peregrine falcon, Black Headed Gulls and Lapwings, cannot be ruled out as the collision risk analysis on the basis of assumptions made in the methodology. Questions over the accuracy of information submitted in relation to hen harrier and barn owl are also identified. Insufficient information has been submitted to allow for a complete assessment.

Water: Potential indirect effects could be caused by the increase in run-off, soil erosion and sediment release into the receiving watercourses. Impacts to surface water and ground water would be mitigated by the implementation of the measures set out in the Environmental Impact Assessment Report, the Construction Environmental Management Plan, and the Hydrological Assessment.

Material Assets: Impacts on roads and traffic will be mitigated during construction by the measures set out in the Environmental Impact Assessment Report and by a Traffic Management Plan. The main impacts will occur during the construction stage which will be short-term and temporary. Impacts during the operational stage would be negligible.

Air and Climate: Positive environmental impacts will arise during the operational phase from the generation of renewable energy with the displacement of CO_2 from the atmosphere arising from fossil fuel energy production.

The EIAR considered the main significant direct and indirect effects of the proposed development on the environment. It is not demonstrated that the effects on visual impact, cultural heritage, and birds, which are described in the EIAR, can be mitigated by the measures described having regard to uncertainties with respect to baseline information and assessment methodologies.

Thus, having regard to the foregoing assessment, I am not satisfied that the proposed development would not have any unacceptable direct or indirect effects on the environment.

13.0 Appropriate Assessment

13.1. Introduction

13.1.1. The requirements of Article 6(3) as related to screening the need for appropriate assessment of a project under part XAB, section 177U and 177V of the Planning and Development Act 2000 (as amended) are considered fully in this section. The areas addressed are as follows:

- Compliance with Article 6(3) of the EU Habitats Directive
- Screening the need for appropriate assessment
- The Natura Impact Statement and associated documents
- Appropriate assessment of implications of the proposed development on the integrity each European site

13.2. Compliance with Article 6(3) of the EU Habitats Directive

13.2.1. 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 before consent can be given.

13.2.2. The proposed development at Umma More in Westmeath, a windfarm development comprising 9 turbines and associated infrastructure, is not directly connected to or necessary to the management of any European site and therefore is subject to the provisions of Article 6(3).

13.2.3. The application is accompanied by a Natura Impact Statement (NIS) prepared by MKO (dated 10/03/2023). It contains a description of the proposed development, the

project site and the surrounding area. It contains a Stage 1 Screening Assessment in Appendix 1.

13.2.4. The Board should note that, like the EIAR, the AA Screening Report and NIS relate to the overall project, i.e. the proposed wind farm development that is the subject of this appeal as well as that part of the development which is subject to a future and separate application, that is the grid connection route.

13.2.5. The AA Screening Report in Appendix 1 concludes that the potential for likely significant effects on the following European Sites cannot be excluded in the absence of mitigation: Lough Ree SAC [000440] Lough Ree SPA [004064] River Shannon Callows SAC [000216] Middle Shannon Callows SPA [004096] and that it is necessary to proceed to a Stage 2 Appropriate Assessment.

13.2.6. Having reviewed the documents and submissions I am satisfied that the information allows for a complete examination and identification of any potential significant effects of the development alone, or in combination with other plans and projects on European sites.

13.3. Need for Stage 1 AA Screening

13.3.1. The project is not directly connected with or necessary to the management of a European Site and, therefore, it needs to be determined if the development is likely to have significant effects on a European site(s).

13.3.2. The proposed development is examined in relation to any possible interaction with European sites designated Special Conservation Areas (SAC) and Special Protection Areas (SPA) to assess whether it may give rise to significant effects on any European Site in view of the conservation objectives of those sites.

Brief Description of the Development

13.3.3. The applicant provides a description of the project in Section 3.2 of the NIS. The development is also summarised in Section 3 of this report. In summary the proposed development entails the construction of 9 No. wind turbines with an overall ground-to-blade tip height of 185 metres; a rotor blade diameter of 162 metres; and hub height of 104 metres, and associated foundations and hard-standing areas; a meteorological mast with a height of 30 metres; junction accommodation works and

temporary access roads to facilitate turbine delivery to an existing entrance on L5365; upgrade of existing entrance on L5363 for provision of site entrance; upgrade of existing tracks/roads and provision of new site access roads, junctions and hardstand areas. A grid connection route is identified, but will be subject to a separate application.

13.3.4. The site comprises a number of fields largely in agricultural use, with the boundaries delineated by hedgerows. The dominant habitat on site is improved agricultural grassland and an area of commercial forestry. There are a number of hedgerows and treelines within the site and a number of drainage ditches associated with these which drain the land. No Annex I habitats, or habitats of conservation significance, were identified during site survey. The following SCI species were recorded during surveys of the study area: [A038] Whooper Swan, [A004] Little Grebe, [A061] Tufted Duck, [A052] Eurasian Teal, [A053] Mallard, and [A142] Northern Lapwing. The AA Screening Report states the windfarm is outside the potential foraging range of these SCI species.

13.3.5. The Dungolman River and Inny River are hydrologically linked to the wind farm site and both rivers ultimately connect to Lough Ree SAC and SPA, c. 11km to the northwest of the site. The grid connection route crosses the Silver watercourse and River Brosna, which are respectively linked to the the River Shannon Callows SAC and SPA and the Middle Shannon Callows SPA.

13.3.6. A surface water management strategy has been set out for the development, which includes inter alia: buffer zones from watercourses and drainage ditches, interceptor drains, swales, check dams, level spreaders, piped slope drains, vegetation filters, settlement ponds, silt busters, silt bags, sedimats, culverts inspections, silt fences, forestry felling measures, and all measures to protect watercourses will be overseen by an Ecological Clerk of Works.

13.3.7. Taking account of the characteristics of the proposed development in terms of its location and the scale of works, the following issues are considered for examination in terms of implications for likely significant effects on European sites:

- Surface water related pollution during the construction and operation phase as a result of sediment-laden run-off and pollutants (hydrocarbons and concrete).

- Release of sediment and other pollutants to surface water during decommissioning phase.

Submissions and Observations

13.3.8. I have summarised observations made in relation to this application under Sections 8, 9 and 10 above. I note in particular the submission made by the Department of Housing Local Government and Heritage (DHLGH), which is summarised hereunder:

- Issues with the methodology to determine the magnitude of the impacts on a given population of birds, with reference to peregrine falcon, black headed gulls and lapwings.
- Hen Harrier – not recorded within the collision risk zone. However, the NPWS recorded a nesting site within 5km of the proposed development, which constitutes a rare example of lowland nesting site for this species. 5km is within the foraging range for males during the breeding season. Further targeted surveys may be of benefit.
- Barn Owl – unclear whether this species was included adequately in the survey work.

13.3.9. I have reviewed all submissions made and issues where relevant are addressed within my assessment hereunder.

European Sites

13.3.10. The development site is not located in or immediately adjacent to a European site. A potential zone of influence has been established having regard to the location of European sites, the Qualifying Interests (QIs) of those sites and their potential mobility outside that European site, the source-pathway-receptor model and potential environment effects of the proposed development.

13.3.11. The following sites listed in table 1 are deemed to be within the zone of influence of the development.

Table 1: Screening Summary Matrix and possibility of significant effects

European Site	Qualifying Interests	Distance	Screening Comment

Lough Ree SAC [000440] Conservation Objective: To maintain the favourable conservation condition of Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. in Lough Rea SAC, which is defined by a list of attributes and targets under www.npws.ie	[1355] Otter (Lutra lutra) [3150] Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation [6210] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [7120] Degraded raised bogs still capable of natural regeneration [7230] Alkaline fens [8240] Limestone pavements [91A0] Old sessile oak woods with Ilex and Belchnum in the British Isles [91D0] Bog woodland	8.9km west/ 12.5km north-west	There is an indirect potential hydrological connectivity to the SAC via the River Dungloman (IE_SH_26D060400) and the River Inny (IE_SH_26I011400).The development site is within the same sub-basin catchment as the SAC. The construction phase of may result in pollution via surface or groundwater pathways should groundwater be encountered during excavation works.
River Shannon Callows SAC [000216] Conservation Objective: To maintain or restore the favourable conservation condition of the Special Conservation Interests listed, which is defined by a list of attributes and targets under www.npws.ie	[6410] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6510] Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) [7230] Alkaline fens [8240] Limestone pavements* [91E0] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)* Species [1355] Otter (Lutra lutra	14.7km southwest/ 15.3km west	The site is located within a separate hydrological catchment to the SAC, however, hydrological connectivity exists via the proposed Grid Connection route, which crosses the River Brosna, which ultimately flows to the River Shannon Callows SAC. The works have the potential, in the absence of mitigation, to impact on water quality through pollutants including hydrocarbons, fuel and sedimentation.

Lough Ree SPA [004064] <u>Conservation Objective:</u> To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA; and To maintain or restore the favourable conservation condition of the wetland habitat at Lough Rea SPA as a resource for the regularly occurring migratory waterbirds that utilise it.	[A004] Little Grebe Tachybaptus ruficollis [A038] Whooper Swan Cygnus [A050] Eurasian Wigeon Mareca penelope [A052] Eurasian Teal Anas crecca [A053] Mallard Anas platyrhynchos [A056] Northern Shoveler Anas clypeata [A061] Tufted Duck Aythya fuligula [A065] Common Scoter Melanitta nigra [A067] Goldeneye Bucephala clangula [A125] Eurasian Coot Fulica atra [A140] European Golden Plover Pluvialis apricaria [A142] Northern Lapwing Vanellus [A193] Common Tern Sterna hirundo [A999] Wetland and Waterbirds	9km west/ 10.9km north-west	The following SCI species were recorded during surveys: [A038] Whooper Swan [A004] Little Grebe [A061] Tufted Duck [A052] Eurasian Teal [A053] Mallard [A142] Northern Lapwing. The wind farm site is located outside the potential foraging range of SCI species associated with the SPA E(SNH, 2016; Johnson et al., 2014). It is also located outside the zone of sensitivity of any species that is listed as particularly sensitive to wind energy development in Mc Guinness et al. (2015). The proposed development is located upstream within the same hydrological sub-catchment to the SPA (Inny(Shannon)_SC_090); therefore, potential hydrological connectivity exists with the SPA, as water flow from within the development site is to the north through the SPA, which means potential impact exists for significant effects on supporting Wetlands and Waterbirds [A999] habitat.

			Taking a precautionary approach, a potential pathway for indirect effects was identified in the form of deterioration of water quality via the percolation of polluting materials through the bedrock underlying the site during the construction and operational phases.
Middle Shannon Callows SPA [004096] Conservation Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA, which is defined by a list of attributes and targets under www.npws.ie; and To maintain or restore the favourable conservation condition of the wetlands in the Middle Shannon	[A038] Whooper Swan (Cygnus cygnus) [A050] Wigeon (Anas Penelope) [A122] Corncrake (Crex crex) [A140] Golden Plover (Pluvialis apricaria) [A142] Lapwing (Vanellus vanellus) [A156] Black-tailed Godwit (Limosa limosa) [A179] Black-headed Gull (Chroicocephalus ridibundus)	14.7km southwest/ 15.3km west	The wind farm site is located outside the potential foraging range of SCI species associated with the SPA (SNH, 2016; Johnson et al., 2014). It is also located outside the zone of sensitivity of any species that is listed as particularly sensitive to wind energy development in Mc Guinness et al. (2015). Therefore there will be no direct or indirect impacts on SCI species relating to collision or displacement. The proposed grid connection route crosses the River Brosna, which ultimately flows to the Middle Shannon Callows SPA. The works have the potential, in the absence of mitigation, to impact on water quality through pollutants including hydrocarbons, fuel and

Callows, which is defined by a list of attributes and targets under www.npws.ie			sedimentation, which could impact wetland habitat.

13.3.12. I note that impacts on birds are screened out, with the main potential impact identified relating to indirect hydrological impacts from potential pollution of surface and ground water during construction, operation, and decommissioning phases. An issue has been raised in relation to this by the DHLGH, which I discuss further hereunder.

13.3.13. Detailed knowledge of bird distribution and flight activity within and surrounding the site was used to predict potential impacts of the development on birds. A radius of 500m of the wind farm site was used. The overall conclusion in relation to key species recorded during field surveys, was that there is no regularly occurring population of whooper swan, tufted duck, and little teal within 500m of the site and the development therefore has no potential to result in direct habitat loss, displacement or barrier effects for this species. No pathways for direct or indirect effects exist of the above species and therefore the whooper swan, tufted duck and little teal did not require further consideration. In relation to Eurasian Teal given numbers recorded in the area of the site, this was assigned a value of Local Importance (Higher Value); Mallard was assigned County Importance, as was Northern Lapwing. In relation to these three species, which are SCIs of Lough Ree SPA and Middle Shannon Callows SPA, the AA Screening Report states that the 'The wind farm site is located outside the potential foraging range of SCI species associated with the SPA (SNH, 2016; Johnson et al., 2014). It is also located outside the zone of sensitivity of any species that is listed as particularly sensitive to wind energy development in Mc Guinness et al. (2015)'. I note the submission from the DHLGH in relation to the methodology adopted in the analysis of the magnitude of the predicted collision risk impact. The Department considers there to be a relatively high potential collision mortality impact on black headed gulls (SCI of Middle

Shannon Callows SPA) and lapwing (SCI of Middle Shannon Callows SPA and Lough Ree SPA) and questions the manner in which the figures are contextualised to arrive at the results given in chapter 7 of the EIAR under the assessment of the potential collision risk during operation of key ornithological species.

13.3.14. While I consider it correct that the four identified sites are those relevant for further consideration in a NIS, I consider that those SCIs screened out in relation to birds raises concerns on the basis of the submission from the Department. I discuss this further within Section 13.5.5 hereunder.

Mitigation Measures

13.3.15. No measures designed or intended to avoid or reduce any harmful effects of the project on a European Site have been relied upon in this screening exercise.

Screening Determination

13.3.16. The proposed development was considered in light of the requirements of Section 177U of the Planning and Development Act 2000 as amended. Having carried out Screening for Appropriate Assessment of the project, it has been concluded that the project individually (or in combination with other plans or projects) could have a significant effect on European Site no. 000440 (Lough Ree SAC), 004064 (Lough Ree SPA), 000216 (River Shannon Callows SAC), and 004096 (Middle Shannon Callows SPA) in view of the site's Conservation Objectives and Appropriate Assessment (and submission of a NIS) is therefore required.

13.4. The Natura Impact Statement

13.4.1. The NIS examines and assesses potential adverse effects of the proposed development on four designated European Sites, namely European Site no. 000440 (Lough Ree SAC), 004064 (Lough Ree SPA), 000216 (River Shannon Callows), and 004096 (Middle Shannon Callows SPA). A description of these sites and their Conservation Objectives and Qualifying Interests are set out in the NIS and are summarised above in table 1. I have also examined the Natura 2000 data forms as relevant and relevant Conservation Objectives Supporting Documents for these sites available through the NPWS and European websites (www.npws.ie and https://natura2000.eea.europa.eu).

13.4.2. The NIS is supported by associated reports submitted with the application, including inter alia:

- Habitats Survey, including invasive species survey
- Otter Survey
- Ornithology Figures and Survey Data (Appendix 5)
- Hydrological Assessment (Appendix 2 of NIS)
- Construction and Environmental Management Plan, which includes details of drainage, spoil management and waste management (Appendix 3 of NIS)
- Decommissioning Plan (Appendix 8)

13.4.3. Section 6 of the NIS contains an assessment of the potential impacts of the proposed development on the identified European Sites and a series of mitigation measures.

13.4.4. The NIS concluded that there will be no significant effects to the integrity of the designated sites.

13.4.5. Having reviewed the NIS, all supporting documentation and submissions, I am not satisfied that the information allows for a complete assessment of any adverse effects of the proposed development on the conservation objectives of the above-mentioned European sites alone, or in combination with other plans and projects, specifically with regard to collision risk and birds associated with Lough Ree SPA and Middle Shannon Callows SPA.

13.5. Appropriate Assessment of Implications of the Proposed Development

13.5.1. The following is an assessment of the implications of the project on the relevant conservation objectives of the European site using the best available scientific knowledge in the field. All aspects of the project which could result in significant effects are assessed and mitigation measures designed to avoid or reduce any adverse effects are examined and assessed. I have relied on the following guidance:

- DoEHLG (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, National Parks and Wildlife Service. Dublin

- EC (2002) Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EC
- EC (2018) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC.

13.5.2. The following sites are subject to Appropriate Assessment:

- Lough Ree SAC [000440]
- Lough Ree SPA [004064]
- River Shannon Callows SAC [000216]
- Middle Shannon Callows SPA [004096]

13.5.3. A description of the sites, their Conservation Objectives and Qualifying Interests/Special Conservation Interests, including any relevant attributes and targets for the site, are set out in the NIS and summarised in Tables 1 of this report as part of my assessment. I have examined and evaluated this scientific analysis. I have also examined the Natura 2000 data forms as relevant and the conservation objectives supporting documents for these sites, available through the NPWS website (www.npws.ie). I am satisfied that in-combination effects have also been considered and adequately assessed in the NIS.

Aspects of the Proposed Development

13.5.4. The potential for significant effects could arise from indirect hydrological connectivity resulting in effects on habitats/species of conservation interest arising from a deterioration of water quality due to release of pollutants including suspended solids and hydrocarbons, during construction, operation and decommissioning phases of development.

13.5.5. I note the main aspect of the development considered to have a potential impact relates to indirect hydrological connections and the NIS does not consider risk in terms of collision risk associated with the operation of the turbines, as this was ruled out at screening stage. A submission from the DHLGH (19th May 2023) raises issue with the methodology to determine the magnitude of potential impacts caused by avian collisions with turbines involving key ornithological receptors, with reference to

black-headed gulls and lapwings associated with Lough Ree SPA and Middle Shannon Callows SPA, in addition to assumptions in relation to Peregrine Falcon and data in relation to Hen Harriers and Barn Owl (the latter three are discussed under Section 12.5 under the section on EIA). I address this issue further in this report hereunder.

13.5.6. The following are the details related to the four sites brought forward for Appropriate Assessment in the submitted NIS including the QIs / SCIs that could potentially be impacted upon, as set out in the submitted NIS. The following takes into account the attributes and targets where available as reported in section 6 of the NIS.

Lough Ree SAC [000440] and River Shannon Callows SAC [0000216]

13.5.7. I refer the Board to table 1 above in relation to the QIs related to Lough Ree SAC and River Shannon Callows SAC.

13.5.8. The proposed development site is located within the same water sub-catchment to the Lough Ree SAC. There is potential for deterioration in water quality during the construction phase from a release of pollutants via indirect hydrological paths.

13.5.9. The likely significant effects which could arise relate to the following aquatic and semi-aquatic QI habitats and species of Lough Ree SAC: [3150] Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation; [7230] Alkaline fens; and [1355] Otter Lutra lutra. There may be anthropogenic disturbance of Otter. The other QIs of Lough Ree SAC are not dependant on surface or ground water therefore no impact is likely on the remaining QIs.

13.5.10. With regard to the River Shannon Callows, a deterioration in water quality may also impact the following QIs: [1355] Otter (Lutra lutra); [7230] Alkaline fens; and [91E0] Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae).

13.5.11. While quoted research shows otters will not generally disturbed by a development like that proposed, best practice disturbance mitigation measures are set out in Section 6.3.1 to address any potential impact on Otters in addition to prevention measures relating to water quality, including pre construction surveys, application of TII/NRA guidelines (2006), and consultation with the National Parks and Wildlife Service (NPWS). Where works risk impacting an otter holt, these works

will only be carried out under a derogation licence from NPWS, and all conditions of a derogation licence will be implemented in full. It is not anticipated that disturbance/displacement related impacts will prevent or obstruct otter from reaching favourable conservation status as per Article 1 of the EU Habitats Directive.

13.5.12. While there is potential for deterioration in water quality, which could potentially affect this downstream habitat and result in deterioration of the other QIs in both SACs, as referenced above, I accept the applicant's assessment (Section 6 and 7 of the submitted NIS; I refer also to the section on Mitigation hereunder) that taking into account mitigation by design measures adopted, in addition to proposed water quality measures to protect local surface and groundwater for the wind farm site and along the grid connection route, there is no likelihood that there will be impacts which could adversely affect QIs of the identified European site. I am satisfied that the necessary mitigation measures are sufficiently described, are robust and can be implemented. I note also the significant hydrological distance.

13.5.13. I consider that it may be concluded in light of the best scientific knowledge and objective information that taking into account the relevant mitigation measures there will not be an adverse impact on this European site.

Lough Ree SPA [004064] and Middle Shannon Callows SPA [004096]

13.5.14. I refer the Board to table 1 above in relation to the SPIs related to Lough Ree SPA and Middle Shannon Callows SAC. The development is not located directly within any SPA and there is no pathway for direct effects on any SPA.

13.5.15. A deterioration in water quality may indirectly impact the same SCI associated with both Lough Ree SPA and Middle Shannon Callows SPA: [A999] Wetland and Waterbirds.

13.5.16. While there is potential for deterioration in water quality, which could potentially affect this downstream habitat and result in deterioration of the other two QI referenced above, I accept the applicant's assessment (Section 6 and 7 of the submitted NIS; I refer also to the section on Mitigation hereunder) that taking into account mitigation by design measures adopted, in addition to proposed water quality measures to protect local surface and groundwater for the wind farm site and along the grid connection route, there is no likelihood that there will be impacts which could adversely affect QIs of the identified European sites. I am satisfied that the

necessary mitigation measures are sufficiently described, are robust and can be implemented. I note also the significant hydrological distance.

13.5.17. As stated at screening stage, the assessment had regard to the three potential risks to birds of direct habitat loss, displacement and collision risk. Impacts on the SPAs were screened out. As referenced in section 13.3.13 above, the DHLGH has raised issues with this approach. I therefore consider the NIS has not adequately addressed potential impacts on the SCIs of Lough Ree SPA [004064] and Middle Shannon Callows SPA [004096].

Mitigation Measures

13.5.18. As referenced above, Section 6 of the NIS details mitigation measures to be employed, the majority of which are considered to represent best construction practice measures, which include inter alia:

- Turbine locations located over 50 metres from EPA mapped watercourses and and 10m from any large drainage channels.
- Construction methodology for the 11 no. EPA/OSI mapped crossings has been designed to eliminate the requirement for in-stream works.
- Pre construction Otter survey to be undertaken by a qualified Ecologist and in consultation with NPWS.
- Where a proposed access road crosses an existing field drain, the crossing will include a suitably sized piped at the correct invert level to maintain the existing flow regime and prevent ponding.
- Where a Grid Connection Route cable stream crossing is required, the cable will pass over the watercourse via suspended ducting thereby avoiding any morphological impacts or via directional drilling.
- In relation to grid connection route and watercourses, four construction crossing methods are proposed that will avoid in-stream works, based on parameters around existing culverts.
- CEMP to be implemented in full, including all water quality mitigation measures as detailed also in the Hydrological Assessment.

- Operational phase monitoring to include: Monthly sampling and laboratory analysis will be undertaken for six months during the operational phase; The drainage system will be monitored in the operational phase until such a time that all areas that have been reinstated become re-vegetated and the natural drainage regime has been restored; Post-construction bird monitoring which includes breeding bird surveys, winter roost surveys and corpse searching on the site, will be completed in accordance with guidelines issued by the Scottish Natural Heritage (SNH, 2009).

- Decommissioning Plan provided as Appendix 8 to this NIS will be implemented in full during decommissioning for the protection of water quality and downstream designated sites.

13.5.19. I note monitoring is included as best practice and does not imply any uncertainty regarding adverse effects or the effectiveness of any mitigation measure.

Cumulative and In-Combination Effects

13.5.20. Cumulative/in-combination effects have been considered in the submitted NIS with regard to the operative Westmeath County Development Plan 2021-2027, Offaly County Development Plan 2021-2027, National Biodiversity Action Plan 2017-2021, Draft 4th National Biodiversity Action Plan 2023-2027, and Eastern and Midland Regional Assessment RSES 2019-2031, and other wind farms sites in the wider area (planned and granted).

13.5.21. The NIS considered the combined impacts of the overall development proposal on the site including the proposed substation which is to be subject of a separate application to An Bord Pleanala.

13.5.22. I consider that any potential for in-combination effects on water quality is negligible. Furthermore, other projects within the area which can influence water quality via rivers and other surface water features are also subject to AA.

Adequacy of Submitted NIS

13.5.23. Having reviewed the documents and submissions, I am able to ascertain with confidence that the project would not adversely affect the integrity of the identified European sites in view of the conservation objectives of those sites, where such QIs/SCIs are related to water quality. This conclusion has been based on a complete

assessment of all implications of the project alone and in combination with plans and projects.

13.5.24. However, having regard to the report submitted by the DHLGH, concerns are raised in relation to the methodology applied in terms of the ornithological assessment. I do not consider that adequate information has been submitted to exclude impact on SPIs associated with Lough Ree SPA and Middle Shannon Callows SPA.

Appropriate Assessment Conclusion

13.5.25. On the basis of the information provided with the application, including the submitted Natura Impact Statement, and concern raised in a submission from the DHLGH with regard to the methodology applied to collision risk of birds with turbines, I am not satisfied that the information allows for a complete assessment of any adverse effects of the development on the conservation objectives of European sites no. 004064 (Lough Ree SPA), and 004096 (Middle Shannon Callows SPA) alone or in combination with other plans and projects. The Board is, therefore, precluded from granting planning permission for the proposed development.

14.0 Recommendation

I recommend that permission is refused for the reasons and considerations set out hereunder.

15.0 Reasons and Considerations

1. The proposed development by virtue of the overall height of proposed turbines, which exceeds 100 metres, and location on lands outside of cutover cutaway peatlands, would materially contravene the provisions of the Westmeath County Development Plan 2021- 2027, in which objective CPO 10.145 of the plan seeks to strictly direct large-scale energy production projects, in the form of wind farms, onto cutover cutaway peatlands in the County. The proposed development would therefore be contrary to the proper planning and sustainable development of the area.

2. Having regard to the methodology applied to determine the magnitude of impact on birds protected as part of European sites, the Board cannot be satisfied, beyond reasonable scientific doubt, that the proposed development, either individually or in combination with other plans and projects, would not adversely affect the integrity of Lough Ree SPA (004064) and Middle Shannon Callow SPA (004096), in view of the site's conservation objectives and qualifying interests. In such circumstances the Board is precluded from granting planning permission for the proposed development.

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.

Una O'Neill
Senior Planning Inspector

30th November 2023