



An
Coimisiún
Pleanála

Inspector's Report ABP-321454-24

Development

Proposed development of 10 Wind Turbines, 110kV Electrical Substation and ancillary development within the townlands of Brittas, Rossestown, Clobanna, Brownstown, Killeenleigh, Kilkillahara, Brittasroad, Coolgarrane, Athinid More, Cassestown, Laghtagalla, Farranreigh, Furze, Loughlahan, Ballygammane, County Tipperary.

Location

Within the townlands of Brittas, Rossestown, Clobanna, Brownstown, Killeenleigh, Kilkillahara, Brittasroad, Coolgarrane, Athinid More, Cassestown, Laghtagalla, Farranreigh, Furze, Loughlahan, Ballygammane, County Tipperary.

Planning Authority

Tipperary County Council

Applicant

Brittas Wind Energy Limited

Type of Application

Section 37E Planning and Development Act 2000, as amended

Prescribed bodies

Minister for Housing, Local
Government and Heritage

Minister for Environment, Climate and
Communications

Minister for Tourism, Culture, Arts,
Gaeltacht, Sport and Media

Minister for Agriculture, Food and the
Marine

Minister for Transport

Tipperary County Council

National Parks & Wildlife Service

Commission for Regulation of Utilities,
Water and Energy

Inland Fisheries Ireland

Transport Infrastructure Ireland

Uisce Éireann

The Heritage Council

An Taisce

An Chomhairle Ealaíon

Failte Ireland

Geological Survey Ireland

Irish Aviation Authority

Office of Public Works (OPW)

Southern Regional Assembly

Kilkenny County Council

Laois County Council

Health Services Executive (HSE)

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Date of Site Inspection

12th September 2025

Inspector

Rachel Gleave O'Connor

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1.0 Introduction

- 1.1. Following a request from Brittas Windfarm Limited (the applicant) for pre-application consultations under Section 37B of the Planning and Development Act 2000, as amended (ABP-315655-23); it was confirmed by An Bord Pleanála in May 2024 that the proposed development of 10 wind turbines falls within the Strategic Infrastructure Development (SID) consent process under Section 37A(2)(a)(b) and (c) of the Act.
- 1.2. Subsequently, this application has been submitted under Section 37E of the Planning and Development Act 2000, as amended for the development of 10 wind turbines, a 110kv substation and associated works.
- 1.3. In addition to the pre-application request outlined above, a request for an opinion on flexibility under Section 37CC of the Planning and Development Act 2000, as amended, was also submitted to the Board. In May 2024 An Bord Pleanála determined that due to the specific circumstances of the development, it was satisfied that the proposed application can be made and decided before certain details of the application are confirmed. These details were identified as comprising the model of turbines, and by extension the dimensions of hub height, rotor diameter, blade length and hardstanding. It was also determined not to accept a request for flexibility for export capacity as An Bord Pleanála considered that this element of the project is consequent on turbine design and is not a physical attribute on which it is possible to measure or assess impact.

2.0 Application Submission

- 2.1. The proposed development meets the SID threshold for wind energy set out in the Seventh Schedule (Class 1) of the Planning and Development Act 2000, as amended, being a project comprising a wind farm with an expected total output greater than 50 Megawatts (MW). Therefore, the planning application is being submitted directly to An Coimisiún Pleanála as a SID project in accordance with Section 37E of the Planning and Development Act 2000, as amended.
- 2.2. The application confirms that the precise turbine models have not yet been determined, and therefore the application considers three different types of turbines with variable designs, blade lengths and hub height (see section 4 below). The

power output of the proposed project will range from 57-66MW depending upon which turbine model is chosen. A single turbine type will be taken forward for construction.

3.0 Site Location and Description

- 3.1. The subject site is situated in a rural area approx. 3km north of Thurles Town centre (c.1.5km to the settlement boundary), within the townlands of Brittas, Rossestown, Clobanna, Killeenleigh, Brownstown, and Kilkillahara. The site covers an approximate area of 331.98ha and largely comprises agricultural fields bounded by hedgerows and treelines, with a forestry area located to the southwest of the site. The site is traversed north to south by the River Suir and east to west by the L8017 local road. The N62 is located west of the site and links to the M6, M7 and M8 motorways.
- 3.2. The proposed Grid Connection Route (GCR) is located within the public road between the windfarm site and the existing Thurles 110kv Substation within the townlands of Killeenleigh, Coolgarrange, Clobanna, Athnid More, Rossestown, Cassestown, Farranreigh, Laghtagalla, Furze, Loughlahan and Ballygammane.
- 3.3. The proposed Turbine Delivery Route (TDR) runs from the Port of Foynes in County Limerick to the windfarm site via the road network. A section of land in Thurles town is needed for accommodation works for Turbine Delivery and a second section of land is required for accommodation works at the junction of the N62 and L8017, both situated in the townland of Brittasroad.

4.0 Proposed Development

- 4.1. The proposed development comprises a windfarm project as follows:
 - 10 no. wind turbines with a blade tip height of 180m, hub height range from 102.5 to 105.5m and a rotor diameter range from 149m to 155m;
 - 10 no. wind turbine foundations and hardstand areas and associated drainage infrastructure;
 - 1 no. permanent Lidar unit and associated foundation, hardstanding area and compound for Meteorological Monitoring;

- 1 no. 110kv electrical substation including 2 no. control buildings, electrical plant and equipment, welfare facilities, carparking, water, wastewater holding tanks, security fencing, lightening protection and telecommunications masts, security cameras, external lighting and all associated infrastructure;
- Installation of medium voltage underground electrical and communication cabling connecting the wind turbines to the proposed onsite substation and associated ancillary works;
- Installation of approximately 7km of underground electricity and communication cabling between the proposed onsite substation and the nearby existing Thurles 110kv substation in the townland of Ballygammane, Co. Tipperary. The cabling will be laid primarily within the public road and will connect the proposed wind farm to the national grid;
- 4 no. site entrances from the public road and associated fencing and signage;
- Construction of new permanent site access tracks, turning heads and associated drainage infrastructure;
- The upgrading of existing access tracks and associated drainage infrastructure;
- 2 no. temporary construction site compounds and mobile welfare facilities;
- 1 no. borrow pit and associated drainage infrastructure to be used as a source of stone material during construction;
- Spoil deposition areas;
- Associated surface water management systems;
- Tree felling and hedgerow removal to accommodate wind farm infrastructure;
- Temporary accommodation works at 2 no. locations adjacent to the public road to facilitate delivery of turbine compounds to site within the townlands of Brittas and Brittasroad, Co. Tipperary. The works primarily relate to trimming and clearing of vegetation, temporary removal of street furniture and fencing, and installation of temporary stone hard standing; and
- All related site works and ancillary development.

- 4.2. The applicant is seeking a ten-year permission and an operational period of no less than 35 years from the date of commissioning of the entire windfarm.
- 4.3. Characteristics of the three turbine types proposed and assessed in the submitted Environmental Impact Assessment Report (EIAR):

Turbine Type	Rotor Diameter	Tip Height	Blade Length	Hub Height
A(1)	150m	180m	73.7m	105m
B(2)	155m	180m	76m	102.5m
C(3)	149m	180m	73m	105m

- 4.4. It is proposed to construct a combined hardstand area, adjacent to each turbine foundation, that is suitable for all of the proposed turbine options, supporting crane erection and providing a safe working area during all phases.

5.0 Planning History

5.1. Subject site:

- 5.2. ABP-320550-24 (LA ref. 2460421) Permission granted on appeal by An Bord Pleanála on 11th December 2024 for the continued use of an existing temporary 80m high lattice type meteorological mast and associated instruments in the townland of Brittas, near Thurles Co. Tipperary. The structure is fixed to ground mounted anchors by guy wires and includes instruments to measure local meteorological conditions. The mast was erected on site in April 2023 as exempted development pursuant to Class 20(A), Part 1, Schedule 2 of the Planning and Development Regulations 2001 (as amended). Permission is sought for a further period of two years.
- 5.3. ABP-310934-21 Contribution appeal decided by An Bord Pleanála on 20th June 2022 concerning a reduced financial contribution in respect of public infrastructure and facilities, and in recognition of previous financial contributions paid: Related to completion of partially constructed overhead electricity line from Thurles electricity substation to the Borrisoleigh electricity substation as permitted under TCC Reg 08/511136. At the site at Ballygammane, Lisduff, Knockanacunna, Cassestown,

Farranreigh, Tooreen, Rossestown, Brittas, Clonamuckoge More, Clonamuckoge Beg, Kilkillahara, Ballybristy, Lisheenataggart, Rorardstown Lower, Rorardstown Upper, Rathleasty, Kivilcorris, Clonbrasil.

- 5.4. TCC 21638 Permission granted on 1st July 2021 for completion of partially constructed 15.3km long 38kV overhead electricity line from Thurles electricity substation to the Borrisoleigh electricity substation as permitted under TCC Reg 08/511136.
- 5.5. ABP-302609-18 (LA ref. 18600549) Permission granted on appeal by An Bord Pleanála on 1st February 2019 for the erection of a 36-metre high multi-user lattice telecommunications structure, carrying antenna and dishes enclosed within a 2.4-metre high palisade fence compound with associated ground equipment cabinets, creation of new entrance, access track and site works at Brittas Townland, Thurles, County Tipperary.
- 5.6. TCC 08/511136 Permission granted on 12th March 2009 for overhead 38kV line from Thurles 110kV station in the townland of Ballygammane to the proposed Borrisoleigh 38kV station in the townland of Coolataggle.
- 5.7. Other sites:
- 5.8. Borrisbeg, Eastwood, Ballycahill, Knockanroe, Clonmore, Graffin and Skehanagh County Tipperary: ABP-318704-23 Permission granted under Section 37E of the Planning and Development Act 2000 (as amended) (SIDs application) by An Bord Pleanála on 12th September 2024 for a ten year consent for 9 wind turbines and associated infrastructure in the townlands of Borrisbeg, Eastwood, Ballycahill, Knockanroe, Clonmore, Graffin and Skehanagh County Tipperary.
- 5.9. Rahelty and Shanballyduff, Thurles, County Tipperary: ABP-306933-20 Permission granted on appeal by An Bord Pleanála on 14th April 2021 for construction and operation of solar PV arrays mounted on metal frames on a 38.3-hectare site, inclusive of an electrical substation compound, up to 10 number indicative inverter units, a temporary construction area and ancillary facilities, (inclusive of gross floor space of proposed works up to 248 square metres) at Rahelty and Shanballyduff, Thurles, County Tipperary.

- 5.10. Graniera Shevry, Knockcurraghbola Upperchurch, Co. Tipperary: ABP-310171-21
Permission granted by An Bord Pleanála 12th May 2022 under Section 37E of the
Planning and Development Act 2000 (as amended) for proposed amendments to the
previously authorised Upperchurch Windfarm (An Bord Pleanála case reference
PL22.243040) to increase the size of the wind turbines and amend the height and
design of the two meteorological masts at Graniera Shevry, Knockcurraghbola
Upperchurch, Co. Tipperary.
- 5.11. Graniera Shevry, Knockcurraghbola Upperchurch, Co. Tipperary: ABP-243040
Permission granted on 12th August 2014 by An Bord Pleanála on appeal for 10 year
permission for 22 wind turbines, 2 no. meteorological masts with wind measuring
equipment attached, access roads, electrical substation compound, control buildings
and ancillary works at Graniera Shevry, Knockcurraghbola Upperchurch, Co.
Tipperary.

6.0 Consultations

6.1. Prescribed Bodies

- 6.1.1. The prescribed bodies consulted with respect to the application are listed at the front
of this report. Response were received from the Geological Survey Ireland, Irish
Aviation Authority (IAA), Transport Infrastructure Ireland (TII), Department of
Housing, Local Government and Heritage (DAU), Department of Transport, Health
Services Executive (HSE), Office of Public Works (OPW), and Uisce Éireann, and
are summarised below.
- 6.1.2. Geological Survey Ireland:
- Pleased with use of the Bedrock, Quaternary Sediments and Geomorphology,
Geoheritage, Landslide Susceptibility, Karst, Groundwater Vulnerability,
Aquifer, Wells & Springs, Groundwater Protection Schemes, Minerals and
Quarry maps and datasets in the EIAR.
- 6.1.3. Irish Aviation Authority:

- Recommend conditions requiring contact with the Irish Aviation Authority with respect to aeronautical obstacle warning lighting, as-constructed coordinates and notifications to the authority of intention to commence crane operations.

6.1.4. Transport Infrastructure Ireland:

- Reference to section 2.5 of the DoECLG Guidelines sets out policy that seeks to avoid the creation of additional access points from new development or the generation of increased traffic from existing accesses (i.e. non-public road access) to national road, to which speed limits greater than 50kph apply. The Authority notes that access to all turbine locations is facilitated via local road junction L8017 with the N62, national road, in the first instance.
- In relation to works required to the national road network to facilitate the proposed turbine delivery note, section 16.4.5 of the EIAR confirms that damage to the roads caused by construction traffic, the construction of the grid route and the temporary accommodation works for the TDR, will be repaired and the roads and road infrastructure reinstated post construction activities. The applicant/developer should consult with PPP Companies, MMarC Contractors and road authorities over the haul routes traverse to ascertain any operational requirements. Mitigation identified by the applicant should be included as conditions.
- It is a critical requirement to ensure the strategic capacity and safety of the national road network is maintained. With respect to the proposed works at the N62/L8017 Junction:
 - Temporary access arrangements to facilitate turbine delivery should be closed and land reinstated following completion of the construction phase;
 - Temporary works to the N62/L8017 national road junction, should be closed off with a temporary safety barrier when not in use for turbine component delivery, as it could be misinterpreted by drivers as part of the roadway. Pending completion of construction, the temporary works to be permanently closed and lands reinstated.

- Any damage caused to the pavement on the existing national road at the access from the N62, national road, due to the turning movement of abnormal loads shall be rectified in accordance with TII standards.
 - Unclear that the proposed temporary works at the N62/L8017, national road junction, has been subject to Road Safety Audit. Recommend a condition in this regard.
 - Works to the national road shall comply with TII publications; technical design standards.
- In relation to abnormal 'oversized' loads, no detail in the EIAR related to abnormal 'weight' loads. A permit will be required from the Local Authority for loads where the weight falls outside the limits allowed by regulations. The Authority considers it critical a full assessment by the applicant/developer of all structures on the national road network along the haul route should be undertaken, where relevant, and all road authorities along the haul routes should confirm their acceptance of the proposals. Concern that no technical load assessment of structures appears to have been undertaken (although acknowledge abnormal weight loads may not feature in the proposal). Consider it critical that a full assessment by the applicant/developer is undertaken of all structures on the national road network along haul routes to confirm that all structures can accommodate proposed loading associated with delivery of turbine and associated development components to the site. Request referral of all proposals agreed between road authorities and the applicant impacting national roads.
 - The Grid Connection Route which is detailed in Figure 2-7 indicates that there are no interactions with the existing strategic national road network. However, Section 12.5.1 of the Tipperary County Development Plan 2022-2028 identifies the Thurles Bypass Scheme as a Strategic Roads Investment Project. In accordance with official policy outlined in Section 2.9 of the DoECLG Spatial Planning and National Project Guidelines for Planning Authorities, proposed national road schemes should be protected and kept free from development impacts that could compromise their delivery. TII recommends consultation with Tipperary County Council Roads Design Office

in considering this application to address and resolve any impacts to the national roads scheme.

6.1.5. Department of Housing, Local Government and Heritage:

- Archaeology – The Department advises that advance archaeological test excavation should be carried out in advance of any development to determine if previously unknown subsurface archaeological features or deposits. If such material is present, then additional mitigation measures to ensure preservation in situ or by record will be necessary. Exclusion zones may be required to protect vulnerable heritage assets. Recommend conditions regarding these matters. Conditions also recommended regarding CEMP, services of a qualified archaeologist, that the planning authority and department be furnished with a final archaeological report, and conditions relating to underwater archaeological impact assessment due to potential effects of the proposed grid connection route upon underwater cultural heritage.

6.1.6. Department of Transport:

- The placement of cables in trenches within extents of public road may impact the Road Authority operations, and/or the stability of the road, as well as effect remaining available road space to accommodate other utilities. It may be necessary to have power cables switched off where the Road Authority considers it necessary to carry out its functions.
- Examination of the proposals should consider all available technologies including both overhead lines and underground cable or combinations of both, route options other than the public road, connection to the grid closer to the wind farm to reduce impact on public roads, detail of where the road cross section of cables to be placed, details of any chambers proposed in public road cross section, elimination of permanent jointing bays from beneath the road pavement, no attachment of cables to bridge structures and culverts, and rationalisation of the number of cables involved and their diversion into one trench.
- Conditions recommended include specific approval of the local authority to the detail of the final route of cables through the public road space, compliance

with all appropriate standards, location of cables to be recorded using BIM type technology, elimination of permanent jointing bays from under the road pavement, routing of cables away from bridge structures, replacement of culverts, and notification of the Roads Authority of the owner of the cables and controller of the power transmitted along the cables (including notification of any change in ownership).

6.1.7. Health and Safety Executive (HSE) with respect to the Environmental Health Service (EHS):

- Recommend the attachment of a condition ensuring that no property will experience shadow flicker in the event that permission is granted.
- Recommend that any potential waste soil deriving from excavation of the site be notified under Article 27 (European communities (Waste Directive) Regulations 2011) or treated to comply with Article 28 (European Communities (Waste Directive) Regulations 2011) if practicable. Recommendations also made with respect to the management of invasive species and contaminants.
- In addition to mitigation outlined in the EIAR relating to air quality, recommend a condition requiring the monitoring of access roads to the site, with defects identified and repaired, in order to minimise dust.
- In relation to water/hydrology/hydrogeology, recommend in the interest of public health, there be no direct or indirect emissions of waste water into ground or surface water during the construction period. Foul waste should be contained and taken off site for disposal at a licensed facility. All drinking water sources, public water scheme sources and supplies, must be identified and potential impacts assessed.
- The change in noise environment is the most significant aspect of a likely significant impact on health. During construction of the development, operations should be limited to working times incorporated in any planning permission. Blasting activities should not be carried out early morning or evening times. Suggest condition with respect to working hours during construction.

- Mitigation measures are included in the EIAR which should be implemented in full.
- The local community should be informed of the proposed development and any issues of concern taken into consideration.
- Operators of the wind farm should work in cooperation with operators of neighbouring developments, to minimise cumulative impacts.
- Consideration could be given to linking adjacent amenities (if any) at adjoining wind energy developments or forests in the ownership of the applicant in order to create and develop a destination walking/cycling amenity in the locality.

6.1.8. Office of Public Works (OPW):

- Concern regarding potential impact on the potential Outstanding Universal Value (OUV) of the Rock of Cashel, National Monument No.128. It is one of six sites forming part of a World Heritage Property bid for inscription on the World Heritage List. The Royal Sites of Ireland is one of three potential World Heritage Properties on the Irish Tentative List.
- The existing landscape to the north of the Rock of Cashel is substantially intact, while it contains existing windfarms, these are further away than the proposed Brittas windfarm (refer to photomontage viewpoint 22).
- There are no official guidelines for the assessment of visual impact from windfarms upon cultural heritage receptors, however industry standard has evolved in the assessment of impact on National Monuments to a 10km radius, and World Heritage Properties (WHP) and Tentative List sites to a 25km radius, from the centre of the windfarm. The planning application has assessed WHPs and Tentative List sites within a distance of 20km, resulting in a negative search result. The visual impact assessment for the Rock of Cashel (Tentative List site) follows the methodology for a National Monument. Reference to correct tools in the UNESCO Guidance and Toolkit for Impact Assessments in a World Heritage Context and the tool UNESCO Guidance for Wind Energy Projects in a World Heritage Context to assess the impact. The potential impact on the intangible cultural heritage links, including visual links,

between the Rock of Cashel and the lands to the north, through the plan and to the horizon, require detailed and careful assessment. Reference to the OUV statement for the Royal Sites of Ireland and UNESCO Tentative List entry for the same.

- Holycross Abbey NM No.121 and reference to viewpoint 14, concern that the photograph was taken in spring/summer with full foliage and bloom and screening may be less effective in the other 6 months of the year.
- Ballynahow Castle (TNI041-019; NM No.234) has not been marked on figure 11-1 and the impact on views has not been undertaken, which is a serious omission. Request that a photomontage methodology is applied to the assessment of impact.

6.1.9. Uisce Éireann:

- The proposed development has the potential to impact an Uisce Éireann Drinking Water Source. It is a requirement of the Water Framework Directive that waters used for the abstraction of drinking water are protected so as to avoid deterioration in quality. Further Information is requested in relation to the EIAR Chapter 9.3.5.3 Abstraction (Wells and Springs) as the applicant has not included any of Uisce Éireann Public Supplies Table 9-9 & Figure 9-18, with particular reference to the Thurles Water Tower and Creamery Well groundwater supplies. The connector cable route crosses the Zone of Contribution for the Thurles Water Tower.

6.2. Local Planning Authority

6.2.1. Tipperary County Council's Chief Executive Officer's Report was submitted with a covering letter dated 28/02/2025. The key issues and overall considered view identified in the report is set out below:

- Visual Impact: The proposed wind turbines will be significant and dominant feature in the landscape particularly to road users (N62, L8017, L71001 and L4120) and nearby residents and will alter the landscape character. Mitigation of visual and landscape impacts through reduction of the number of turbines should be considered given the dominant appearance of the proposed

development in this open low level landscape. Of particular notes are the representative views from Clobanna church and graveyard (Viewpoint 28A), View from residences at Brownstown (Viewpoint 27B), Views from the N62 (Viewpoint 6 and 4B) and views from Rossestown Bridge (Viewpoint 4B). The report also notes that additional representative views approaching the site from the N62 to the north should be sought together with panoramic views of the development as it would appear from the N62 and L8017.

- Noise Impacts: Comparison of the projected noise levels from the turbine type against background noise levels show that the noise environment in the area will be changed as a result of the development with an increase above existing noise levels. Expert review of this chapter of the EIAR is recommended noting the projected noise and existing baseline noise levels.
- Shadow Flicker Impacts: The EIAR has identified that shadow flicker impacts may occur. The Planning Authority note the wind turbine control measures proposed to mitigate shadow flicker impacts to ensure same come within guideline limits and considers same as implementable. However the screening measures set out in section 13.7.2 of the EIAR may not be implementable as same is dependent on 3rd party consent. These measures should not therefore be relied on.
- Traffic Impacts: The following points of concern arise regarding traffic and roads related impacts.
 - 1. Sightlines are not in accordance with the Tipperary County Development Plan for commercial entrances, no speed survey submitted for approval.
 - 2. The proposed development will have a significant impact on the local road network with a large volume of HGV's delivering to the site and also a large number of abnormal loads. In particular there is concern in relation to the L-8017 from the junction with the N62 to Site Entrance No.3. A special contribution to be applied to resurface this section of road once the development is complete based on the following cost:
 $1650\text{m} \times 6\text{m wide} = 9900\text{m}^2 @ \text{€}40/\text{m}^2 = \text{€}396,000.$

- 3. The applicant needs to explore the option of using private lands to install the proposed cable from the windfarm to the Thurles Substation at Ballygammane.
 - 4. If requirement 3 cannot be achieved (above) then the following must be applied:- The Roads Authority needs unhindered access to its structures (Bridges in particular) – that is without additional risk, cost or delay. Details specified in this regard and condition recommended regarding the same.
- Flood Risk and impact on environmental management and mitigation: The effectiveness of the proposed environmental management and mitigation measures need to be examined in the context of a significant flood event on the site where works areas may be inundated with flood waters.
 - Alternatives: Tipperary County Council is broadly satisfied with the approach taken to the question of the assessment of alternatives. However the option of connecting to the grid via public lands as an alternative to the installation of cabling and joint bays within public roads has not been examined and should be considered noting the impacts of such infrastructure on future road maintenance works.
 - Conditions: Implementation of mitigation and monitoring measures in EIAR and NIS; Condition limiting operational time to 35 years from commissioning; Agreement of final turbine type; Requirement for monitoring of relevant construction elements by geo technical engineer; Limits on Noise levels at the operational stage with monitoring programme; Limit on construction days/times; Limit on shadow flicker; Surface water and ground water protection measures and monitoring to be included; Pre construction Biodiversity surveys and Bird and Bat mitigation measures and monitoring; Compensatory planting; Measures to ensure telecommunication signals are not impacted; Compliance with requirements of the Irish Aviation Authority; Traffic Management measures; Cultural heritage impact measures; Community gain requirements; Decommissioning and reinstatement and associated bond. General Contributions and Special Contributions recommended.

6.2.2. Departmental Reports:

- District Engineer – Further Information recommended. (Matters outlined at traffic impact bullet point above under Chief Executive Report.)

6.2.3. At a Meeting of the County Council on 10th February 2025, it was resolved to attach the following recommendations to the Chief Executive Report, minutes of the meeting were also attached:

- Siting and Landscape/Visual Impact:
 - i) The location of the development in a flat open landscape in close proximity to Thurles town and the significant visual impact of the development on the landscape and on Thurles town is a concern noting the height of the turbines at 180m to tip.
 - ii) The 2 turbines closest to Thurles should be omitted.
- Flood Risk:
 - i) The flood risks to the development and arising from the developing are a significant concern. Large areas of the lands are identified on OPW Mapping as at risk of flooding and there is a history of flooding on the lands. This matter may be worsened by the development and development of this nature on flood prone lands to be avoided.
- Shadow Flicker:
 - i) The development presents potential to generate shadow flicker impact on a high number of dwellings. There are concerns with impacts of shadow flicker on adults and children in the area with ASD and other sensitivities.
 - ii) The meteorological data contained in the EIAR is outdated and a revised assessment is required based on up to date data.
 - iii) The mitigation measures outlined in Section 13.7.2 of the EIAR are not implementable and are dependant on 3rd party consent which may not be provided.
- Noise:

- i) The construction phase of development will significantly impact on road traffic noting the road width in the area and levels of use. Of particular concern is the potential for impacts and restrictions on residents access, emergency services access, deliveries etc.
 - ii) There is a need to ensure that the roadways are adequately reinstated following construction and all costs borne by the developer. This can be dealt with by a condition seeking a bond, any such condition to allow flexibility to ensure the bond figure covers road reinstatement costs at the time of undertaking the development to reflect accurately costs at that time.
- Biodiversity:
 - i) There is a concern with impacts on biodiversity and impacts on wildlife, birdlife and aquatic ecology.
 - ii) Compensatory planting to be of native species and at appropriate maturity and density.
 - Community Benefit Fund:
 - i) Access to funding under the Community Benefit Fund to be open to all communities in the vicinity, including Thurles Town.

6.3. Third Party Submissions

6.3.1. There were 74 submissions from third parties as listed at the front of this report. A summary of the responses is set out in Appendix 1 of this report in section 17.

Headline points of concern are set out below:

- Principle of Development: Query the principle of development, the necessity, the energy generation it will achieve (categorisation as SID) and whether it is premature pending decision on associated infrastructure. National policy context is also out of date and locating of a wind farm on the site is in non-compliance with local policy.
- Amenity: Significant concern raised with respect to operational noise and shadow flicker effects. Concern also raised with respect to air pollution, impact from lithium batteries, cables running close to homes, construction

impact, water contamination (private wells), chemical use, will result in a decrease in property value in the area, impact on farming production, densely occupied area and inadequate set-back to neighbouring properties.

- Ecology / Biodiversity: Adverse impact upon protected birds, freshwater mussels, otters and owls. Impact upon protected sites. Shadow flicker impact upon livestock. Contamination of waters. Collision risk. Adverse impact upon mammals. Inadequate NIS and Ecological Assessment for EIAR. Lighting impact. Habitat loss, removal of hedgerows and trees. Impact upon bats.
- Visual Impact / Design / Heritage: Concern regarding the scale of the proposed turbines, substation and associated visual effects. Concern that there is a lack of photomontages submitted. Reference to the Landscape Character Area and associated effects. Proposals do not comply with national or local guidance / policy. Significant impact upon heritage sites. Archaeological impact.
- Transport: Local roads (and bridge) unsuitable to accommodate proposed construction works. Turbines will be a safety hazard given proximity to the road. Impact upon cyclists and pedestrians. Disruption to residents as a result of works. Inadequate sightlines.
- Construction: Adverse impact during construction, traffic, noise, dust, damage to biodiversity, harm to pedestrians / cyclists. Query use of cofferdams. Concern regarding impact of blasting.
- Lack of consultation by the Applicant: No meaningful engagement and non-compliance with community engagement requirements.
- Flood Risk: Concern regarding impact upon floodplains and flooding of the River Suir. Historical flooding on the site. Lack of detail. Query ground levels stated. Layout does not conform with 2006 guidelines.
- Other Matters: Applicant has no local knowledge, has mislead or intimidated residents. There are plans of extensive battery storage in the area, associated fire hazards. Alternatives assessed weak. Impact modelling inaccurate due to design flexibility. Data regarding weather incorrect. Shadow flicker from moonlight not assessed. Concern regarding disposal of wind turbines at the

end of their life. Lack of SEA for National Plans. Non-compliance with Planning Regulations for works over / under public road. OPW consent required with reference to the Arterial Drainage Act 1945. New wind energy guidelines anticipated. Telecommunication impact.

7.0 Applicant Response

7.1. Following a request issued by the Commission, two responses to submissions were received from the Applicant. The first on the 3rd September 2025 with respect to prescribed bodies and third parties, and the second on the 5th November 2025 with respect to the Local Authority (one time extension was granted for the response request). A summary of the main points set out in the response is included below:

7.1.1. Response to Prescribed Bodies and Public Submissions

7.1.2. The applicant provided a Response to Observations report dated 1st September 2025 addressing responses from prescribed bodies (apart from TCC which is addressed separately as per above) and public submissions. Below is a summary of the main points within this report:

7.1.3. Prescribed bodies:

- Department of Transport, HSE, TII, DAU, IAA and GSI: note / accept comments, reference to provisions set out in the EIAR and CEMP and acceptance of suggested conditions.
- OPW: Reference to the comments made with respect to the Rock of Cashel, Holycross Abbey and Ballynahow Castle/Tower House.
 - Rock of Cashel – the site is located 21km south of the proposed wind farm site and is not currently a World Heritage Site, with this designation remaining uncertain. Therefore, there is no legal obligation to undertake an impact assessment of this site in compliance with the UNESCO World Heritage Sites Impact Assessment Guidelines. There are a number of other existing wind farms within 8 to 20km from the Rock of Cashel. The nearest other Royal Irish heritage site are over 100km away. Average distance a person can see is 5km, which may be extended for elevated sites, but will be affected by atmospheric and

weather conditions and the earth's curvature. The photomontage illustrates the proposal will not be easy to make out. The Theoretical Zone of Visibility also indicates visibility will be poor. Consequently conclude that the 'Outstanding Universal Value' (OUV) will be unaffected. Our opinion is that the visitor's experience in exploring/ admiring and appreciating the interior of the Rock of Cashel, will not be diminished by the turbines as they cannot be seen from the inside. While there will be a degree of external visibility from the Rock of Cashel, the impact on the visitor's appreciation and character of the National Monument is deemed to be slight if not imperceptible.

- Holycross Abbey – the proposed turbines are below the height of the trees on the horizon, the turbines will consequently not be visible from the monument site during the summer when the trees are in full leaf and will be imperceptible in the winter.
- Ballynahow Castle/Tower House – acknowledge that a heritage assessment of the site was mistakenly omitted, an assessment is therefore provided in the response. Offer to provide a photomontage if required. The assessment includes a description of the Castle-tower and addresses potential cultural visual impact as a result of the proposal. Photographs are provided of the view towards the proposed wind farm from an upper window in the Castle-tower. The view is constrained by the doorway access, coupled with the distance and the limited access to the monument which is on private land, the impact is classified as imperceptible.
- Uisce Éireann: the Creamery Well is located 2.36km south of the nearest Turbine (No,10) and is located adjacent to the River Suir. The Tower well is located 855m south-west of the nearest point of the proposed Grid route. Neither of these wells will be directly affected by the proposed works. Any potential indirect effects on water quality would be effectively mitigated by the standard water quality mitigation measures proposed in the EIAR and incorporated into the project design (see section 9.4.2 of Chapter 9 of the EIAR Vol. 2). No significant effect on the local wells and their associated zone of consideration/abstraction. With respect to the grid route cable to be

installed under existing road corridors, potential risk is acknowledged with respect to crossing a groundwater abstraction catchment with underground infrastructure. Potential effects will be management by the CEMP. Trenching will be shallow and not of a scale that will affect groundwater flow. During operational phase the cable poses no residual risk to groundwater. At decommissioning phase the route will remain in-situ, if removal is required, it will undertaken with an updated CEMP, with groundwater monitoring and protection protocols in place.

7.1.4. Third Party / Public Submissions:

- Visual Concerns:
 - The proposed development site is not within an area identified as 'Sensitive' as per Map 4 'Quantitative Landscape Sensitivity Analysis' (Appendix 2 Renewable Energy Strategy of the Tipperary County Development Plan 2022-2028). As stated in Section 15.3.2.3 of the LVIA (EIAR), 'the site is within LCA5 Templemore Plains, while only a small section of the grid connection route is outside this LCA.' In terms of the 'Landscape Sensitivity and capacity,' the Landscape Character Assessment notes that LCA5 is a "high capacity/ low sensitivity Landscape."
 - With reference to policy Objectives 11-16, the significance of likely landscape effects is assessed under multiple headings for consistency and appropriateness, in accordance with best practice LVIA guidelines and guidance. Although the 'Wind Farm Site' is likely to experience 'moderate' significance of landscape effects, that are 'adverse' and 'long-term', this site and its immediate surrounds consists of privately-owned, intensively managed farmland representing a small portion of the Receiving Environment of the LVIA Study Area. Meanwhile, the overwhelming majority of the LVIA receiving environment is likely to experience either a 'slight' or 'imperceptible' significance of landscape effect that will be 'neutral' in quality.
 - With reference to the objection of being within 300m of major rivers and water bodies, Tipperary County Council have designated the area

where the site is located as being in “An Area Open For Consideration for New Wind Energy Development,” as such it is not located in an area “unsuitable for wind energy developments”. The submission is referencing information derived from ‘Table 6.3 Principle Landscape Sensitivity Factors compatibility with Principle Land Use Types’ from the Co. Tipperary Landscape Character Assessment. This goes on to state that ‘...in general, projects located within 300m of these sensitivity factors are more likely to give rise to landscape effects than those in other areas. These estimations are provided for guidance only...’ An LVIA has been carried out and found that the site is suitable.

- The proposed turbine height of 180m has become more common. The height and setback to properties comply with national guidance. The turbines are suitably sited and have a 35 year lifespan after which they will be removed, unless a repower application is approved. Consequently, visual impacts are reversible and not irreparable.
- Viewpoints were selected in accordance with best practise and methodology.
- Two representative viewpoints were considered from Thurles (VP6 and 7) from the closest linear residential development to the site. Even in such a maximum potential of visibility from Thurles town, only the proposed blade tips are likely to be visible, with a slight adverse effect. The two representative viewpoints were chosen for Thurles to represent “worst-case scenario”.
- In relation to the view from the bridge, the visual receptor sensitivity is medium-low. In relation to the view from Clobanna Church and Graveyard, this view was requested by the cultural heritage consultant and for use within the cultural heritage chapter only. The church and graveyard are surrounded by private agricultural field and fenced off, with no known public access.
- In relation to visual stacking, this has been avoided, where possible, when viewed from highly sensitive key viewpoints, all of which are more than 6km from the nearest turbine.

- Shadow Flicker and Weather Data:
 - Due to the limitations with availability of local data for the most recent period, national average data from Met Éireann was used to supplement the shadow flicker analysis, and to ensure a robust assessment despite these limitations. In response to these concerns, the worst-case scenario in terms of change in sunshine hours has since been calculated and the result was 21.1% which is the same as the results in Chapter 13 (Shadow Flicker) in the EIAR.

- Noise:
 - No noise impacts are predicted or the local school as it is located 3.2km away and beyond the study area for noise impact assessment in the EIAR. The design of the site layout, the type of turbines and the intervening topography is such that the predicted operational noise levels of the wind farm are not expected to exceed the noise limits. The initial noise modelling informed the design of the turbine layout to avoid exceeding any of the guideline noise limits for neighbouring dwellings and social service facilities that would be considered sensitive receptors. In addition, monitoring and mitigation measures are available to assess the actual noise impact (see section 12.7 of the EIAR Noise Chapter or EMP 5 in the CEMP).

- Height of Turbines (inaccuracies in data):
 - It is not clear where the ground level data on ‘actual’ ground levels mentioned in the submission was obtained. The language in the submission suggests that the author himself did a survey, but he provides no data on how this survey was undertaken. The ground level data used for the design of the wind farm and recorded in the planning drawings was obtained from the Bluesky 2m contour data for the site. This is the most detailed topographic data available for this site and is commonly used by design consultants for most planning applications in Ireland. This topographic data is accurate to a height deviation of 1.5m.
 - The design of the proposed development was also informed by a flood risk assessment, with flood extents accurately mapped. If permission is

granted, additional topographic surveys will be undertaken to finalise the designs of the proposal. Details of the proposed surface water drainage system was developed based on a flood risk assessment.

- Flooding Risks and Requests for More Detailed Designs:
 - No changes to the existing bridge over the River Suir are proposed. The height of the proposed new road and bridge over the Rossetown stream along the access track to Turbine 7 will be 2.15m above the existing ground levels. This road and bridge will be raised above the ground level and the 100yr flood level and will allow for the natural drainage of this area that is susceptible to flooding. In the event of a 100yr flood event the new bridge will be above the flood level but sections of the access road on either side will be flooded (see Figure 5-5 in the Flood Risk Assessment Report). The flood risk modelling undertaken indicates that this structure will increase the 100 yr flood levels immediately upstream of the bridge but only slightly. There will be no significant change in flood levels upstream of the bridge and the flooding extents will remain within the project site and will not impact any neighbouring properties. The new bridge and road over the Rossetown stream will act as a partial temporary obstruction to the flow of the flooding stream and is expected to reduce the rate of water flow from this stream into the River Suir, reducing potential high flood levels downstream that would otherwise occur. All turbines have been located at least 50m from the banks of the River Suir. The EIAR mitigation ensure potential effects are avoided or minimised. All mitigation measures were incorporated into the Construction Environmental Management Plan (CEMP) submitted with the planning application. The proposed SuDS ensure there would not be an increased rate of surface water flow off the site into the River Suir and there would not be contamination of water quality in the river system.
- Traffic Impact and Sight Lines:
 - As part of the design process for the project, the entrances were assessed and surveyed and two sight line drawings for the entrances

were included in the tender drawings pack. A traffic speed survey was conducted along the L8017 road at Entrance 3. This found that the cumulative average speed of vehicles traveling along this road was 50km/hr. This reduces the standard sight lines for a road with an 80km/hr speed limit. The existing sightlines at entrance 3 are limited due to the proximity and height of the bridge over the River Suir and the corner where the proposed entrance is located. However, the low average speed of vehicles traveling along this road, and additional signposting to regulate traffic, will be sufficient to ensure the safety of road users. A road safety audit will be conditioned for this project and this will also ensure that adequate safety measures are put in place to ensure the safety of road users. In addition, there is a Traffic Management Plan that was submitted in Appendix 16A of EIAR Vol. 3. This proposes various management measures to address the potential construction traffic effects. This plan will be updated as necessary and approved by the local authorities prior to construction being initiated.

- Cultural Heritage:
 - In relation to Brittas Castle, this is located on private land adjacent to the proposed wind farm. The castle is not accessible to the public and the landowners are involved in the project.
 - In relation to Shyane graveyard and Church in Clobanna where significant visual effect is expected, this is 1 of 2 recorded monuments, out of 86, given this significance rating. The relict is set back inside on a gently rising pasture, and while accessible to pedestrian visitors, there is no easy access. There is no roadside signage informing or directing for the site and there is no public car park.
- Ecological Concerns:
 - With respect to removal of hedgerow, any hedgerow felled during construction will be replaced using similar or native species (section 6.6.1 EIAR). Where permanent loss is unavoidable, planting will be undertaken in more ecologically appropriate location, to offset habitat loss and enhance ecological connectivity and landscape integration. It

is anticipated that functional hedgerow structure will establish within 0–3 years, after which the residual ecological effects are expected to be not significant.

- The applicant acknowledges the presence of red squirrel within the wider landscape however no evidence or signs of this species were recorded within the application area. Given this context, red squirrel has been scoped out of the ecological assessment. It should be noted that the mitigation for pine marten will also serve to reduce the likelihood of construction related impact on red squirrel.
- With respect to bats, proposed mitigation reflects best practice and is proportionate and appropriate to the potential risks identified.
- In relation to common frog, section 6.2.2.3 of the EIAR states the decision not to undertake further surveys based on the confirmed presence of the species in the area.
- With respect to the overlap between EIAR ecological assessments and AA, the scope of AA is limited to the qualifying interests of designated sites, which comprise Annex I habitats and Annex II species for SACs, and Annex I bird species and regularly occurring migratory birds for SPAs. Annex IV and V species, while strictly protected under Article 12 of the Habitats Directive, are not linked to site designation and are not necessarily a ‘qualifying interest’ of any designated Natura 2000 site or part of the conservation objectives of any Natura 2000 site. As such, they are not included in the AA process unless a particular protected species happens to also be a ‘qualifying interest’ of one of the Natura 2000 sites potentially affected by the project. Instead, potential impacts on Annex IV and V species are addressed through the EIAR. The assessments are distinct and governed by separate legislative frameworks. In-combination effects were addressed prior to the implementation of mitigation measures. No plans or projects were identified as having potential for in combination effects with the project. Although the cumulative effects section of the EIAR follows the evaluation of residual effects, allowing for the incorporation of proposed

mitigation measures into the analysis. Plans and projects with potential for cumulative impacts were identified and assessed in combination with the project. No external plans or projects are considered to have potential cumulative effects with the project. In relation to the lack of cumulative assessment of the sourcing of construction materials, such activities operate under separate planning permissions and environmental assessments. The potential impacts associated with the transportation of materials, such as traffic, noise, and emissions, are addressed within chapters 12 (Noise), 14 (Air), and 16 (Traffic) of the EIA and considered in Section 4.4.1 of the AA screening and 5.3 of the NIS. While quarry operations are not directly assessed as part of the application, their potential indirect impacts, particularly those related to material transport, have been considered within the scope of chapters 8 (Land and Soils), 9 (Water), 10 (Material Assets), 12 (Noise), 14 (Air), and 16 (Traffic) of the EIA and Section 5.3 of the NIS, in line with current planning and environmental assessment practice.

- In relation to general points raised regarding birds, Owl species (barn, long-eared, and short-eared) occur in low numbers locally, with negligible collision risk and potential for habitat enhancement. Hen harrier and other Special Conservation Interest species show minimal usage within the site or zone of influence, with no evidence of significant population-level impacts. Common Red- and Amber-listed birds, including meadow pipit, grey wagtail, and wintering waterbirds, occur at local-level abundances, well below national thresholds of importance. Swans (mute and whooper) exhibit sporadic, low-level site use, with no identified commuting routes or collision risk concerns. Overall, the site supports typical local ornithological diversity but does not constitute a location of disproportionate conservation importance. Mitigation and habitat enhancement measures incorporated into the proposed project is expected to maintain or provide a net benefit to local species.

- Concerns regarding collision risk for hen harrier are not supported by evidence.
- Note inaccurate reference in a submission to assessment of Wetlands & Waterbirds A99, unclear which SPA this relates to, and incorrect reference to an SAC. There are no SPAs designated for Wetlands & Waterbirds A99 in the zone of influence. There is no evidence of any source-pathway-receptor link between the project site and any SPA for wetland birds (EIAR section 7.3.2 and appendix 7A section 2.2).
- Meadow pipit, while red-listed is common and widespread in Ireland. No Oystercatchers were recorded in three full years of baseline surveys. Grey wagtail was assessed during construction as being unlikely to be adversely affected by construction activities with mitigation, and no significant effect in operation. The site supports meadow pipit and grey wagtail in low, local-level abundances.
- In relation to effects on red endangered list bird species, only two of those cited in the observation are red-listed (meadow pipit and grey wagtail), 8 are amber listed and the remainder are green. All but two species (carrion crow and oystercatcher) were recorded during the three years of survey for this EIAR, as discussed in Section 7.3.4 and in every case, numbers and patterns of use indicate populations of local or, at most, county importance, far below national or international thresholds. Amber-listed species such as kingfisher, goldcrest, skylark, starling, mallard, and greylag goose are present in small numbers, with infrequent or sporadic use, well below national importance thresholds, as discussed in Section 7.3.4 to 7.3.7 of the EIAR. No species recorded on the project site meet or exceed the 1% threshold for national or international importance under standard conservation assessment criteria except for breeding lapwing, as discussed in Section 7.3.9 of the EIAR. One submission refers to “carrion crow” — a species that does not regularly occur in Ireland — and “Paragon Falcon,” which it is presumed refers to peregrine falcon. This suggests a degree of inaccuracy in the species list for the local area where non

regularly occurring species are being potentially mis identified for regularly occurring ones.

- In relation to Swans, neither mute nor whooper swans regularly commute through the project site, and the floodplain habitat will continue to support only locally important numbers of these species. The design of the project site, combined with mitigation measures, ensure that swan habitat use and population viability will be maintained. Third-party assertions of significant displacement, disruption, or threat to swan populations are not supported by the evidence.
- Note third party submission that the proposed development will negatively affect critically endangered or protected species. None of the cited species are classified as “Critically Endangered” in Ireland under the International Union for Conservation of Nature (IUCN) Red List or BoCCI 2021–2026. Several species are Red- or Amber-listed (e.g., golden plover, curlew, barn owl, kestrel, hen harrier), while others such as buzzard, sparrowhawk, and peregrine have stable or increasing populations and are not considered under imminent threat of extinction nationally. The assertion is not supported by evidence, robust, multi-season baseline data, national conservation assessments and detailed collision risk modelling demonstrate adverse effects are not anticipated.
- The 3rd party’s assertion that “Collision Risk Models tend to underestimate mortality” is a generalisation that is not supported by the evidence for this inland, predominantly agricultural–woodland site. The Belgian/Flanders range of “0–63 birds per turbine per year” originates from Hötker et al. (2006) and Everaert’s coastal studies, where the highest rates were recorded at turbines adjacent to major wetland or coastal migration corridors. As Drewitt & Langston (2006) and more recent reviews note, collision rates vary primarily with local bird abundance, behaviour, topography and turbine siting, and modern collision risk modelling (CRM) practice uses empirically derived avoidance rates to align predictions with post-construction monitoring.

the evidence indicates that collision risk at Brittas is very low, and the proposed development is unlikely to result in significant adverse impacts on local or regional bird populations, as discussed in appendix 7H (CRM) and sections 7.4.3 and 7.4.4 of the EIAR.

- The assertion that the Brittas Wind Farm EIAR “was for the most part a desktop study” is incorrect. The ornithology assessment was informed by three full years of structured, seasonally distributed fieldwork, including monthly vantage point watches, species-specific breeding and wintering surveys, targeted habitat inspections, and collision risk modelling based on site-derived activity data. These field surveys were supplemented—not replaced—by desk-based analysis of national and local datasets, as is standard best practice.
- In response to comments regarding PFAS (per- and poly-fluoralkylated substances) in components of the wind development, the wind industry is already using PFAS-free coatings for the rotor blades. And it continuously assesses whether other components and materials may contain PFAS and, if so, whether PFAS-free alternatives are available. The wind industry acknowledges that in certain use cases downstream industries may need time to develop performant substitute materials. Before a restriction is put in place the functionality, criticality, and availability of suitable alternatives should be assessed for each specific PFAS use. In addition, a possible restriction on PFAS should not contain retroactive measures and must be aligned with the EU’s wider climate and energy goals. The ECHA proposal includes provisions to ban the use of PFAS in electrical switchgear and circuit breakers over time. To deliver the energy transition, Europe needs to accelerate the build out of transmission and distribution grids and ensure that existing grids can be repaired and maintained. The European Commission and ECHA must consider whether a possible restriction on PFAS use in grid equipment aligns with the EU’s climate and energy policies.
- At its closest point, the proposed bypass would for Thurles will be around 615m south of Turbine 10 (the most southerly of the proposed turbines). This is well outside the fall distance for the turbine. The Brittas forests would also

partially screen the turbines from the view of potential future road users. No design or planning application is lodged for the bypass.

7.1.5. Response to Local Planning Authority

7.1.6. The applicant provided a Response to Observations from Tipperary County Council (TCC) in a report dated November 2025. Below is a summary of the main points within this report:

- EirGrid policy is for grid cables to be laid under the public road where they can access for maintenance. The possibility of diverting part of the proposed grid route across private land near Thurles would have been considered if the option of local roads was not feasible. Reliance on private lands requires landowner agreement and consent from EirGrid which cannot be proposed and assessed with certainty at this stage.
- In relation to section 5.5 of the EIAR in discussion of operational mitigation (table 5-16), the error is noted in relation to reference to construction and decommissioning. The main operational mitigation relates to noise and shadow flicker provisions.
- With reference to Chapter 6 Biodiversity, the comments about townland and incomplete sentence errors are noted and considered minor non-material errors.
- With regard to the TCC comment regarding bat detector surveys for the grid route: such surveys were not considered necessary due to the nature of the grid route construction methodology. These works will be confined to the existing road surface, and no removal of structures, trees, or hedgerows containing roosts. Therefore, no impacts will occur that could potentially disturb bat roosts. Additionally, construction activities will not take place during nighttime hours when bats are active, further reducing any potential for disturbance during commuting or foraging. There is alternative forestry suitable for foraging in the surrounding landscape for bats, therefore bat detector surveys unnecessary.
- Water crossings have been assessed and best practice drainage mitigation measures included in the EIAR, NIS and CEMP, road drains will be mostly

unaffected, or reinstated after works is required. Mitigation measures are proposed should the drain be impacted.

- In relation to flood risk, with reference to the submitted FRA, EIAR, CEMP and Water Framework Directive Report, the design of the development and proposed mitigation avoid potential significant water quality or flooding effects. In the event that ground water pumping for turbine foundations is needed, ground water will be pumped out and put through a temporary treatment system with swales and sediment ponds close to the site, with discharge over vegetated ground once sediment is removed.
- In relation to noise, ACP will need to decide if they want an additional expert review of the assessment to be undertaken. Further noise modelling will be undertaken at construction and operational stages to ensure any changes will be captured and the same standards upheld.
- In relation to shadow flicker, if mitigation is not obtainable or effective, the developers will utilise the SFCM (shutting down the relevant turbines) during periods when and where there may be shadow flicker events.
- In relation to landscape and visual, visual effects upon viewpoints located close to the wind farm (N62, Brownstown, Rossestown Bridge) will not be significantly reduced by reducing the number of turbines and would only be achieved by removing them all. Providing additional photomontages from additional sites would not change the findings of the visual impact assessment. The Clobanna Church and Graveyard is not accessible to the public and is entirely surrounded by, and fenced off from, a private agricultural field. As this monument is not accessible to the public, there is no public view from this location and it was not considered relevant to the visual impact assessment as per standard best practice in landscape and visual assessments. It is provided as part of the cultural heritage assessment.
- The following responses related to traffic comments:
 - Speed survey data for the L8017 gives an average speed of 60km/hr, aligning with the new speed limits for local roads, the speed limit may need to be reduced to 55 or 50 km/hr for entrances 1, 2 & 3. Entrance 4 is primarily for the substation and will not be used for the wind farm.

A speed survey can be completed and submitted for L4120 at entrance 4. In designing entrance 4 for the substation a 70 km/hr speed limit was used which does not align with the recent downwardly revised nation speed limits for local roads. We acknowledge that new sightlines may be required and we would potentially need to use 55 or 50 km/hr for entrance 4. Happy to provide such at a RFI stage or as part of a condition post planning.

- The proposed special contribution to TCC for road resurfacing is not unusual.
- The potential for routing the cable through 3rd party lands could be investigated and considered if the proposed grid connection route is unfeasible due to existing services. An access track over the grid connection route would be required by EirGrid/ESBN for ongoing maintenance etc. This requires the consent of landowners and EirGrid. EirGrid will only enter into discussions once planning has been granted / there is assurance that the proposed development will proceed.
- Bridge access: 110kV grid route would require horizontal directional drilling to avoid all bridges/structures.
- Unhindered access to alter road structure vertically: This is not feasible under the EirGrid standard drawings as lowering the road level more than 300mm would interact with the precast concrete joint bay and require the joint bay to be lowered. Discussions with EirGrid on increasing the cover over the precast concrete joint bay to 1000mm may address this issue, however further consultation with the applicant's Grid team is required.
- Road Sterilisation: Offsetting the joint bays to the grass verge is an option however this is dependent on the existing services.
- Trench Reinstatement: The TCC request for full reinstatement of the road is not aligned with current standard practice (Guidelines for Managing Openings in Public Roads 2017, Standard Drawings) and will increase costs under the current grid connection route. Please note that the above guidelines are currently being revised, full reinstatement

is limited to 4/5 metres. We are willing to adhere to the policies and best practices that are in place at the construction phase. If these policies are revised to require full road reinstatement, then this will be adhered to.

- Indemnity: This recommendation is common practice and the developers are willing to adhere to this.
- Joint Bays: Eirgrid's standard drawing XDC-CBL-STND-H-012-007 Rev 00 (Appendix 1 of response report) shows options for temporary and permanent reinstatement of joint bays, temporary joint bays are not included in the standard drawings. The use of temporary joint within roads under the control of the Local Authority will need to be agreed with EirGrid as this option is a deviation from standard practice. This is not very common and very unlikely to be approved by EirGrid based on the experience of applicant's Grid Team.

8.0 Further Consultations

8.1. As summarised above, responses to submissions were received from the Applicant in September and November 2025. These responses were circulated to all parties on the case, with an invitation to provide comments on the same given until 11th December 2025.

8.2. Below is a summary of the comments received upon the Applicant's response.

8.3. Prescribed Bodies

8.3.1. Tipperary County Council: No observations to make.

8.3.2. Health and Safety Executive (HSE) with respect to the Environmental Health Service (EHS):

- With reference to the applicant response regarding the 2019 draft Wind Energy Guidelines and Shadow Flicker, the response does not give a commitment to meet the requirements under the draft guidelines.

- In the interest of the protection of public health the proposed condition under the 2019 draft guidance requiring that no property shall experience shadow flicker shall be implemented if consent is given.
- The technology advance since the publication of the 2006 Guidance means it is a reasonable health protection measure to be included in any conditioning of a wind farm development. The mitigation will eliminate exposure to shadow flicker and the technology is robust and established. This mitigation should be implemented irrespective of whether the current guidance is updated.
- Responses to other items noted.

8.3.3. Office of Public Works (OPW):

- Applicant comments noted, with specific comments provided as follows.
- Rock of Cashel
 - There is an abundance of heritage sites in the cultural landscape surrounding the Rock of Cashel, with reference to 'Landscapes of Kingship in Early Medieval Ireland, AD 400-1150' by Dr. Patrick Gleeson (considered to be a leading expert in the Royal Sites of Ireland). It is requested that the applicants and commission review Figs. 6.1, 6.2, 6.3 of this publication. The OPW notes that this book may not have informed the contents of the EIAR that accompanies the Brittas windfarm application as it was only published in 2025.
 - There is a possibility that sites of archaeological or historical heritage value may be located within a sightline corridor/cone of view between the Rock of Cashel and the proposed Brittas windfarm site that are of fundamental significance to the OUV as it will be defined in future.
 - The visitor interpretation is constantly being updated. The intangible cultural and visual connections of the Rock of Cashel are increasingly being integrated into the narrative of visitor experience.
- Holycross Abbey:

- The applicants response incorrectly states that the proposed turbines are below the height of trees on the horizon and will not be visible from the monument during summer, and imperceptible in winter.
 - The photomontage has not transposed the view of the turbines at their maximum extent of height as presented in the wireframe. The blades although rotated so that they are not at their maximum height are still visible in the photomontage. Images provided to illustrate this point.
 - The applicants have failed to address views of significance from the immediate grounds of the Abbey and the view from the bridge at Holycross with the Abbey in the mid-fore ground. Request for a winter version of the revised/renewed photomontage.
- Ballynahow Castle
 - The applicant has not communicated the full extent of the view of the windfarm from the parapet of Ballynahow Castle in an adequate and verifiable way, as a result, the OPW is not in a position to reliably assess the potential impact.
 - The view of the horizon is very open from the parapet and turbines at a distance of c.4.5km, if contained in this split viewpoint will be prominent.
 - The OPW requests that the commission take into consideration the concerns raised, in particular the reliability of the photomontages and impact assessments arising. Of paramount importance is the OPW objective to maintain the condition of views across and between reference points in the cultural landscape of the Rock of Cashel.

8.4. Third Parties

- 8.4.1. Comments on the applicants response were received from 8 third parties, namely Anthony Kelly, Conor and Peggy Eviston, Caroline and Michael Dwan, Eddie and Alison Laffan, Kate O’Keeffe and Denis Kenny, Michael and Kathryn McCarthy, Noreen O’Sullivan and Peter Thomson Planning Solutions on behalf of the Brittas Wind Farm Action Group. These comments largely restate concerns highlighted in original submissions on the proposal as already summarised in section 6.3 above

and Appendix 1 below, and as such, are not restated here. A summary of any additional matters raised of note is set out at the end of Appendix 1 below.

9.0 Oral Hearing

- 9.1. Two submissions were received from third parties specifically requested an Oral Hearing in relation to this application, from Brittas Wind Farm Action Group, and Kate Okeeffe & Denis Kenny. The requests are contained within submissions that reflect upon a range of issues as outlined above, with more detail provided in Appendix 1 of this report below. Specific matters are highlighted relating to flooding and ecological impacts. The Commission determined on 5th February 2026 not to hold an Oral Hearing into the application. Having regard to the circumstances of the case, as well as the issues raised in the observations received, the Commission considered that there is sufficient information available on the file to reach a conclusion on the matters arising.

10.0 Legislation and Policy Context

10.1. European

10.1.1. Renewable Energy Directive (2009/28/EC [REDI])

- 10.1.2. This Directive requires a commitment to produce energy from renewable sources and it set binding targets on the share of renewable energy in energy consumption and in the transport sector to be met by 2020. It aimed to make renewable energy sources account for 20% of EU energy by 2020. Ireland had a national target of 16%. The government decided that 40% of electricity consumed in 2020 would be generated by renewables sources. Members States must submit National Renewable Energy Action Plans and Progress Plans to the EC.

10.1.3. Recast Renewable Energy Directive (Revision 2018/2001 [REDII])

- 10.1.4. This Directive established a new binding renewable energy target for the EU for 2030 of at least 32%, with a clause for a possible upwards revision by 2023. This target is a continuation of the 20% target for 2020. In order to help EU countries deliver on this target, the directive introduced new measures for various sectors of

the economy, particularly on heating and cooling and transport, where progress has been slower (for example, an increased 14% target for the share of renewable fuels in transport by 2030).

10.1.5. Amended Renewable Energy Directive (RED III)

10.1.6. On 9 October 2023, the EU Council adopted the amended Renewable Energy Directive (RED III), part of the "Fit for 55" package. It was published in the Official Journal of the European Union on October 31, and entered into force 20 days after that date. The RED III aims to increase the share of renewable energy in the EU's overall energy consumption to 42.5% by 2030, with a further indicative target of 2.5%. The Directive also introduces specific targets for Member States in the industry, transport, and building (district heating and cooling) sectors. It has come into effect by way of the Reg. S.I 274 of 2025 from 6th August 2025.

10.1.7. Energy Roadmap 2050

10.1.8. This 2011 Roadmap deals with the transition of the energy system in ways that would be compatible with the greenhouse gas reductions targets set out in the REDI.

10.1.9. REPowerEU May 2022

10.1.10. In response to the hardships and global energy market disruption caused by Russia's invasion of Ukraine, the European Commission is implementing its REPowerEU Plan to help the EU save energy, produce clean energy and diversify its energy supplies.

10.2. National

10.2.1. The National Planning Framework – Project Ireland 2040

10.2.2. The National Planning Framework 2018-2040 (NPF) set ten strategic outcomes and the First Revision to the NPF was adopted in April 2025.

10.2.3. The NPF states that the future planning and development of our communities at local level will be refocused to tackle Ireland's higher than average carbon-intensity per capita and enable a national transition to a competitive, low carbon, climate resilient and environmentally sustainable economy by 2050 through harnessing our country's prodigious renewable energy potential (pg.4). Chapter 9 'Climate Transition and Our Environment' addresses renewable energy.

- 10.2.4. National Strategic Outcome 8 Transition to a Low Carbon and Climate Resilient Society, which includes the provision of new energy systems and transmission grids to support more distributed renewables-focused generation.
- 10.2.5. National Policy Objective 70 seeks to “Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050.”
- 10.2.6. The Climate Action and Low Carbon Development Act 2015 (as amended)
- 10.2.7. The Climate Action and Low Carbon Development Act 2015 (as amended) (Climate Act), commits Ireland to a legally binding 51% reduction in overall greenhouse gas emissions by 2030 and to achieving net zero emissions by 2050. Under section 17 ‘Amendment of section 15 of the Principal Act’ the Commission as a relevant body shall, in so far as practicable, perform its functions in a manner that is consistent with the most recent approved climate action plan, most recent approved national long term climate action strategy, national adaptation framework, sectoral plans, furtherance of the national climate objective and the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State.
- 10.2.8. Climate Action Plan 2025 (CAP 25)
- 10.2.9. The Climate Action Plan 2025 builds upon the Climate Action Plan 2024 (CAP 24) by refining and updating the measures and actions required to deliver the carbon budgets and sectoral emissions ceilings and it should be read in conjunction with CAP 24. References to CAP 25 in this report therefore also includes recognition of CAP 24.
- 10.2.10. As part of its functions, the Commission must, in so far as practicable, perform its functions in a manner that is consistent with the most recent approved climate action plan, most recent approved national long term climate action strategy, national adaptation framework, sectoral plans, furtherance of national climate objective and the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State [section 15(1) of the Climate Action and Low Carbon Development Act 2015 (as amended)].
- 10.2.11. National Peatlands Strategy, 2015

10.2.12. This document sets out a national strategy for the sustainable management of peatlands and Section 5.3 deals with Peatlands and Climate Change. It describes the role of natural undrained peatlands as carbon stores, and it references the EPA report 'Carbon Reserve -The Potential of Restored Irish Peatlands for Carbon Uptake and Storage 2007-2013' in terms of how peatland management might be used to enhance carbon sequestration and reduce emissions. It provides advice in relation to the management of non-designated peatlands to halt carbon loss and recommends restoration measures to stabilise eroding surfaces, re-establish peatland vegetation and encourage waterlogged conditions to enable peat formation.

10.2.13. Wind Energy Development Guidelines (2006)

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

10.2.15. Draft Wind Energy Development Guidelines 2019

10.2.16. In December 2013, the Minister for Housing and Planning announced a public consultation process with respect to a focused review of the 2006 Guidelines and a 'preferred draft approach' to the review was announced in June 2017. Consultation on the draft Guidelines ended in February 2020. The draft guidelines identify Specific Planning Policy Requirements (SPPR), and subject to formal adoption of the Guidelines, it is intended that these SPPRs would be applied by planning authorities and An Coimisiún Pleanála in the performance of their functions, as well as having regard to additional matters for consideration in assessing wind energy developments.

10.2.17. National Landscape Strategy for Ireland, 2015-2025

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

10.2.1. Government Policy Statement on Security of Electricity Supply, Nov. 2021

10.2.2. This policy statement notes that electricity is vital for the proper functioning of society and the economy. The statement lists challenges to ensuring security of electricity supply, including:

- Ensuring adequate electricity generation capacity, storage, grid infrastructure, interconnection and system services are put in place to meet demand – including at periods of peak demand; and
- Developing grid infrastructure and operating the electricity system in a safe and reliable manner.

10.2.3. Page 5 of the policy statement notes the Government has approved *“that it is appropriate for additional electricity transmission and distribution grid infrastructure, electricity interconnection and electricity storage to be permitted and developed in order to support the growth of renewable energy and to support security of electricity supply”*.

10.2.4. Government Policy Statement on the Strategic Importance of Transmission and Other Energy Infrastructure

10.2.5. This statement notes the strategic importance of investment in networks and energy infrastructure, with such development expected to take account of all relevant standards.

10.2.6. Water Action Plan 2024: A River Basin Management Plan for Ireland

10.2.7. The Plan responds to the requirements of the Water Framework Directive, to accelerate the identification and implementation of the right measures in the right places to both restore and protect all water bodies. The catchments.ie website provides substantial background information for this plan and the most current and up-to-date information on the status of local rivers, lakes and water bodies.

10.2.8. Ireland’s 4th National Biodiversity Action Plan 2023-2030 (NBAP)

10.2.9. The NBAP includes five strategic objectives aimed at addressing existing challenges and new and emerging issues associated with biodiversity loss. Section 59B(1) of the Wildlife (Amendment) Act 2000 (as amended) requires the Commission, as a public body, to have regard to the objectives and targets of the NBAP in the performance of its functions, to the extent that they may affect or relate to the

functions of the Commission. The impact of development on biodiversity, including species and habitats, can be assessed at a European, National and Local level and is taken into account in our decision-making having regard to the Habitats and Birds Directives, Environmental Impact Assessment Directive, Water Framework Directive and Marine Strategy Framework Directive, and other relevant legislation, strategy and policy where applicable.

10.2.10. The plans 5 objectives are as follows: 1. Adopt a whole-of-government, whole-of-society approach to biodiversity; 2. Meet urgent conservation and restoration needs; 3. Secure nature's contribution to people; 4. Enhance the evidence base for action on biodiversity; and 5. Strengthen Ireland's contribution to international biodiversity initiatives.

10.2.11. Architectural Heritage Protection Guidelines for Planning Authorities 2011

10.2.12. These guidelines are issued under Section 28 and Section 52 of the Planning and Development Act 2000, with planning authorities (including An Coimisiún Pleanála) required to have regard to them in the performance of their functions. It offers guidance to planning authorities on determining planning applications in relation to a protected structure, a proposed protected structure or the exterior of a building within an ACA. Supplementary detailed guidance is also set out to support planning authorities in their role to protect the architectural heritage when a protected structure, a proposed protected structure or the exterior of a building within an ACA.

10.2.13. Framework and Principles for Protection of Archaeological Heritage, 1999

10.2.14. This document was prepared by the Department of Arts, Heritage, Gaeltacht and the Islands and sets out the basic principles of national policy on the protection of the archaeological heritage. Section 3.0 notes that: - archaeological heritage is a non-renewable resource; the first option should be a presumption in favour of avoidance of developmental impacts and that preservation in-situ is the preferred option; if removal cannot be avoided, preservation by record should be applied; carrying out an archaeological assessment where appropriate is the first step in ensuring that preservation in-situ and by record take place; and monitoring is another method of ensuring that preservation takes place.

10.3. Regional

10.3.1. Regional Spatial & Economic Strategy (RSES) for the Southern Region

10.3.2. The RSES provides the framework through which the NPF's vision and related Government policies and objectives will be delivered for the Region. It sets out a strategic profile and vision for the region. The RSES outlines Regional Policy Objectives (RPOs), including the following of note; RPO 95 identifies the objective of implementation of the national renewable energy action plan as well as leveraging the region as a lead and innovator in sustainable energy generation. RPO 96 states it is an objective to support the sustainable development, maintenance and upgrading of the electricity grid infrastructure and to integrate renewable energy sources. RPO 99 states it is an objective to support the sustainable development of wind energy at appropriate locations. RPO 219 also states that it is an objective to support the provision of new energy infrastructure subject to suitable environmental assessments and the planning process to ensure the energy needs of the future population and economic expansion are met in a sustainable manner.

10.4. Local

10.4.1. Applicable local planning policy is set out in the Tipperary County Development Plan 2022-2028.

10.4.2. This outlines that the target set out in the Governments Climate Action and Low Carbon Development (Amendment) Act 2021 for net-zero by 2050, is underpinned by the core ambitions of the Development Plan (section 2.4). Chapter 3 'Low-Carbon Society & Climate Action' addresses renewable energy in section 3.4.2 and states that "The Council will support the achievement of Ireland 2030 targets for the production of renewable energy as set out in the National Renewable Energy Action Plan (DECC) and any review thereof, including the national target for 70% of electricity to be from renewable sources." Relevant policies and objectives include the following:

10.4.3. Policy 3-1 states that the Council will promote and facilitate renewable energy development in accordance with the Tipperary Renewable Energy Strategy 2016 (and any review thereof), and the Tipperary Climate Adaptation Strategy 2019.

- 10.4.4. Chapter 10 of the Development Plan concerns Renewable Energy and Bioeconomy. Table 10-1, Renewable Energy Targets for the Development Plan sets out an operational capacity target of 600MW for renewable energy against an approved/operational capacity of 475MW.
- 10.4.5. Policy 10-1 'Support and facilitate new development that will produce energy from local renewable sources such as... wind... subject to compliance with normal planning and environmental criteria... The provisions of the Tipperary Renewable Energy Strategy (and any review thereof) as set out in Volume 3, will apply to new development.'
- 10.4.6. Objective 10-A 'Support the Climate Action Plan (DECC, 2019) as it relates to renewable production, having consideration to the strategic importance and potential benefits of renewable energy investment to rural communities.'
- 10.4.7. Chapter 11 concerns Environment and Natural Assets and outlines policies for the protection and enhancement of the natural environment, including designated sites, protection of water quality, and flood risk, in policies 11-1 to 11-19.
- 10.4.8. Chapter 13 concerns built heritage.
- 10.4.9. Policy 13-1: ...In considering proposals for development, regard to be had to the Architectural Heritage Protection Guidelines for Planning Authorities... Proposals that have an unacceptable impact on the character and integrity of a protected structure or adjoining a protected structure will not be permitted.
- 10.4.10. Policy 13-4: Safeguard sites, features and objects of archaeological interest, including Recorded Monuments, National Monuments and Monuments on the Register of Historic Monuments, and archaeological remains found within Zones of Archaeological Potential located in historic towns and other urban and rural areas... Where developments, due to their location, size or nature, may have implications for archaeological heritage, the Council may require an archaeological assessment to be carried out. This may include for a requirement for a detailed Visual Impact Assessment of the proposal and how it will impact on the character or setting of adjoining archaeological features.

- 10.4.11. Policy 13-6: Consider landscapes of archaeological significance and, if considered necessary, require an impact assessment for proposed development which could have a significant impact on the identified landscape.
- 10.4.12. Objective 15-F relates to facilitating additional electricity transmission and distribution grid infrastructure.
- 10.4.13. Volume 3, Appendix 2, Renewable Energy Strategy of the County Development Plan 2022-2028. This sets out the following Vision ‘The Council will seek to support and facilitate the development of the renewable energy sector in line with the strategic goals set out by the Department of Communications, Climate Action and the Environment whilst balancing the need for new development with the protection of the environmental, cultural and heritage assets of the county.’
- 10.4.14. Section 4.5 of the strategy concerns wind energy and identifies that the county has significant wind resources due to its upland areas.
- 10.4.15. Policy RE1 ‘Protection of the Environment’ in the strategy, states that renewable energy development shall be assessed for compliance with environmental and development management standards under the Development Plan.
- 10.4.16. Policy RE2: ‘Landscape Capacity and Renewable Energy Development’ states that new development is expected to integrate with and respect the character, sensitivity and value of the landscape in accordance with the Tipperary Landscape Character Assessment 2016 and the Development Plan.
- 10.4.17. Policy RE3: Community Investment in Local Renewable Energy’ states that the council will support and facilitate renewable energy proposals that bring about direct socio-economic benefit to the local community.
- 10.4.18. The Tipperary Wind Energy Strategy 2016 is appended to the Energy Strategy. Section 7 sets out the wind energy policy for Tipperary.
- 10.4.19. TWIND 1: General Policy Statement on Wind Energy Development states that it is the policy of the Council to support, in principle and in appropriate locations, the development of wind energy resources.
- 10.4.20. TWIND 3: General Considerations for Applications for Wind Energy Development states that it is Council policy to require compliance with the Wind Energy Development Guidelines 2006 or any revision thereof, and the Development Plan.

- 10.4.21. TWIND 4: Policy Areas for Wind Energy Development, identifies that in areas ‘Open for Consideration’ wind energy development may or may not be appropriate depending upon the character of the landscape and the potential impact of the proposed development. Any impact on the environment must be low and subject to proper planning and sustainable development, and the guidelines in the strategy. Areas ‘Unsuitable for Further Development’ identifies areas where new wind energy development is not permitted.
- 10.4.22. The subject site is situated in an area designated as ‘Area Open for Consideration’ under Map 11.
- 10.4.23. The following policies are applicable to ‘Areas Open for Consideration’:
- 10.4.24. TWIND 4.1 Proposals shall demonstrate conformity with existing and approved wind farms to avoid visual clutter. In this respect, developers should consider the cumulative impact of new development in the context of the location of both existing and permitted developments.
- 10.4.25. TWIND 4.2 Proposals in Areas ‘Open for Consideration’ shall be sited having consideration to the landscape, with reference to the Tipperary Landscape Character Assessment and visual impacts.
- 10.4.26. TWIND 4.3 Within Areas ‘Open for Consideration’ proposed development within areas which already accommodate turbines, sub-stations and powerlines shall be considered appropriate from a sequential approach to the development of infrastructure, until these areas reach capacity.
- 10.4.27. TWIND 4.4 states all projects are required to be screened for Appropriate Assessment.
- 10.4.28. TWIND 4.5 requires applications to be accompanied by a technical assessment in relation to the slope stability, landslide susceptibility of the site and project.
- 10.4.29. TWIND 4.6 requires regard to cumulative effect.
- 10.4.30. TWIND 4.7 requires regard to impact on existing built environment, particularly neighbouring residential properties and other sensitive amenity areas.
- 10.4.31. TWIND 4.8 requires regard to impact upon surrounding tourism and recreational related activities and the compatibility of same.

- 10.4.32. TWIND 4.9 requires regard to flood risk.
- 10.4.33. TWIND 4.10 requires details of the proposed grid connection and all associated infrastructure to be considered in the EIA and NIS as required.
- 10.4.34. TWIND 4.11 requires regard to impact on rivers and streams and compliance with the Water Framework Directive.
- 10.4.35. TWIND 4.12 Wind energy development proposed in areas of lowland raised bog/peatland shall ensure that negative impacts including habitat disturbance and loss, and avoidance of hydrological disruption and risk of erosion are avoided or mitigated through design. Site specific geo-technical investigations shall be submitted as part of EIA unless otherwise agreed with the council.
- 10.4.36. TWIND 5: Conditions of Wind Energy Development.
- 10.4.37. Local Authority Climate Action Plan 2024:
- 10.4.38. Strategic Goal 4 Through our spatial planning policy and objectives support the Core Strategy of the Tipperary County Development Plan (and any review thereof), having consideration to core objectives as they relate to sustainable development and a Just Transition, including aspects such as Town Centre First, Active Travel, Sustainable Energy and Compact Development etc
- 10.4.39. Strategic Goal 5 Promote and protect our environment, and its biodiversity and water catchments as key enablers of climate adaptation and mitigation across the county through the delivery of sustainable services, including those with a focus on nature-based solutions, in collaboration with sectors and communities.

10.5. Natural Heritage Designations

- 10.5.1. The site of the proposed development (including TDR) does not overlap with any natural heritage designations. The following Special Protection Areas (SPAs) and Special Conservation Areas (SAC) are most proximate to the site with approximate distance to the site indicated in brackets:
- Lower River Suir SAC (002137) 5.5km terrestrially and 7.8km hydrologically via the River Suir;
 - Kilduff Devilsbit Mountain SAC (000934) c.11.5km;
 - Silvermines Mountains SPA (004165) c.18km.

10.5.2. An Appropriate Assessment of the proposed development has been carried out in Section 12 of this report below in relation to potential impacts on designated European sites.

11.0 Planning Assessment

11.1.1. I have examined the file and the planning history, considered national and local planning policies and guidance, and inspected the site. I have assessed the proposed development including the extensive submissions on the application. The assessment of the development is divided into three main parts: Planning Assessment, Appropriate Assessment and the Environmental Impact Assessment, all detailed below separately in individual sections of this report. Throughout this report, I will also refer the commission to issues raised in submissions on the application as they relate to these assessments.

11.1.2. There is an inevitable overlap between the assessments, for example, with matters raised falling within both the planning assessment and the environmental impact assessment. In the interest of brevity, matters are generally not repeated but rather cross-referencing is applied, and it is recommended that section 13 being the EIA in this report, is read in conjunction with this section, the planning assessment.

11.1.3. The Commission's technical specialist in Ecology has also informed the Planning Assessment, Appropriate Assessment and the Environmental Impact Assessment carried out. The specialist report is included as Appendix 4 to this report (file reference R321454_App4).

11.2. The main issues for consideration in the planning assessment are dealt with below under the following headings:

- Principle of Development and Planning Policy
- Impact on Residential Amenity
- Design and Visual Amenity
- Transport
- Flood Risk
- Other Issues

11.3. Principle of Development and Planning Policy

- 11.3.1. I note submissions with respect to the principle of development, querying the efficiency/output of the proposed wind farm, its categorisation as SID, the legitimacy of policy/regulation for wind farms in the state, and a submission questioning the need for Strategic Environmental Assessment with respect to National Plans and Policy.
- 11.3.2. European and National policy supports increased onshore wind electricity generation in principle and associated grid connection. However, an assessment of the compatibility of the proposed development with national guidelines and local planning policy is required. The submitted EIAR describes how the proposed development conforms with the applicable current guidelines, which include the 2006 Wind Energy Development Guidelines. Local planning policy is set out in the Tipperary County Development Plan 2022-2028.
- 11.3.3. The Tipperary Wind Energy Strategy 2016 is appended to the Renewable Energy Strategy for the County Development Plan (Appendix 2 of the CDP). Section 7 sets out the wind energy policy for Tipperary. The subject site is situated in an area designated as an 'Area Open for Consideration' under Map 11. The County Development Plan was subject to public consultation prior to adoption. I note a submission that states that the subject site is on the periphery of the area open for consideration, and adjacent to Thurles Town which is unsuitable for wind energy development under the 2016 strategy. Map 11 in Appendix 2 Wind Energy Strategy Maps of the Tipperary Renewable Energy Strategy (Appendix 2 of the Tipperary County Development Plan 2022-2028) identifies Thurles Town as an area unsuitable for wind energy development. The subject site is situated approx. 3km north of the town centre and c.1.5km to the settlement boundary, in an area open for consideration. While the subject site is proximate to Thurles Town, it is not situated within the settlement centre and policy does not preclude wind energy development in the location of the subject site. To determine acceptability or not, an assessment is required with respect to relevant policies under the Development Plan as carried out in this report. With respect to the principle of wind farm development on the site, this can be considered acceptable in principle, under the open for consideration designation. In terms of landscape character, visual impact and acceptability, I

assess this below as part of the LVIA in section 13.16 and visual impact in section 11.5 below.

- 11.3.4. TWIND 4: Policy Areas for Wind Energy Development in the Renewable Energy Strategy, identifies that in areas 'Open for Consideration' wind energy development may or may not be appropriate depending upon the character of the landscape and the potential impact of the proposed development on the environment. Other relevant policies are highlighted in section 10.4 above with respect to wind farm development. The assessment set out in this report, including in this section 11 of my report, as well as my AA in section 12 and EIA in section 13, set out the relevant assessment in this regard.
- 11.3.5. In relation to submissions on the output of the proposed wind farm and its categorisation as SID, as set out in the introduction for this report (section 1), An Bord Pleanála confirmed in May 2024 that the proposed development of 10 wind turbines falls within the Strategic Infrastructure Development (SID) consent process. The proposed project exceeds the 50 Mega Watt (MW) threshold of the Seventh Scheduled development under Class 1 (Energy Infrastructure) with a total power output of c.57 MW and 66 MW (ABP-315655-23). Section 2.4.1.1 of Chapter 2 of the EIAR explains how the power output for the project has been calculated, taking into account the intermittent nature of wind and average wind speeds. I note a submission suggesting that the requirement for mitigation in the form of shut-down periods for the turbines, will impact output, however with reference to my EIA in section 13, and particularly with respect to shadow flicker addressed in section 13.9, I am satisfied that there is no expectation that the requirement for shut-down periods will cover extended time periods, and the efficiency / output of the project is unlikely to significantly negatively impacted. I also note a submission suggesting that wind wake / turbulence will impact the output of the project. Chapter 4 of the EIAR outlines the consideration with respect to the layout of the proposed wind turbines, including maintaining required separation distances between turbines (sections 4.5.3 and 4.5.4). These separation distances are described in section 5.13 of the 2006 Wind Energy Development Guidelines. The nearest neighbouring wind farm is at Lisheen and over 9km away, which would not impact wind take for the proposed project.

- 11.3.6. In relation to the need for the proposed wind farm and the need for Strategic Environmental Assessment (SEA) of policy supporting renewable energy, I set out an overview of relevant considerations below.
- 11.3.7. The Renewable Energy Directive and subsequent amendments set the targets for renewable energy generation across delegate states in Europe and consistently focus upon the growth of renewable energy generation, including onshore wind, in order to reduce reliance on fossil fuels. The importance of wind energy to domestic electricity generation in the State is outlined in the Climate Action Plan 2025. The growth of this sector is highlighted, with key electricity targets highlighted on page 70 of the plan, including a national target of 6GW for onshore wind, increasing to 9GW in 2030. While I note a submission querying the capacity of the State to meet this target, my assessment is confined to the particulars of the application before the Commission for determination, which would contribute towards this target. The Climate Action Plan has been subject to Strategic Environmental Assessment (SEA) Screening which concluded that SEA is not required, as SEA is required for plans that establish a specific framework for detailed assessment related to development consents, and therefore the SEA screening concluded that it is not required for these high-level plans. The County Development Plan which describes the wind energy policy applicable to the site which I outline above, has been subject to SEA.
- 11.3.8. I note a submission stating that the proximity of the proposed development to Thurles will inhibit the ability of the town to grow. The subject site is situated c.3km north of Thurles town centre and c.1.5km between the settlement boundary and proposed turbine T10. The Thurles Local Action Plan (LAP) 2024-2030 boundary illustrates the ambitions for the town with respect to growth, however the area of expansion does not significantly alter to the north towards the subject site, with expansion focused on infilling areas between existing built development. The potential impacts from the proposed development have considered these existing areas, for example in relation to views, and potential impact upon any new developments alongside these existing areas would be reflective of the same range of effects. I am satisfied that there is nothing integral to the design of the proposed development that would inhibit the growth planned for under the LAP.
- 11.3.9. I note submissions with respect to the carbon waste associated with wind energy development, that decommissioning is unsustainable and that blades cannot be

recycled. I address climate in section 13.11 and waste in section 13.13 as part of my EIA below. In summary, there are significant benefits with respect to carbon savings resulting from the proposed renewable energy project. Tables 14-25 to 14-27 of Chapter 14 in the EIAR detail the CO² losses due to the proposed development, including from manufacture, construction and decommissioning. Appendix 14B of the EIAR provides further detail on the calculated carbon savings and losses associated with the project. A total carbon saving of approximately 56,174 tonnes CO₂ has been calculated. Specific structures will be left in situ at decommissioning phase, as this results in less environmental effects, such as turbine foundations, however the turbines themselves will be removed. The applicant has committed to reuse, recycle or otherwise recover all wind blades and avoid any blades going into landfill, with broken down composites used for new products.

11.3.10. I note submission with respect to the prematurity of the application pending a decision on the associated battery energy storage system (BESS). Section 2.4.16 of the EIAR outlines the details of the BESS which is intended to be subject to a separate planning application to Tipperary County Council. The BESS will be developed for the proposed wind farm adjacent to the proposed on-site substation (Figure 2-20 of the EIAR). While the BESS is not proposed as part of the current SID planning application, it is considered as part of the project and assessed throughout the EIAR. The EIAR details that it is intended that the BESS consist of 12 no. battery storage units to facilitate on site energy storage and provide ancillary services to the electricity grid. Its purpose will be to provide greater security for managing fluctuating loads, for example, during times of high wind, the BESS can store excess energy to be utilised at times where wind is low. I am satisfied that the EIAR has given full consideration of the range of potential effects of the project as a whole, including the BESS, and that the proposed wind farm is not premature pending a decision on the BESS under a separate planning application.

11.3.11. Submissions also question the carrying capacity of the national grid, as well as battery storage capacity, to support the proposed project. Submissions state that grid infrastructure is already at capacity and there is concern the proposed turbines would be left idle, with nowhere for the energy produced to go. Throughout the EIAR it is clear that the intention is for the proposed grid connection to be taken in charge by EirGrid and remain a part of national electricity grid infrastructure, and that the

commencement of the project is (in part) dependent upon receipt of a grid connection offer from EirGrid (section 2.5.4.1 Chp 2 EIAR).

11.3.12. Overall, I am satisfied that there is comprehensive and consistent legislative and planning policy support for wind farm renewable energy development in appropriate locations, subject to compliance with policies under the Development Plan concerning environmental and landscape considerations, and I set out this assessment below.

11.4. Impact on Residential Amenity

11.4.1. Submissions have been received on a range of amenity impacts and these are addressed below. I also note that TWIND 4.7 requires regard to impact on existing neighbouring residential properties.

11.4.2. Noise and Shadow Flicker

11.4.3. Concern regarding noise was a primary feature of submissions received from members of the public. This concern largely relates to noise that would be generated by the proposed wind turbines in operation. Submissions highlight successful court challenge on noise nuisance arising from turbines, reference is made to the WHO (World Health Organisation) noise levels, and concern is also raised with respect to adverse health impact as a result of noise, particularly upon the vulnerable and autistic people, concern with respect to AM (Amplitude Modulation) noise (or OAM) and the large number of residents impacted. Concern is also raised with respect to noise from the substation, as well as noise during construction (addressed in the subsequent section). Concern is also raised in relation to amenity and health impact arising from shadow flicker from turbines in operation.

11.4.4. Sections 13.9 Population and Human Health and 13.12 Noise and Vibration of my EIA below consider impacts arising from shadow flicker and noise, including identifying the number of receptors impacted, and should be read in conjunction with this section of my report.

11.4.5. In relation to court challenge with respect to noise nuisance, submissions refer to a civil action and therefore a private litigation matter between parties. However, with respect to AM specifically, I note that the EIAR addresses this in Chapter 12 and I highlight this in my EIA section 13.12 below. It is not possible to predict the

occurrence of AM at the planning stage. Page 12-12 of the EIAR states that 'should a compliant arise once a development is operational, these characteristics can be assessed using the relative techniques and, if necessary, appropriate mitigation applied.' Relevant to this matter is the WSP report A Review of Noise Guidance from Onshore Wind Turbines in the UK. This gives recognition that AM noise from wind turbines can give rise to annoyance, and also recognises the difficulties in accurately predicting AM, noting that further research is required to measure and quantify AM in order to inform robust planning conditions around the same. Due to these difficulties in predicting and establishing acceptable limits for AM, as well as the absence of adopted guidance regarding the same, it is not current practice (at the time of writing this report) to include conditions to limit AM levels. However, a requirement that the Noise Compliance Monitoring Programme include a methodology for measuring and monitoring is included in my suggested conditions for the windfarm below. Monitoring of noise from the wind turbines would include AM, and with reference to the applicant's own EIAR as extracted above, which commits to the application of mitigation. Therefore, in the context of current understanding around this issue, I am satisfied that the EIAR has addressed this matter, and the proposed condition below will ensure appropriate monitoring as part of this.

11.4.6. In relation to the WHO recommendations with respect to wind turbine noise, I refer to their publication 'Environmental noise guidelines for the European Region'. This is also referred to by the applicant in section 12.3.2.6 of Chapter 12 of the EIAR. The guidelines describe a recommendation to avoid adverse health effects, that noise levels produced by wind turbines is reduced below 45dB_{L_{den}}. However, the recommendation is 'conditional', which is described in the report as having less certainty of its efficacy owing to lower quality evidence of a net benefit (page 5 executive summary). The document also states on page 86 of the full document, that:

"...it may be concluded that the acoustical description of wind turbine noise by means of L_{den} or L_{night} may be a poor characterization of wind turbine noise and may limit the ability to observe associations between wind turbine noise and health outcomes."

11.4.7. As such, I refer to the adopted guideline requirements in this report, under the 2006 Wind Energy Development Guidelines. I note submissions highlighting concern that

these are outdated, however these are the current guidelines in place at the time of writing this report. Submissions also suggest that updated guidelines will be adopted this year, however at the time of writing this report, there is no timeframe for adoption of replacement guidelines. As such, the 2006 Wind Energy Guidelines are relied upon throughout my assessment in this report.

- 11.4.8. Section 13.12 of my EIA below addresses the potential noise impacts that will arise during operation of the proposed wind turbines, including identifying the number of sensitive receptors (e.g. dwellings) that will be impacted. I am cognisant of concern with respect to the extent of impact and number of dwellings effected and this has been a key component of my assessment. However, it is necessary to consider this impact alongside consideration of the project as a whole, and the full extent of impacts, both negative and positive, that will result. I set out this assessment in detail below in section 13.12.
- 11.4.9. Submissions raise concern with respect to potential impact upon vulnerable people or those with autism, I note that the applicable guideline levels have been developed to protect the amenity of sensitive receptors in general, including buildings for residential, educational or medical use. I am aware that for autistic people specifically, there is a wide-ranging experience of sensory inputs and noise sensitivity can be varied, therefore the applicable approach is to address sensitive receptors in general, which is what the guideline levels aim to achieve. I also note that predicted noise levels are in the external environment, therefore inside a building with the windows closed, noise levels would be reduced.
- 11.4.10. In relation to noise from the proposed substation, the EIAR considers noise from both the substation and BESS in Chapter 12, and this is included in my assessment of noise impact in section 13.12 below. In short, effect is predicted to be imperceptible, and residential amenity will not be adversely affected with respect to noise arising from operation of this infrastructure.
- 11.4.11. I note a submission referring to NPO 65 with respect to noise. This would appear to relate to the original National Planning Framework rather than the 2025 revised version. NPO 94 of the NPF first revision 2025 relates to the pro-active management of noise where it is likely to have significant impacts on the health and quality of life. I

am satisfied that the use of planning conditions to control noise associated with the proposed development reflects the aims of this objective.

11.4.12. I note that the HSE response to the application highlights that noise will be the most likely impact with respect to health, and conditions are recommended with respect to construction noise. The submitted EIAR contains mitigation with respect to construction noise and the HSE recommend that these be implemented. I have included conditions with respect to the implementation of mitigation set out in the EIAR and in relation to noise during operation in my recommended order below. In relation to third party submissions concerning engagement of the HSE on this project, I note that the HSE was consulted with respect to scoping (Appendix 1C EIAR), that the HSE was a prescribed body on the application, and that the HSE also provided a response (see section 6 above).

11.4.13. In relation to shadow flicker, I note submissions highlighting concern regarding the effect of this, and in relation to the applicant's proposed mitigation in the form of window blinds to impacted dwellings. I also note the Local Planning Authority comments with respect to the proposed mitigation and impracticality of achieving the same. The HSE recommend a condition to eliminate shadow flicker. In relation to the proposed mitigation in the form of window blinds, I do not accept this as an acceptable form of mitigation. It is entirely reliant upon the cooperation of effected parties, rather than controlling effects through the operation of the wind farm itself. I have set out an assessment of potential shadow flicker effects in section 13.9 of my EIA below. As part of this assessment, I refer to the EIAR mitigation which includes shut-down of turbines in certain conditions to meet the minimum requirements under the 2006 Wind Energy Development Guidelines. I note that with reference to the 2019 draft Wind Energy Guidelines, these state at 5.8.2 that conditions should be imposed to ensure that no existing dwelling will experience shadow flicker. For the proposed development, this is possible through the use of a condition which will ensure utilisation of the technology already outlined by in the EIAR mitigation, but to require that this secures the elimination of shadow flicker through shut down, rather than adherence to the 30 minutes a day limit set out in the 2006 guidelines. On balance, I consider that this will affect the output of the development minimally, when considering the extent of improved condition resulting from this mitigation for surrounding properties. Therefore,

I have included a specific condition with respect to shadow flicker below to enhance the mitigation set out in the EIAR.

11.4.14. I note that following circulation of the applicant's response, the HSE state that the applicant does not give a commitment to meet requirements of the draft guidelines, however as set out above, I have included a specific condition in this regard. A third party submission states that concerns regarding proximity to lands / overshadowing has not been addressed in the applicant's response. Due to the form of a wind turbine, the most impactful effect related to shadowing comes from potential flicker, which I have assessed above. In relation to separation to surrounding dwellings, this reflects the wind energy guidelines.

11.4.15. Construction Amenity Impact

11.4.16. Submissions raise concern regarding construction stage adverse amenity impacts, including noise, dust and air quality and I consider a range of construction stage effects with respect to the project as a whole, as part of my EIA in section 13 below which should be read in conjunction with this section of my report.

11.4.17. The EIAR includes in appendix 2.B a Construction Environmental Management Plan (CEMP). This outlines mitigation to manage, control and reduce construction stage effects upon the environment and surrounding sensitive receptors including local residents. Measures include management of dust, noise, surface water, waste and traffic. A surface water management plan for the project has also been developed and contains the methodology for drainage, water quality management and silt control. The EIAR and CEMP both confirm that there will also be no discharge of hazardous substances to groundwater, with visual checks to be undertaken for groundwater seepage as part of mitigation. Mitigation is also outlined to minimise potential impact from construction noise, including communication with the local community and works carried out in accordance with BS 5228:2009+A1:2014. Measures to manage dust generation and control dust are also described and include the spraying down of work areas/roads, wheel washing and implementation of a dust minimisation plan.

11.4.18. With respect to haul routes, a final Construction Traffic Management plan will identify roads to be used for the project, a traffic management coordinator will be appointed, and advance warning will be given to residents of specific times when large volumes

of HGV traffic may occur with appropriate signage to be used. I note submissions raising concern with respect to construction stage traffic impact upon pedestrians and cyclists, however the Traffic Management Plan (TMP) included in Appendix 16A of the EIAR outlines measures for traffic management and control (see section 4.7 Appendix 16A EIAR). This ensures arrangements for safe access for residents at all times in proximity to construction works, informing local residents of the programme of works, use of pedestrian walkways and other safety measures, and requiring construction traffic to give way to pedestrians and cyclists.

11.4.19. I note submission with respect to works over Rossestown Bridge. Section 4.1.14.2 of the CEMP gives detailed methodologies for crossing the bridge with respect to the proposed grid connection and required cabling. In relation to the accommodation of HGVs over this bridge, section 2.4.6 of Chapter 2 of the EIAR details that the majority of HGV deliveries will approach the site from the N62 and enter the L8017 from the west (N62, L8017 junction). Section 16.7.1 of Chapter 16 of the EIAR clarifies that it is the 1.6km western section of the L8017 which will be utilised, which is the section before the Rossestown Bridge. There are no changes proposed to the existing Rossestown Bridge as part of the development. In addition, I note a new road and bridge is proposed over the Rossestown stream along the proposed access track to proposed turbine T7 and details are provided of this in the EIAR, submitted drawings and applicant response.

11.4.20. In relation to concern about blasting as part of construction activities, mitigation is specifically described in the CEMP and Chapter 8 of the EIAR (section 8.5.1.3). Any blasting will be carried out by a suitably qualified specialist under licence. Assessment of the lands at the site has been carried out and potential impacts from blasting categorised as a low magnitude prior to mitigation, reducing further with the application of mitigation.

11.4.21. I note submission raising concern that the hours of construction works do not account for those working shifts. Working hours are addressed in section 3.4 of the submitted CEMP and are proposed to be between 7am and 7pm Monday to Saturday or as otherwise conditioned as part of a consent for the development. Tipperary County Council do not raise any concern with respect to the proposed working hours and request a condition to restrict these, without indicating the specifics of this. The construction hours proposed by the applicant are broadly reflective of the standard

hours that would be conditioned, although a shorter day would usually be secured on Saturdays, with explicit reference to no works to be carried out on Sundays and Bank Holidays. I have included a condition that reflect the standard hours applied by ACP to similar applications. Whilst I acknowledge that these hours will not be convenient for all, particularly those working late/night shifts and catching up on sleep during the day, it is not possible to accommodate every single working arrangement of surrounding occupiers and as such a general approach is taken which would suit the majority.

11.4.22. Construction stage impacts are an inevitable consequence of development projects and can be effectively managed and controlled. Section 13 of this report considers construction stage impacts with respect to EIA. I am satisfied that the proposed development includes mitigation as described in the submitted EIAR and particularly appendix 2.B and the Construction Environmental Management Plan, that will ensure that there will be no sustained significant negative effects. Construction impact will be temporary and is justified in my view given the wider benefits that would result from this development, specifically the resulting contribution to the renewable energy network.

11.4.23. Chemical use in wind turbines

11.4.24. I note submissions raising concern regarding the adverse effects of chemicals used in wind farm developments. The applicant addresses these concerns in their response to submissions, with particular reference to PFAS substances. This confirms that the wind industry is already using PFAS-free coatings for rotor blades and continuously assesses whether other components and materials can utilise alternatives. In relation to PFAS and the grid, the response acknowledges that the European Chemicals Agency (ECHA) has proposed a ban of the use of PFAS in electrical switchgear and circuit breakers over time. PFAS are used in insulation materials and seals in switchgear, and in the nozzles of circuit breakers, and are critical, with alternatives of limited availability. The response states “To deliver the energy transition, Europe needs to accelerate the build out of transmission and distribution grids and ensure that existing grids can be repaired and maintained. The European Commission and ECHA must consider whether a possible restriction on PFAS use in grid equipment aligns with the EU’s climate and energy policies.” At the

time of writing this report, the proposal reflects current approaches to wind farm and grid construction, and I am satisfied that it is acceptable in this regard.

11.4.25. I also note submissions with respect to the use and storage of lithium batteries on the site. Battery use at the site would be associated with the BESS, which while part of the overall project and assessed within the EIAR for the application, does not form part of the proposal in the current application, and a separate application is intended to be submitted to Tipperary Council in due course for the BESS. Potential impact upon water quality is addressed in sections 12 and 13.11 of this report.

11.5. Design and Visual Amenity

11.5.1. In relation to the visual effect of the proposed wind turbines, a Landscape and Visual Impact Assessment (LVIA) is set out as part of my EIA in section 13.16 below and should be read in conjunction with this section of my report.

11.5.2. I note submissions stating that the proposal is contrary to policies RE2, 11-16, TWIND 4.2 and TWIND 4.7, which concern impact upon landscape character. I assess the Landscape and Visual Impact Assessment (LVIA) for the project in section 13.16 of this report below which gives detailed consideration to landscape character areas for the County. In summary, I am satisfied that the EIAR has correctly identified the landscape character policy context for the area with regard to the Tipperary Landscape Character Assessment, which identifies that wind farms are likely to have significant visual effects. The LVIA in the submitted EIAR addresses these potential effects and identifies where significant negative effect may occur, and I have also highlighted these impacts in my EIA in section 13.16 below.

11.5.3. With respect to policy 11-16 of the Development Plan, this policy concerns landscape character assessment and consideration of impact upon views, including scenic routes. Policy 11-16 states that development that will have a significant adverse material impact on visual amenities will not be supported. Viewpoints 1, 2, 4 and 27 are representative of visual impact to residential amenity where the greatest effect will be experienced, with a moderately significant or moderate negative effect, this therefore does not conflict with policy 11.16 which relates to significant adverse impact. Viewpoint 3 from Rossetown Bridge is the only view where a significant adverse visual effect occurs, it is situated on the roadway/bridge adjacent to

fields/the river, reflecting the visual experience of passers-by, and not a view from residential dwellings. The EIAR does not identify any notably visual amenity associated with this view, with the sensitivity being medium-low. While there is a significant adverse visual effect with respect to this view, the impact upon visual amenity is reduced, and more moderate in my opinion. This is in consideration of the lack of residential dwellings in the location and low-medium sensitivity of the landscape primarily formed of agricultural fields. As such, I am satisfied that the proposed development complies with policy 11.16 with respect to visual amenity.

11.5.4. Submissions raise concern with respect to the scale of the proposed turbines, setbacks and resulting visual effect upon dwellings and I note the applicant's response in relation to these matters. I agree with the applicant that the scale of the proposed turbines is not exceptional in consideration of technological advancements in recent years, I am also satisfied with setbacks, with a minimum 500m setback to existing residential properties (with reference to the revised Draft Wind Energy Development Guidelines 2019). With respect to resulting impact upon dwellings, this is addressed in detail in my EIA as part of LVIA in section 13.16 below. In summary, I acknowledge that there will be some moderate significance of visual effect upon local residential receptors, but that this degree of impact is justified in my view, in light of strategic considerations with respect to the climate crisis and considering the reversibility of the effect.

11.5.5. In addition, submissions raise concern with respect to visual impact upon Thurles. There are two viewpoints included in the submitted photomontage selection that are representative of potential visual impact upon Thurles, namely viewpoints 6 and 7. The applicant's response describe these as representing the 'worst case scenario' views from Thurles, with maximum visibility presented. These views demonstrate the range of visibility that the proposed turbines will have from Thurles, with views over the top of houses and beyond dense vegetation / tree planting providing a level of screening for the turbines. The views illustrate the layering of elements that would result, with foreground features such as housing and other built form with vegetation forming the predominant influence on the visual experience. The proposed turbines would feature as background elements, albeit prominently visible at times, as demonstrated in viewpoint 6, and less visible at other times, as demonstrated in viewpoint 7. As acknowledged above, there will be a moderate significance of visual

effect upon local residential receptors in some views, including from Thurles, however this degree of impact is justified, on balance, as examined in detail in section 13.16 in my EIA below.

- 11.5.6. I note submissions raising concern with respect to visual stacking of the proposed turbines with reference to the Wind Energy Development Guidelines. The 2006 guidelines state on page 41 that it is preferable to avoid locating turbines where they can be seen one behind another, when viewed from highly sensitive key view points, as this results in visual stacking and confusion, but this may not be critical where wind energy development is in the distant background. The applicant's response directly addresses this concern (page 22), noting that there is no significant adverse visual effect experienced at highly sensitive key viewpoints and that visual stacking has been avoided where possible from such viewpoints.
- 11.5.7. I note that the LVIA in Chapter 15 of the EIAR highlights where there is potential for visual stacking of turbines in the viewpoints analysed. This includes viewpoint 4, 6, 8, 11, 12, 18, 24, 25 and 26, with some of these being representative of sensitive viewpoints (e.g. 24 & 18 Tipperary Scenic Routes V55 and New Bermingham; and 11 Loughmore Abbey). I have assessed visual impact in detail as part of my EIA in section 13.16 below. With respect to visual stacking of turbines, I am satisfied that the photomontages illustrate that this will not result in significant adverse visual effect in itself, with turbines screened in many of the views by vegetation and the existing character of the landscape being characterised by urban forms assisting absorption of the turbines into the landscape and thus reducing visual effect from stacking (e.g. viewpoints 4, 6). In addition, in many of the photomontages it is apparent that the turbines are a distant feature, which as highlighted in the guidelines, makes the issue of visual stacking less critical, including from sensitive view points (e.g. viewpoints 8, 11, 12, 18, 24, 25 and 26).
- 11.5.8. In relation to the visual effect of the substation, I note submissions raising concern with respect to adverse amenity impact. Submissions also refer to the BESS, as outlined above, the BESS is assessed as part of the total project in the EIAR, but does not form part of the current proposed development under this application. Chapter 15 of the EIAR with respect to the LVIA, includes consideration of the proposed substation and BESS alongside the proposed turbines and re-routing of overhead powerlines (section 15.6.2.1).

- 11.5.9. Drawings submitted with the application illustrate the appearance of the proposed substation buildings (23318-MWP-00-00-DR-C-5421 Rev.P01 & 23318-MWP-00-00-DR-C-5422 Rev.P01) and compound (23318-MWP-00-00-DR-C-5418 Rev.P01 & 23318-MWP-00-00-DR-C-5417 Rev.P01). There are two substation buildings proposed; the EirGrid building which is 25m long, 18m wide and 8.55m to ridge height, and the IPP building which is 30m long, 10.1m wide and 6.7m to ridge height (dimensions approx.) Both buildings appear as industrial type sheds in character finished with a pitched roof, blue/black thurthone slate, plaster finish and galvanized steel doors. They are sited within a compound area with associated electrical infrastructure (insulators, poles, transformer etc.), and the BESS (to be proposed under separate application) immediately alongside to the west. The proposed compound measures approximately one hectare in area, formed of compacted layers of crushed rock or granular fill from the site. The Eirgrid building will contain a control room, a storeroom, an office / canteen, a toilet and four parking spaces. The IPP (Independent Power Producer) building will contain a storeroom, a communications room, a control room, a staff room, an office, a switchgear room, a toilet and four parking spaces.
- 11.5.10. The compound and associated substation buildings are situated within agricultural fields to the west of Coolgarrane and Killeenleigh. There are one-off houses situated along the road, the closest to the compound being approximately 200m to the east. The buildings height and position within agricultural fields set c.200m away from the nearest dwelling, ensures that they will not be overly visually prominent in the landscape. The visibility of the substation and associated components will be screened in part by dense vegetation and hedgerows that line the field boundaries in the area. Where visible, the buildings will not appear incongruous in this agricultural environment where similar shed structures are apparent. While the electrical infrastructure associated with the substation compound is not represented in the existing character of the area, overhead lines and pylons do feature in the current environment and I am satisfied that the proposed electrical infrastructure will be absorbed into the visual character of the area, similar to existing overhead lines, which while readily apparent, do not dominate the viewers experience. Overall, I am satisfied that the proposed substation and associated infrastructure will not be harmful to visual amenity in the area.

11.5.11. In relation to design and visual impact upon heritage assets, section 13.15 of my EIA below assesses potential impact upon cultural heritage, including national monuments and protected structures. Submissions raise concern with respect to potential significant effect upon historic structures, and I acknowledge this as part of my assessment below. In short, I am satisfied that the extent of potential effect upon heritage assets is acceptable, in light of the particular characteristics of the proposal and surrounding heritage assets, alongside wider strategic considerations.

11.6. Transport

11.6.1. I note the submission from TII which refers to a number of operational issues with respect to the proposal. This includes consultation with road operators and stakeholders, compliance with TII standards, reinstatement of the network following any alteration or damage during deliveries to the site, a road safety audit, and a technical load assessment. While the submission states that these matters require resolution prior to a decision on the planning application, I note the applicant's response in relation to these matters, and particularly agreement to conditions that can be used to secure the detail requested by TII. I also note a third party submission in response to circulation of the applicant's response highlighting concern regarding restoration of the road. In my view the matters raised can be adequately addressed via conditions to any grant of consent and I have included suggested conditions regarding the same should the Commission agree with this approach.

11.6.2. I note TII recommends that the developer engage further with Tipperary Council Road Design Office in considering any interaction with the Thurles Bypass Scheme as identified in section 12.5.1 of the Tipperary County Development Plan. The Thurles Bypass is envisaged to link the N62, N75 and R498, and I am satisfied that available detail at this stage does not suggest any interaction with the subject site, with the bypass anticipated to the east of Thurles town and south of the subject site area. However, I have included a condition regarding this matter should the Commission wish the developer to engage with the Council regarding the same.

11.6.3. The submission from the Department of Transport concerns works associated with the proposed grid connection. Conditions are recommended, including with respect

to the compliance with appropriate standards, and works to road pavements, bridges and culverts. The applicant's response confirms acceptance to these suggested conditions, and I have included conditions relating to the same in my recommended order below which can be relied upon by the Commission should they agree with this approach.

11.6.4. The Local Authority response to the application raises concerns with respect to traffic and roads related impacts which I address in turn below.

11.6.5. In relation to sightlines and speed surveys, the applicant response confirms findings from a speed survey with respect to local road L8017 from which the main entrances to the proposed wind farm are proposed. The applicant has stated that this data can be submitted to the Local Authority, which could be secured by condition if necessary. The applicant also acknowledges that sight lines for entrance 4 from the L4120 to the proposed substation may require redesign to account for reduced speed limits and that this detail can be submitted via condition if required. I am satisfied that proposed site entrances can accommodate refinements to meet necessary sightline requirements, without altering the findings set out in this report. As such, I am satisfied this matter can be adequately addressed by way of condition, with detail to secure final entrance sightline designs, to be informed by speed limits and data. I have included a draft condition requiring the same in my recommended order below that the Commission can rely upon should they agree with this approach.

11.6.6. The Local Authority request a special contribution toward resurfacing of the road following construction works and the applicant have confirmed agreement to this request. I have included a condition in my recommended order requiring a bond or other such security to secure the reinstatement of public roads, with details to be agreed to the satisfaction of the planning authority.

11.6.7. The Local Authority request that the applicant explore the option of using private lands to install the proposed cable from the windfarm to the Thurles Substation at Ballygammane. I am satisfied with the applicant response to this as set out in section 7 above. This describes that such an option is not being progressed at this stage due to the need to seek 3rd party landowner agreement and the viability of such an option cannot be designed and assessed in advance of such agreements. The applicant

confirms that in the case that existing services under the road restrict cabling in locations, the option of using private lands will be investigated further. I also note the applicant's response with respect to the Local Authority recommended conditions should it be necessary to lay the cabling in the road. It is clear that further discussion is required between EirGrid, the Local Authority and the applicant with respect to ensuring works meet each authority's requirements, and conditions are the most appropriate mechanism in my view to secure this as part of the next design stage of the project. This does not affect the route of the grid connection which is as set out in the application. Any refinement with respect to the grid connection would relate to exact positioning in the road or adjacent to the road within third party land. Therefore, the findings of my report would remain unaffected. I have included suggested conditions in reflection of the comments from the Local Authority in my recommended order below, which the Commission can rely upon should they agree with this approach.

- 11.6.8. In relation to the Local Authority comments regarding unhindered access to structures, the applicant response confirms that directional drilling would be required to lay cabling near bridges, however unhindered access to alter road structure vertically is not feasible due to EirGrid requirements. I have included a condition to require further engagement with the Roads Authority regarding this matter.
- 11.6.9. Third parties raise a number of concerns with respect to potential transportation impacts and I address these below.
- 11.6.10. In relation to concern raised regarding the sightlines at proposed entrances, the applicant's response confirms that speed surveys of the adjacent roads confirm low average speeds and additional signposting will be sufficient to ensure safety of traffic. Traffic management measures are also outlined in Appendix 16A of the EIAR Vol.3. It is also intended that a road safety audit be carried out and the applicant indicates acceptance of a condition to secure this. I note that the applicant also addresses sightlines with respect to the submission from the Local Authority, and as described above, I am satisfied this matter can be adequately addressed by way of condition as set out in my recommended order below.
- 11.6.11. I note concern regarding the proximity of proposed turbines to the road edge and potential hazards should turbines collapse in a storm event. Section 5.4.4.1 of the

EIAR describes that in the consideration of risk of major accidents or natural disasters, the spacing of turbines and distance of turbines to roads has been designed to limit the potential for effects. I am satisfied that the potential for the collapse of turbines is very low, and while an incident of such an occurrence is highlighted in the submission, it is clearly not a common issue and can be considered very unusual. I am satisfied that the proposed foundations are suitable for the size of turbine proposed and that the potential for collapse is highly unlikely.

11.6.12. With respect to the assertion that the application is missing documents (sightline drawings, survey of all structures forming part of the haul route /Rossetown Bridge and road safety audit), the applicant has addressed these issues in response to the Local Authority as outlined above and indicated acceptance to conditions requested by the Local Authority regarding the same. I am satisfied with this approach and am content that it reflects the standard approach to technical approval for the next stage of design development for projects of this nature.

11.6.13. I note a submission raising concern that the proposed entrances on the L8017 (Rossetown Road) will reduce amenity to pedestrians and cyclists who use the road. The current condition of the road does not incorporate any pedestrian or cycle infrastructure, with no cycle lanes or footpaths, therefore the proposed development will not remove any pedestrian or cycle infrastructure. The operational requirements for the wind farm will attract minor vehicular movement as set out in section 13.14 in my EIA below. In my view, the operation of the wind farm will not reduce pedestrian and cycle amenity on this road, particularly in light of the current road condition. I address impact during construction below and in section 11.4 above.

11.6.14. I note concerns with respect to potential effects upon the local road network during construction. I address construction stage traffic impacts as part of my EIA in section 13.14 below and with respect to amenity impacts in section 11.4 above, including consideration of HGV movements. It is inevitable that disruption will occur to residents using the L8107 during construction of the proposed development, however these impacts are temporary, and will be appropriately managed and mitigated through the application of measures in the Traffic Management Plan and CEMP for the application as outlined in section 11.4 above.

11.7. Flood Risk

- 11.7.1. I note submissions raising concern with respect to flood risk which I address further below. I also address flood risk in section 13.11 of my EIA below which should be read in conjunction with this section of my report.
- 11.7.2. A Flood Risk Assessment was submitted with the application at Appendix 9A of the EIAR. This provides an overview of the site characteristics with respect to risk of flooding from all sources, including river, pluvial, estuarial and groundwater. With respect to flood history, this is described in The Past Flood Event Local Area Summary Report obtained from the OPW floodinfo.ie website and included in Figure 2-3 of Appendix 9A of the EIAR. Flooding has occurred on land along the right bank of the River Suir, Rossestown to Loughmoe and is recurring in this location. Flooding has also occurred along the river in January 2008. A detailed stage 3 flood risk assessment is set out from section 4 of Appendix 9A. This sets out estimated flood flows at the site taking into account climate change. The turbine locations are in all three flood zones as defined in the Flood Risk Management Guidelines and illustrated in Figures 5-2 to 5-6 and Table 5-2 of Appendix 9A. Proposed turbine 4 is located in flood zone A and proposed turbines 1, 2, 3 and 7 are in flood zone B, with the remaining proposed turbines and substation in flood zone C. Wind turbines are not included in the classification of vulnerable development under the guidelines, therefore they can be constructed in any flood zone as long as they do not increase the risk of flooding elsewhere. Section 5.5 of Appendix 9A outlines the results of hydraulic modelling to demonstrate the impact of the proposed wind turbines, associated hardstands, access track and substation upon flood extents in the area. The proposed development will not adversely impact flood risk elsewhere.
- 11.7.3. Policy 11-9 of the Tipperary County Development Plan 2022-2028 requires that a site specific flood risk assessment is undertaken for developments in flood zones A and B, taking into account climate change and in accordance with OPW flood risk management guidelines and associated technical notes. I am satisfied that the submitted application complies with policy 11-9 in this regard.
- 11.7.4. I note submissions with respect to historical flooding on the site and concern related to alteration to the floodplain with resulting flood risk to surrounding areas, including Thurles Town. Appendix 9A of the EIAR acknowledges that the site is prone to

flooding, with the reoccurring flood event along the banks of the River Suir highlighted. However, the detailed Flood Risk Assessment for the proposed development demonstrates that there will not be increased risk of flooding to surrounding areas and the proposal does not adversely impact flood risk elsewhere. While I note submission with respect to existing flooding issues in Thurles Town, the site is sufficiently removed from the town, and given the characteristics of the proposed development, no risk of flooding arises from the proposed development with respect to Thurles Town.

- 11.7.5. Submissions also request additional detail and raise concern with respect to drainage, changes to the existing bridge over the river, excess soil, as well as proposed levels for structures. The applicant's response and application documents clearly detail the extent of proposals, including access roads and proposed new bridge over the Rossestown stream. There are no changes proposed to the existing bridge over the river. The proposed new bridge over the Rossestown stream is part of the access track to proposed turbine 7 and will be 2.15m above existing ground levels. This proposed road and bridge will be raised above ground level and the 100yr flood level allowing for natural drainage of the area which is susceptible to flooding. The applicant's response states the following:
- 11.7.6. "The flood risk modelling undertaken indicates that this structure will increase the 100 yr flood levels immediately upstream of the bridge but only slightly. There will be no significant change in flood levels upstream of the bridge and the flooding extents will remain within the project site and will not impact any neighbouring properties. In addition, the new bridge and road over the Rossestown stream will act as a partial temporary obstruction to the flow of the flooding stream and is expected to reduce the rate of water flow from this stream into the River Suir. This will reduce the potential high flood levels downstream that would occur without this partial obstruction."
- 11.7.7. The submitted FRA and CEMP include mitigation to avoid or minimise potential effect with respect to flood risk and include SuDS for the construction, operational and decommissioning phases. Drainage arrangements are outlined in detail in Chapter 9 of the EIAR (see sections 9.4.2.1 and 9.4.2.4), as well as spoil management in section 9.4.2.5. In relation to groundwater, any necessary ground water pumping required for proposed turbine foundations, will be put through a water

treatment system to remove sediment before discharge over vegetated ground, with no adverse effect on water quality, supply or flooding. Potential effects upon water quality are discussed further in section 12 as part of AA considerations and section 13.11 of the EIA below. In short, with the application of mitigation there is no anticipated significant effects upon water quality as a result of the proposal.

11.8. Other Issues

11.8.1. This section of my report addresses matters raised in submissions not covered under the headlines above or EIA and AA below.

11.8.2. General

11.8.3. I note submissions raising concern with respect to the range of turbine sizes included in the EIAR. The EIAR has set out the potential effects of three different types of turbines with variable designs, blade lengths and hub height (see section 4 above). This is an acceptable approach and the correct procedure for design flexibility has been followed by the applicant (see section 1 above). Where there is variation in effects due to turbine size, this is noted in my EIA in section 13 below.

11.8.4. I note a submission asserting that ground level data is inaccurate and I note the applicant response in relation to this matter (section 4.5 applicant response), which confirms that topographic data is obtained from Bluesky 2m contour data which is accurate to a height deviation of 1.5m, with assessment informed by on site topographic survey of the River Suir and tributaries. Additional on-site topographic surveys would be undertaken in the event that planning is permitted. I am satisfied with the applicant response in relation to this matter.

11.8.5. A submission also raises concern that turbine foundation drawings are generic. I note drawing no.22318-MWP-00-00-DR-C-5403 Rev.P01 which provides turbine foundation details. The detail is the same for each turbine proposed and are a standard design in that sense. However, the proposed foundations are for all turbines and therefore provide an appropriate degree of detail with respect to the assessment in this report.

11.8.6. I note submissions raising concern with respect to the risk of fire, particularly in relation to the BESS. The BESS does not form part of the development under the current application, but as part of the overall project, has been included in the

assessment of effects in the submitted EIAR. Chapter 5 'Population and Human Health' of the EIAR addresses risk of major accidents or natural disasters associated with the proposed development in section 5.4.4.1. It states that risk of fire is considered to be limited and the spacing of the turbines, and distance of turbines, BESS facility and substation from road and residential properties, is designed to limit potential for effects.

11.8.7. I note submissions with respect to landowner consents and works to the public road. The applicant has satisfied the statutory requirements with respect to demonstrating landowner consent for the purposes of submitting this application. In the event that permission is granted, landowner rights remain unaffected, and works would only be able to take place legally with the consent of those with a legal interest over impacted lands. In relation to works to the public road, the applicant has provided a letter confirming that these works would be undertaken by the statutory undertaker having a right or interest to provide services in connection with the proposed development.

11.8.8. I note a submission raising concern with respect to light pollution from the red lights on top of each proposed turbine. The application deals with lighting as part of the EIAR with respect to aviation mitigation, it is also confirmed that lighting will be operated to ensure minimal impact with respect to ecological considerations. I also note that red lighting is specifically suitable as it can meet aviation requirements with minimal ecological impact. I am satisfied that the proposed development is acceptable in this regard.

11.8.9. I note submission following circulation of the applicant's response raising concern at the extent of details that the applicant would like to agree post permission, i.e. by condition. The nature of conditions I have described in my report are entirely standard in my view and reflect the next layer of technical information to inform the final design stage of the project, which follows the planning process. Often these conditions have been requested by prescribed bodies and build upon the specific detail set out in the application documents. These details will not alter the proposed development assessed in the application, and do not alter the findings of this report.

11.8.10. I note that the Local Authority requests that a condition for 'monitoring of relevant construction elements by geo technical engineer', however there is no further

expansion upon what this request pertains to. The EIAR addresses archaeology including geological heritage, and a condition can be used to secure archaeological mitigation. In relation to geology, the Geological Survey Ireland confirm that the appropriate methodology has been used in the EIAR. As such, I am not recommending any further condition in this regard.

11.8.11. Devaluation of Property

11.8.12. I note submissions raising concern that the proposed development will adversely impact the value of surrounding property. In my view, there is inconsistency with respect to the findings of studies on this topic, and it cannot be stated with certainty what the impact would be upon properties in the locality of this particular site.

11.8.13. I do not consider that the proposed development is likely to have an overriding impact upon the valuation of nearby properties. I refer to the overall assessment set out in this report, together with the environmental and amenity considerations which have informed this assessment, and the conclusion that with the application of mitigation, the proposed development is acceptable. Overall, it has not been demonstrated with certainty, that the presence of the proposed wind turbines will directly result in an attributable depreciation of property value in the vicinity.

11.8.14. Community Benefit Fund

11.8.15. I note submission raising concern that the reference to a €300,000 investment into community projects is disingenuous as payments to residents will be drawn from the fund, reducing the total value. Chapter 5 of the EIAR describes the current terms of the RESS Community Benefit Fund, which provides a minimum payment per annum of €1,000 to all dwellings located within 1km radius, and that a minimum of 40% of funds be paid to not-for-profit community enterprises, focusing on education, energy efficiency, sustainable energy and climate action. The EIAR states that the project is expected to deliver €250,000 (approx.) a year to the local community (in the first 15 years). I am satisfied that the EIAR has clearly outlined the proposals with respect to the Community Benefit Fund associated with the project, and as identified in section 13.9 of my EIA below, this will result in positive effects for the local community.

11.8.16. Criticism of the Applicant

11.8.17. I note concern with respect to the lack of engagement or consultation by the applicant with local residents. Section 1.6.4.2.4 of Chapter 1 of the EIAR outlines the community engagement and public consultation undertaken by the applicant, with detail of this in Appendix 1F of the EIAR. This also confirms compliance with the Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement (2016). Community Liaison Officers were appointed to represent the project in the local community, project newsletters were published and public consultation sessions were undertaken. A project website has also been set up. I note submissions raising concern regarding the performance of the applicant with reference to the Code of Practice guidelines, however there is a lack of detail or evidence provided with respect to this issue. In relation to the current application, I am satisfied that the legislative requirements with respect to notification of the application, including publication of statutory notices, has been met by the applicant.

11.8.18. Criticism is also raised of the applicant's local knowledge, interaction with residents and of the organisation itself. The assessment under this report and recommendation is made on the basis of legislation, guidelines, and national, regional and local planning policy, which provide the parameters under which proposals for development are measured. With respect to the procedural obligations upon the applicant for the submission of this application, I am satisfied that these have been met and I continue with my assessment accordingly.

12.0 Appropriate Assessment

12.1. This section of the report considers the likely significant effects of the proposal on Natura 2000 European sites with each of the potential significant effects assessed in respect of each of the European sites considered to be at risk and the significance of same. The assessment is based on the submitted Appropriate Assessment Screening and Natura Impact Statement. It should be noted that the submitted report assesses the development as a whole, comprising both the proposed wind turbines and substation, as well as all associated works, including BESS grid connection, turbine delivery route and decommissioning works.

12.2. I have had regard to submissions in relation to the potential impacts on European sites, as part of the Natura 2000 Network of sites. I also refer to the Commission's

specialist Ecologist report at Appendix 4 of this report which should be read in conjunction with this section of my report and has informed my assessment.

12.3. Stage 1 Screening for Appropriate Assessment

12.4. Appendix 2 attached to this report sets out a detailed screening for AA and should be read in conjunction with this section of my report. I also refer the Commission to Appendix 4 and the Specialist Ecology report which has informed my assessment. Below is the screening determination.

12.5. AA Screening Conclusion

12.6. In accordance with Section 177U of the Planning and Development Act 2000 (as amended) and on the basis of the information considered in this AA screening, I conclude that it is not possible to exclude that the proposed development, alone or in combination with other plans and projects will give rise to significant effects on the Lower River Suir SAC in view of the site's conservation objectives. Appropriate Assessment is required.

12.7. This determination is based on:

- (i) Potential for emissions to water (silt, hydrocarbons / oils and concrete waste) from ground works, which could be carried to surface waters by rainfall and wind, potentially affecting mobile QIs of the Lower River Suir SAC. There is potential for run-off at locations of works close to watercourses within the Site. Run-off could contain silt, hydrocarbons or oils from machinery, and concrete waste. Silt-laden run-off can alter the physico-chemical conditions of receiving water bodies.
- (ii) Potential for disturbance to affect mobile QIs of the Lower River Suir SAC as a result of activities generated by the proposed works (i.e. increased human presence and associated activities during construction and decommissioning). Otter can experience disturbance if present within c. 150 m of works (NRA, 2008). Fish species present in watercourses on the Site could also be affected by noise and lighting.

- (iii) Invasive Alien Species (IAS) have potential to be introduced by machinery during ground works and can be carried to surface waters by rainfall and wind, potentially affecting QIs of the Lower River Suir SAC.

12.8. The potential impacts are expanded upon in further detail as part of a Stage 2 Appropriate Assessment below.

12.9. In relation to the remaining European sites considered, taking into consideration the distance between the proposed development site to these designated European sites, the lack of a direct hydrological pathway with the potential to facilitate significant effect, as well as the lack of any other pathway or link to these European sites, it is reasonable to conclude that on the basis of the information on file, which I consider adequate in order to issue a screening determination, that the construction and operation of the proposed development, individually or in combination with other plans or projects, would not be likely to have an adverse effect on the conservation objectives or features of interest of Kilduff Devilsbit Mountain SAC and Silvermines Mountains SPA. Therefore, I agree with the applicant's submitted screening report that a Stage 2 Appropriate Assessment is not required with respect to these aforementioned European sites.

12.10. Stage 2 – Appropriate Assessment

12.11. The submitted NIS identifies the potential for negative effects upon the Lower River Suir SAC as a result of the proposed development and I concur that an Appropriate Assessment (AA) of the proposed development is required with respect to this aforementioned European site.

12.12. Appendix 2 and 3 of this report, informed by the specialist Ecologist report for the Commission at Appendix 4, set out the detailed consideration of potential effects upon European sites as part of an Appropriate Assessment for this proposed development. The site-specific conservation objectives and species of conservation interest for the Lower River Suir SAC is set out in Appendix 2 and 3. The AA determination is set out below.

12.13. AA determination – Conclusion

- 12.14. The proposed development has been considered in light of the assessment requirements of Sections 177U and 177V of the Planning and Development Act 2000 as amended.
- 12.15. In screening the need for Appropriate Assessment, it was determined that the proposed development could result in significant effects on the Lower River Suir SAC in view of the conservation objectives of that site and that Appropriate Assessment was required.
- 12.16. Following an examination, analysis and evaluation of the NIS all associated material submitted including the further information with EIAR, and taking into account observations, I consider that adverse effects on site integrity of the Lower River Suir SAC can be excluded in view of the conservation objectives of that site and that no reasonable scientific doubt remains as to the absence of such effects.
- 12.17. My conclusion is based on the following: The application of general mitigation measures to minimise effects during all phases of the development, alongside specific mitigation with respect to the potential for effects upon water quality, the generation of disturbance and introduction/spread of invasive alien species, which will prevent potential for, the occurrence of / or adverse impact resulting from, the construction, operation or decommissioning of the proposed development.

13.0 Environmental Impact Assessment

13.1. This section sets out an Environmental Impact Assessment (EIA) of the proposed project and should be read in conjunction with the planning and appropriate assessment sections of my report. The Proposed Project for EIA purposes is made up of the proposed development as follows:

- A wind farm site for ten (10) wind turbines, associated tracks and infrastructure, an on-site 110kV electrical substation and a grid connection route (GCR) which consists of an underground electrical grid connection from the wind farm site to the existing Thurles 110kV substation.
- A turbine delivery route (TDR) which is the route between the Port of Foynes and the wind farm site along which turbine components will be transported.

This will include temporary accommodation works along the public road to allow for the delivery of wind turbine components.

- 13.2. A description of the proposed wind farm development, including substation, is set out in section 4 of this report above.
- 13.3. The Planning and Development Regulations 2001, Schedule 5, part 2 sets out relevant thresholds for types of development that would trigger a mandatory requirement for EIA and submission of an EIAR (Environmental Impact Assessment Report). The proposed development forms a renewable energy development (windfarm project) including provision of 10 turbines with an estimated Export Capacity (MEC) of between 57 and 66 megawatts (MW). The project also includes an electrical substation, as well as associated enabling works and grid connections. The project falls within a class of development in Schedule 5, Part 2 (3) (i) wind farms with more than 6 turbines or having a total output of greater than 5 megawatts and accordingly an EIA is required for the proposed development.
- 13.4. Where topics and issues raised in submissions concern environmentally related matters have already been addressed in the wider planning assessment described above, I have cross-referenced between sections to avoid unnecessary repetition.

13.5. Compliance with the Requirements of Article 94 and Schedule 6 of the Planning Regulations

- 13.6. In the proceeding table, I assess compliance of the EIAR submitted with the requirements of the Directive 2011/92/EU (The EIA Directive) as amended by Directive 2014/52/EU as implemented by Article 94 and Schedule 6 (paragraphs 1 and 2) of the Planning Regulations as amended. I also confirm that I have carried out my assessment by reference to the factors set out in Article 3 of the EIA Directive as amended by the 2014 Directive and provided a reasoned conclusion.

Table 13.1: EIAR Compliance with The EIA Directive

A description of the proposed development comprising information on the site, design, size and other relevant features of the proposed development, including the additional information referred to under section 94(b).

A description of the proposed development is contained in Chapter 2 of the EIAR and has been summarised above in this section of my report as well as in section 4. I am satisfied that the development description provided is adequate.

A description of the likely significant effects on the environment of the proposed development, including the additional information referred to under section 94(b).

As is required under Article 3(1) of the 2011 Directive as amended, 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).

A description of the features, if any, of the proposed development and the measures, if any, envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment of the development, including the additional information referred to under section 94(b).

The EIAR includes designed in or embedded mitigation measures and measures to address potential adverse effects identified in technical studies.

These measures are summarised as part of my assessment of each topic area below. Chapter 18 of the EIAR sets out a Schedule of Mitigation Measures.

A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment, including the additional information referred to under section 94(b).

Chapter for the EIAR 'Alternatives' sets out a description of the main reasonable alternatives to the proposed development, its location and design, and the principal reasons for proceeding with the current proposal.

In relation to site selection, the EIAR describes the applicant's initial approach with respect to constraint mapping to discount locations, such as those considered too sensitive for development, including sensitive amenity or scenic areas,

habitats/species, tourist areas, sites proximity to national grid, the policy context, as well as any existing wind farms and telecommunications masts and links. Examination then sought to identify large, continuous, unobstructed developable areas of land. Application of a minimum 500m setback to existing residential properties was also applied (with reference to the revised Draft Wind Energy Development Guidelines 2019). Commercial considerations are also outlined. Following application of this process, 6 sites were identified and scored with respect to suitability for wind energy development, with the proposed site at Brittas determined to be the most viable site. These sites are identified in Figure 4-6 of the EIAR.

Section 4.6 of the EIAR describes the main reasonable alternative designs examined by the applicant, formed of reasonable alternative wind farm layout, turbine scale, grid connection methodologies and construction methodologies. Environmental constraint mapping of the site was undertaken to inform suitable areas for turbines, demonstrating limited locations in this regard. As a result, the applicant proposes to use the largest turbines available that could be delivered to the site along existing road networks. A larger number of smaller turbines to generate the same amount of energy was considered not to be feasible, given the limited size of the site as informed by environmental constraints. The EIAR provides a range of turbine size that have been assessed in the EIAR as follows:

Turbine Type	Rotor Diameter	Tip Height	Blade Length	Hub Height
A (1)	150m	180m	73.7m	105m
B (2)	155m	180m	76m	102.5m
C (3)	149m	180m	73m	105m

Each turbine type has an associated hardstand area; the combined footprint of the three turbine hardstand options is detailed in Figure 4-13 of the EIAR. Figures 4-15 to 4-18 of the EIAR present the 3 turbine layout options considered. The EIAR outlines that the proposed layout, with the number of turbines reduced to 10, was selected as the most optimal engineering and environmentally appropriate option.

The EIAR considers alternative substation and BESS (battery storage) sites / layout in section 4.6.3 with a comparison of the options examined in table 4.7 of

the EIAR. In relation to alternative grid connection routes, a study was undertaken of the Thurles 110kV and Ballyraggot 110kV substations as potential grid options, with the EIAR identifying Thurles as the preferred route with shorter, fewer (and small) water crossings, affecting mostly rural receptors and local roads and not affecting sensitive / protected heritage or ecological areas. With respect to alternative turbine delivery routes, numerous potential routes were identified, however the preferred route from Foynes to the subject site via Borrisoleigh was assessed as the only viable route which did not require significant disruptions, complex engineering solutions and significant 3rd party land agreements. Reasonable alternatives for meteorological monitoring, construction methods, re-routing of the overhead power line and telecommunication infrastructure are also set out in the EIAR.

In relation to the 'Do Nothing Scenario' section 4.7 of the EIAR refers to Ireland's commitment to meet EU and national emission targets, with the proposed project having the potential to offset between 56,174 and 65,043 tonnes of CO² emissions equivalent per year. In the do nothing scenario, this would otherwise be released to the atmosphere through the burning of fossil fuels, and the positive and negative environmental impacts of the proposed development identified in the EIAR would not occur. The EIAR concludes that the proposed development has been designed to minimise potential environmental effects and maximise wind energy potential on the site.

I am satisfied that the consideration of reasonable main alternatives in the EIAR meets the requirements of Article 94.

A description of the baseline environment and likely evolution in the absence of the development.

The baseline environment is described in each technical chapter within the EIAR and the likely evolution of the environment in the absence of the proposed development, with reference to 'do-nothing' scenarios.

A description of the forecasting methods or evidence used to identify and assess the significant effects on the environment, including details of difficulties (for

example technical deficiencies or lack of knowledge) encountered compiling the required information, and the main uncertainties involved.

The methodology employed in carrying out the EIAR, including the forecasting methods is set out in each of the individual chapters assessing the environmental effects. Section 1.8 of Chapter 1 of the EIAR states that there were no technical difficulties encountered in compiling the information to carry out the EIAR. Where other difficulties (non-technical) may have occurred with respect to data gathering, I have commented on these where relevant as part of my assessment below. I am satisfied that forecasting methods overall are adequate in respect of likely effects.

A description of the expected significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it.

Chapter 5 'Population and Human Health' of the EIAR addresses risk of major accidents or natural disasters associated with the proposed development in section 5.4.4.1. It states that sources of pollution during the construction phase is limited and that there is also limited potential for significant natural disasters as Ireland is a geologically stable country with a mild temperate climate. The risk of flooding is addressed in Chapter 8 'Water' of the EIAR. Risk of fire is considered to be limited and the spacing of the turbines, and distance of turbines, BESS facility and substation from road and residential properties is designed to limit potential for effects.

Having regard to the location of the site and the existing land use as well as the zoning of the site, I am satisfied that there are unlikely to be any effects deriving from major accidents and or disasters.

Article 94 (c) A summary of the information in non-technical language.

The EIAR comprises a non-technical summary, a main volume and supporting appendices. I am satisfied that the non-technical summary is concise and comprehensive and is written in a language that is easily understood by a lay member of the public.

Article 94 (d) Sources used for the description and the assessments used in the report.

The sources and references used to inform the description, and the assessment of the potential environmental impacts are set out at the end of each individual chapter in the EIAR. I consider the sources relied upon are sufficient in this regard.

Article 94 (e) A list of the experts who contributed to the preparation of the report.

Chapter 1, section 1.7, table 1-8 of the main volume identifies the contributors to the report and their expertise in the preparation of the EIAR. Individual technical chapters also identified the competence of individuals who contributed to the preparation of each chapter. I am satisfied that the information contained in the EIAR has been prepared by competent experts. I also consider that the EIAR is compliant with Article 94 of the Planning and Development Regulations, 2001, as amended.

13.8. Consultations

- 13.8.1. 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. I addressed submissions regarding lack of engagement or consultation by the applicant in section 11.8 above.

13.9. Population and Human Health

13.9.1. Issues Raised

- 13.9.2. Issues have been raised in submissions, particularly regarding potential impact from noise and shadow flicker during the operation of the project, as well as upon property value. I address these matters as part of my assessment of direct and indirect effects below, as well as in associated sections of my assessment of amenity impact in section 11.4 above.

13.9.3. Context

- 13.9.4. Chapter 5 of the EIAR 'Population and Human Health' examines the potential effects of the proposed project on population and human health. Section 5.2 describes the methodology followed in the preparation of the chapter, with reference to applicable guidelines, best practice, study area and scope of assessment. Section 5.2.4 of the

EIAR notes that with respect to difficulties encountered, the most recent census data to inform the analysis presented are from 2022 and had unavailability of specific information for small areas and settlements, with reliance upon electoral division data instead. I am satisfied that this would not alter the overall findings of the chapter as presented in the EIAR.

13.9.5. Chapter 13 of the EIAR addresses shadow flicker. This identifies that shadow flicker is an effect that can occur when the shadow of a moving wind turbine blade passes over a small opening (e.g. a window) causing a flickering effect. Section 13.1.1 identifies that the criteria set out in the Wind Energy Development Guidelines 2006 have been applied in the assessment, with consideration of the 2019 Draft Revised Wind Energy Development Guidelines. Page 12 of Chapter 13 states that in a shadow flicker model was developed for the proposed development to determine potential effect, however the model does not take into account the hours when the wind is blowing in the direction needed to orient the turbine perpendicular to the residential dwelling, and that this will not always coincide with a sunny period. An assumption has also been made that there is a clear line of sight between all dwellings and a wind turbine and that there is a window on the potentially affected wall/gable. The results are therefore presented as a worst-case scenario.

13.9.6. Baseline

13.9.7. Chapter 5 describes the baseline characteristics of the study areas in terms of economic activity, population trends and density, settlement patterns, land uses, public health, tourism and amenities. The main potential impacts upon these characteristics are summarised below.

13.9.8. In relation to shadow flicker, Chapter 13 describes the baseline environment in section 13.4, with identification of 148 residential dwellings within the study area, and an additional 12 residential properties marginally outside the study zone, for the maximum rotor diameter. This reduces to approximately 139 residential dwellings for the 150 and 149 rotor diameter turbine. Table 13-2 of the EIAR sets out the average sunshine hours used in the assessment based on average monthly figures from the years 1978 to 2007, from the Kilkenny Meteorological Station.

13.9.9. Potential Effects in the Absence of Mitigation

Table 13.9.1: Summary of Potential Effects Population and Human Health; and Shadow Flicker

Topic	Project Phase	Potential Direct, Indirect and Cumulative Effects (without mitigation)
Population and Human Health	Do Nothing	Land use would continue in its present form, with no changes to the baseline environment. No likely increase in local employment and economic benefit via the community benefit fund. Potential emissions from the construction phase will not be created and no noise, shadow flicker or visual effects. No replacement of fossil fuels with between 57 and 66MW of renewable energy, and long term benefits to air quality and climate will not be realised.
	Construction	<p>The construction phase is estimated to create up to 60 full-time jobs, mainly sourced locally where possible. The TDR will require specialist contractors, without impact upon employment. Temporary, positive and slight effect on economic activity during the construction phase.</p> <p>Not significant effects upon population and settlement patterns are anticipated.</p> <p>Some effect on existing land-uses from construction activities. No risk to existing or future land-uses anticipated to neighbouring lands and land-uses, with all existing land-use practices co-existing. Access may be restricted at times of heavy site activity.</p> <p>1.4ha of existing forest plantation will be felled, with re-planting subject to license. Negative, not significant, temporary and local effects associated with these effects. Works associated with the grid connection route (GCR) will have potential to</p>

		<p>generate temporary traffic nuisance and access effects on residents and landowners, with significant, negative, brief to temporary and local effect. The Turbine Delivery Route (TDR) will require temporary removal of some traffic signs and signals, lamp posts, electric poles and fences, some tree and hedge trimmings, lowering of roadside banks and/or road widening, with slight, temporary and local effects.</p> <p>No significant effects upon human health as a result of construction works, with cross reference to the assessment and mitigation set out in associated chapters addressing noise, vibration, dust, shadow flicker and traffic effects on human health.</p> <p>Construction traffic is predicted to be 40 HGV movements during the concrete pours and same for delivery of stone. Peak construction traffic will occur during turbine base pours and material deliveries. Traffic volume increases will be within the carrying capacity of the public road network and will not raise major safety concerns, with short-term, local and moderate negative effect.</p> <p>As there are no tourism attractions specifically pertaining to the subject site, no direct effects associated with construction, with temporary, negative, imperceptible, and localised visual impacts on tourism in the vicinity and amenity.</p>
	Operation	<p>The wind farm, BESS and substation is expected to generate a small number of full-time positions in operation and maintenance roles. A community benefit fund under the Renewable Energy Support Scheme (RESS) is expected deliver approximately</p>

		<p>€250,000 a year to the local community for the first 15 years of the project. Positive, long-term effects and imperceptible effects on local employment and economy.</p> <p>Due to the presence of numerous operational wind farms in the study area, not significant impact upon local population and settlement patterns anticipated. Long-term, neutral and imperceptible effect.</p> <p>The proposed development will occupy a small proportion of the development site when operational, with existing agricultural activities on the site expected to continue and long term, not-significant, negative effect on agricultural land use anticipated. The addition of wind energy facilities diversifies and intensifies land use, classified as slight, long-term and positive. No impact to land use will result from the GCR or TDR.</p> <p>Operational effect on human health is assessed to be imperceptible to not significant neutral, negative effects, as follows: Imperceptible traffic impact is anticipated at operational phase due to low volumes of vehicles associated with that phase. Noise levels will be within criteria recommended in the Wind Energy Development Guidelines 2006, a full assessment is set out in chapter 11 of the EIAR and addressed below. Impact from operational noise is assessed as negative, imperceptible and long-term. The proposed wind farm is expected to have positive, significant, national, and long-term effects on air quality and carbon savings due to the renewable energy generated, displacing fossil fuel energy. Shadow flicker is assessed in chapter 13 of the</p>
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		<p>EIAR, it is predicted that 12 dwellings will experience shadow flicker above the 30 hour threshold per year and no dwellings will exceed the 30 minutes per day, with not significant to slight pre-mitigation impact, unlikely to cause negative health effects.</p> <p>It is anticipated that the proposal will have long-term, imperceptible and neutral impact on recreation and amenity.</p>
	De-commissioning	<p>The potential effects associated with the decommissioning phase will be similar to those associated with construction phase, but of a reduced magnitude. The presence of construction works during the decommissioning phase for the wind farm, BESS, substation site will have a temporary, positive and not significant impact on local businesses and services, contributing to the local economy. The removal of wind turbines from the landscape is expected to have a not significant, positive, local effect on landscape character and associated population settlement in the long-term.</p> <p>Temporary disruption to surrounding land uses during infrastructure removal, with temporary, slight and negative effect.</p> <p>Not significant to slight negative impact upon human health from traffic, noise, dust, emissions and climate change adaption.</p> <p>Temporary, not significant to imperceptible, negative impact on recreation.</p>
	Cumulative	<p>The list of projects considered for cumulative assessment are included in Chapter 1 of the EIAR.</p> <p>The construction of large scale projects concurrently</p>

		with the proposed development could lead to some in combination slight traffic, noise and dust effects. No potential for significant cumulative impacts or effects are identified with respect to population and human health.
Shadow Flicker	Do-nothing	Baseline conditions remain unchanged.
	Construction	No shadow flicker will result during construction.
	Operation	<p>A shadow flicker model for the proposed development identifies that for the 155m rotor diameter (RD) turbine, 88 are expected to exceed the 30-hour threshold limit per year, and 92 are expected to exceed the 30-minute threshold per day. For the 150m RD turbine, 84 houses out of the 148 exceed the 30- hour per year threshold, and 85 exceed the 30-minute per day threshold. For the 149m RD turbine, 83 houses out of 148 surpass the 30-hour per year threshold, and 84 will exceed the 30-minute per day threshold.</p> <p>When sunshine hours are accounted for, potential shadow flicker for a 155m RD reduces below 30 hours per year at all but 12 receptors with potential exceedances (and reduced further to 6 houses applying a 150m, and 5 houses with a 149m, rotor diameter), and below the 30 mins per day threshold in all locations.</p>
	De-commissioning	No shadow flicker will result during decommissioning.
Cumulative	The EIAR details that shadow flicker models were run to consider the cumulative effect of the proposed wind turbines alongside those at the Lisheen wind	

		farm. This concluded that there is no cumulative shadow flicker effect expected.
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13.9.10. Mitigation

13.9.11. Section 5.5 of the EIAR outlines mitigation measures incorporated into the project design with respect to population and human health.

13.9.12. A summary of mitigation during the construction phase is set out below:

- Informing residents and affected parties in advance of planned utility diversions or disruptions.
- Ongoing and transparent communication with the local community.
- Screening and landscaping to minimise visual intrusion and noise effects.
- Health and safety mitigation measures provided the noise, air quality, shadow flicker and traffic chapters to be complied with.
- Construction Environmental Management Plan (CEMP) to be developed with health and safety standards and protocols.
- Inducting of employees on site in health and safety standards and protocols and management plans.

13.9.13. A summary of mitigation during the operation phase as described in chapter 5 of the EIAR is set out below:

- Compliance with health and safety mitigation set out in noise, air and climate, shadow flicker and traffic reports.
- Induction of employees in relevant health and safety standards and protocols.

13.9.14. During decommissioning phase, health and safety mitigation set out in noise, air and climate, shadow flicker and traffic reports to be complied with.

13.9.15. Chapter 13 of the EIAR sets out proposed mitigation with respect to shadow flicker in section 13.7 and this is summarised below:

- Installation of appropriate window blinds in the affected rooms of the residence.
- Planting of screening vegetation.

- Other site-specific measures which might be agreeable to the affected party and may lead to the desired mitigation.
- In the event that the above does not mitigate identified shadow flicker exceedance, the following control measure to be applied:
 - Shadow Flicker Control Modules (SFCM), which requires the identified dates and times of day of potential occurrence of shadow flicker at dwellings within the shadow flicker study area to be inserted into the SFCM computer program. The software considers factors such as weather conditions and will automatically stop each wind turbine at times when shadow flicker could occur, with turbines restarted when conditions for shadow flicker subside.

13.9.16. Direct and Indirect Effects Assessment

13.9.17. I have examined, analysed and evaluated Chapter 10 of the EIAR and associated documentation, including submissions on the file related to this topic. Particular concern is raised with respect to potential impact upon human health. Related assessments with respect to noise and air quality are set out in sections 13.11 and 13.12 of this EIA. In short, the EIAR concludes that there will be no significant effects on human health as a result of the construction or operation of the project, with positive effects anticipated with respect to reduced carbon emissions.

13.9.18. I note submissions with respect to the potential for shadow flicker and I also address shadow flicker above in section 11.4 of my report, which should be read alongside this section of my report. Chapter 13 of the EIAR addresses shadow flicker, with section 13.5 describing an assessment of shadow flicker. This states that as there are no dwellings within 500m of a turbine, the proposed development is compliant with the 2006 Wind Energy Guidelines that recommend that shadow flicker at offices and dwellings should not exceed 30 hours per year or 30 mins per day within 500m of a turbine. A shadow flicker model for the proposed development identifies properties where shadow flicker could occur depending upon conditions, for all rotor diameter options.

13.9.19. Analysis indicates that among the 148 houses evaluated for 155m rotor diameter (RD) turbine, 88 are expected to exceed the 30-hour threshold limit per year, and 92 are expected to exceed the 30-minute threshold per day. When sunshine hours are

accounted for, potential shadow flicker reduces below 30 hours per year at all but 12 receptors. For the 150m RD turbine, 84 houses out of the 148 exceed the 30- hour per year threshold, and 85 exceed the 30-minute per day threshold, with this reducing to 6 houses per year when sunshine hours are accounted for, and for the 149m RD turbine, 83 houses out of 148 surpass the 30-hour per year threshold, and 84 will exceed the 30-minute per day threshold, reducing to 5 houses per year when sunshine hours are accounted for. With all turbine options resulting in no exceedances of the 30-minute threshold per day when sunshine hours are accounted for.

- 13.9.20. The EIAR states that this is a conservative prediction, as it does not account for times when the turbine blades are not spinning, or when the flicker is blocked from view at a given receptor, or when the rotor is not perpendicular to the sun.
- 13.9.21. I note submissions in relation to the use of sunshine information from Kilkenny Weather station between 1978 and 2007, instead of more recent Met Éireann data which shows an increase in sunshine hours by 4.5%. The applicant's response states that due to limitations with availability of local data for the most recent period, national average data from Met Éireann was used to supplement the shadow flicker analysis. In response to these submissions, a worst-case scenario change in sunshine hours has been calculated, and the result was 21.1% which is the same as the results in Chapter 13 of the EIAR. Therefore, the findings of the EIAR remain unchanged and I am satisfied with the applicant response in relation to this matter.
- 13.9.22. In relation to proposed mitigation measures, the use of blinds in receptor dwellings is not appropriate in my view, and certainly outside of the proper control of the applicant as it would involve installation of blinds within third party owned properties. To suggest that the wind farm operator would take control of residents window coverings, using blinds to block shadow flicker effect, is not acceptable mitigation and puts the onus upon impacted individuals to deal with the effects of the proposed development by having their blinds closed.
- 13.9.23. The EIAR states that the application of shadow flicker control modules on all turbines, would pause operation temporarily when necessary to ensure that shadow flicker does not arise. In relation to this, I note that with reference to the 2019 draft Wind Energy Guidelines, it is stated at 5.8.2 that conditions should be imposed to ensure that existing dwellings do not experience any shadow flicker. I also note the

HSE response in this regard requesting the elimination of shadow flicker. For the proposed development, this would be possible through the use of a condition to ensure utilisation of the technology outlined by in the EIAR mitigation. I consider that this will affect the output of the development minimally, while significantly benefiting surrounding properties. Therefore, I have included a specific condition with respect to shadow flicker below, to enhance the mitigation set out in the EIAR. Consequentially, there will be no difference in the residual shadow flicker effect, with shut-off of turbines preventing it from occurring.

13.9.24. I note the submission from the HSE and the recommendations with respect to potential impact from construction activities upon human health. In relation to the minimisation of dust arising from defects to construction access roads, this can be secured by condition in addition to dust control measures described in the EIAR. In relation to other matters raised, adequate mitigation is already set out in the submitted EIAR including CEMP in this regard, and implementation of this mitigation can be secured by condition.

13.9.25. With the application of mitigation as summarised above, no residual significant negative effects upon population and human health are anticipated.

13.9.26. Direct and Indirect Effects Conclusion

13.9.27. Having regard to the examination of environmental information in respect of human health and population, in particular the EIAR provided by the applicant and the submissions during the course of the application, it is considered that the main direct and indirect effects on population and human health, following mitigation, are as follows:

- During construction, positive, slight, localised and regional, temporary effect upon employment; neutral, not significant, localised, temporary effect on population and settlement; negative, not significant to slight, localised, temporary effect on land use; neutral, not significant, localised and regional, temporary effect on human health.
- During operation, positive, slight, localised and regional, long-term effect upon employment and economy; neutral to negative, imperceptible to not significant, localised, long-term effect on population and settlement; imperceptible negative and slight positive, localised, long-term effect upon land use; neutral,

imperceptible, localised, long-term effect upon tourism and amenity; localised imperceptible negative and national significant positive, long-term effect upon human health. With the application of mitigation, effect from shadow flicker will be neutral.

- During decommissioning, positive, not significant, localised and regional, temporary effect upon employment and economic; imperceptible neutral local to regional temporary and not significant positive localised long-term effects upon population and settlement; negative, not significant, localised, temporary effect upon land use; negative, not significant to slight, localised, temporary effects on human health; negative, imperceptible, localised, temporary effect upon tourism and amenity.

13.9.28. Overall, I concur with the conclusions of the EIAR with respect to population and human health (including consideration of shadow flicker).

13.10. Biodiversity

13.10.1. Issues Raised

13.10.2. Submissions raise various concerns with respect to biodiversity impact. These concerns are considered in my assessment below, particularly as part of the assessment of direct and indirect effects. I have also carried out an Appropriate Assessment for the development which is described in sections 12 and associated appendices 2 and 3 of this report which should be read alongside this section of my report. Submissions are also considered as part of the Commission's specialist technical Ecologist report included at Appendix 4 below. This Ecologist report has also informed my assessment and should be read in conjunction with the findings set out here.

13.10.3. Context

13.10.4. Chapter 6 of the EIAR considers biodiversity and Chapter 7 of the EIAR address Ornithology (birds), and the potential effects arising from the proposed development. Both chapters describe the legislation, policy and guidance that provide the framework for the assessment set out in the EIAR and which informed the preparation and findings of the chapters.

13.10.5. Section 6.1.5 addresses survey and data limitations for biodiversity. Limitations relating to the bat surveying and data analysis are set out in Appendix 6B forming the technical bat report and generally relate to modifications to the proposed layout after bat static acoustic surveys were carried out. The EIAR states that survey data is appropriate for the assessment of all habitat types within the site in accordance with NatureScot (2021) and account for potential movement of turbines in the finalisation of layout. In addition, due to the removal of a weather station, there is a gap in on-site weather data for autumn 2022, however publicly available meteorological data was used for this period instead. It is recognised in the EIAR that this reduces the analysis of bat activity within certain weather conditions during the autumn survey season, however the data collected and publicly available is concluded to be adequate and this would not affect the overall assessment. With respect to brown long-eared bats, the EIAR acknowledges that their activity can be difficult to determine accurately, due to their low amplitude calls and foraging using eyes and ears rather than echolocation, as a result they can be underrepresented in surveys.

13.10.6. In relation to aquatic surveys, the EIAR notes that kick sampling location WQ2 could not be completed as the substrate was too soft, and there was no suitable kick sampling habitat. However, the EIAR concludes that as other locations provided full results, it is not considered to have affected the assessment.

13.10.7. The EIAR also notes that specific surveys were not covered for the TDR, however the presence and suitability of habitats and species specific features were noted while ecologists were operating in the wider area for other surveys and during desk-study.

13.10.8. Section 7.2.3.2 relates to survey limitations with respect to ornithology, this outlines that appendix 7A (section 7A.3.8) of the EIAR provides further detail regarding the same. Appendix 7A 'Ornithology monitoring – results report: October 2022 to September 2023' states that the main survey limitations pertain to flight line data for swifts which was not recorded systematically by all surveyors and to account for this a precautionary approach is taken with respect to assessing risk for swift collision risk. Recognition is also given to weather related limitations that could impact the viewshed, however there are no significant weather related limitations noted. The EIAR states that given there is three years of survey data available, any gaps in

survey effort for site surveys is compensated for and the assessment of potential likely significant effects is therefore robust.

13.10.9. Baseline

13.10.10. The EIAR outlines the information sources that informed a desktop study for the site and the field surveys undertaken. Field surveys included site scoping, habitat mapping, invasive species, invertebrate habitat suitability, aquatic and fisheries, terrestrial (non-volant) mammals and bats. The dates of ecological surveys are set out in Table 6.1 of the EIAR.

13.10.11. In relation to designated sites, there is no Natura 2000 site recorded within the boundary of the site with the closest being the Lower River Suir SAC (Site Code: 002137) located c.5.5km terrestrially and c.7.8km hydrologically via the main channel of the River Suir. The closest SPA is Slievefelim to Silvermines Mountains SPA (Site Code: 004165) c.18km west of the site, however there is no hydrological or any other connection to this, or any other SPA or SAC area. The submitted NIS submitted for the application and AA at section 12 of this report considers potential effects upon the Lower River Suir SAC in more detail. There are no NHAs and seven pNHA's (proposed National Heritage Area) within a 15km radius of the subject site. Of these, only the Cabragh wetlands and Ormond's mill loughmore Templemore have potential connectivity to the subject site.

13.10.12. Existing habitats within the subject site (including grid connection route) are listed in Table 6.11 of the EIAR. Improved Grassland (GA1) is the most dominant habitat recorded categorised as of Site Importance. Wet grassland (GS4) comprises 1.64ha of the substation location with some areas semi-improved and parts of this habitat having potential affinity to EU Annex I habitat categorised as of National Importance (Molinia Meadows). Marsh (GM1) occurs in field close to proposed turbines 6 and 8 categorised as of Local Importance. Drainage ditches (FW4) occur throughout the site and divide up fields categorised as of Local Importance. Hedgerows (WL1) comprise c.14804.66m of the subject site categorised as of Local Importance. Depositing / lowland rivers (FW2) comprising the River Suir which flows within the subject site, other rivers and streams are mapped in figure 6.8 of the EIAR, with this habitat categorised as being of Local Importance. Poor fen and flush (PF2) comprising c.0.47ha of the substation location, with potential for Annex I Fen and Flush habitats,

this is categorised of National Importance. Mixed broadleaved woodland (WD1) comprising broadleaved plantations and smaller areas holding more species rich broadleaved woodland on the site, categorised as of Local Importance. Buildings and Artificial Surfaces (BL3) present on the site in the form of roads and agricultural buildings and making up a very small proportion of the site, categorised of Local Importance. Eutrophic Lakes (FL5) recorded within the southern woodland c.210m from turbine 9 and categorised as of Local Importance. Reed and Large Sedge Swamp (FS1) present in one area of the site categorised as of Local Importance. Mixed Broadleaf / Conifer Woodland WD2 comprising c.0.1ha c.382m from turbine 4 and categorised as of Local Importance. (Mixed) Conifer Woodland (WD3) present in one area to the south west of the site categorised as of Local Importance. Scattered Trees and Parkland (WD5) categorised as of Local Importance. Scrub WS1 comprising four patches in the site, mainly less than 5m high and 4m wide categorised as of Local Importance.

- 13.10.13. Tables 6.13 and 6.14 of the EIAR set out the aquatic baseline survey results. With respect to Q-values, these suggest that much of the river network is impacted by pollution, which was most evident on the main river channel for the River Suir. Salmon and lamprey species were recorded and are categorised as of Local Importance.
- 13.10.14. The EIAR states that on the basis of field and desk study, the site is likely to support protected invertebrate species, with suitable habitat for dragonfly and damselfly, as well as marsh fritillary which is listed on Annex II of the Habitats Directive. Suitable habitat for marsh fritillary and webs were surveyed to the southeastern corner outside the red-line boundary and this species is categorised as being of National Importance.
- 13.10.15. Some suitable newt habitat was recorded within the site however no newts were observed. Frog habitat occurs on site and two were recorded to the southeast of turbine 10 outside the planning boundary.
- 13.10.16. Several native species of mammals afforded protection under Section 23 of the Wildlife Act (1976) as amended 2000 and listed on the Fifth Schedule were recorded within the proposed development site, including otter, badger, pine marten and Irish hare. Bats were recorded on the site/surrounds and are a protected species in Ireland under the Wildlife Act 1976 (as amended) and as Annex IV species requiring strict protection under the European Communities (Bird and Habitats) Regulations 2011.

Otter is also listed in Annex II of the Habitats Directive and a QI of the Lower River Suir SAC. There is also potential for other protected mammal species to occur (although not recorded), namely Irish Stoat and Hedgehog. Other mammal species recorded included foxes.

13.10.17. Table 6.15 of the EIAR sets out a summary of bat habitat and roost suitability within a c.300m turbine buffer area. Appendix 6B contains a bat report describing survey results in detail. Bat activity was recorded for a minimum of five species, with the most common being soprano pipistrelle (35.4%), common pipistrelle (34.8%) and Leisler's bat (26.7%), with Myotis species, brown long-eared bat and Nathusius' pipistrelle, combined, making up 2.9% of total recordings. Nathusius pipistrelle are classed as high risk with regards to potential collisions and are evaluated as being of National Importance. Myotis species and brown long-eared bat are not considered high risk for collision but are susceptible to other construction impacts, and are categorised as being of County Importance. Leisler's bat frequently fly at heights greater than other species and in open areas, increasing their risk of turbine collision, the EIAR states there is a potential risk of collision for this species if commuting between turbines 1 and 6, the species being categorised as Local Importance. The EIAR notes that due to amendment to turbine location, there are five turbine locations (2, 3, 4, 9 and 10) where no data was collected of bat activity within a 300m buffer, however the EIAR states that data collected provides adequate representation of habitats and potential activity at these turbine locations with reference to NatureScot (page 6-69 EIAR) and this is considered further below. Areas of roosting potential are described in the EIAR, with the stone bridge on the River Suir confirmed as a roost in the 300m buffer of turbine 7.

13.10.18. In relation to birds and designated sites, the EIAR identifies in chapter 7 that the subject site and the Cabragh Wetlands (southern section) are considered likely to contribute, along with several other locations, to supporting a relatively mobile wintering waterbird population of county (regional) importance, and in particular mobile flocks of lapwing and golden plover. Periodic or opportunistic patterns of waterbird usage for both the subject site and the Cabragh Wetlands pNHA are evident and it is likely that birds utilise a number of alternative areas in the region, depending on conditions such as water levels and agricultural activities.

- 13.10.19. In relation to wintering waterbirds, the River Suir and associated floodplain within the 500m turbine buffer, supports numbers of county (regional) importance, for eight species comprising: 3 red listed (golden plover, lapwing and snipe), 3 amber listed (black-headed gull, cormorant and less black-backed gull), and 2 green listed (grey heron and little egret). The wetland also supports numbers of local (high value) importance for five species comprising: 3 amber listed (mallard, mute swan and teal), and 2 green listed (wintering populations of jack snipe and woodcock). Curlew, kingfisher, shoveler, whooper swan and wigeon were found to utilise the wetland relatively infrequently, and therefore populations were not of county or local importance. Very infrequent occurrence was also noted of common gull, dunlin, great black-backed gull, greylag goose, green sandpiper, herring gull and whimbrel.
- 13.10.20. In relation to breeding birds, the EIAR describes three waterbird species breeding within the subject site (lapwing 5-6 pairs, snipe 6 territories and mute swan 1 pair), with population assessments identifying that the subject site supports nationally, regionally (county) and locally important breeding populations of these species (respectively). Potential for mallard and teal to breed on the site is also identified and the section of the River Suir within the subject site is assessed as of county importance for being within the territory of 1, possibly 2 pairs of kingfishers.
- 13.10.21. Nine birds of prey were recorded, with six regularly occurring within 2km of the proposed turbine buffer, these comprised the following: 4 resident green listed breeding species (sparrowhawk 2-3 pairs, buzzard 3 pairs and long-eared owl 1 pair locally important, and peregrine 1 pair regionally important); 2 resident red listed breeding species (kestrel 1-2 pairs and barn owl 1 pair of regional importance). Exceptionally low recorded usage over the winter by hen harrier (2 observations), merlin (observed on 6 dates) and short-eared owl (1 observation).
- 13.10.22. Other red listed non-passerines recorded include foraging swift (up to 25 birds) of regional importance and possibly breeding stock dove (1 pair) of local importance. Regularly occurring red and amber listed passerines were assessed as locally important including the following breeding species which also have habitat association: ground nesting meadow pipit and skylark; riverine species including grey wagtail; farmland birds hedgerow nesting, including yellowhammer; scrub nesting species including linnets and willow warbler; and hedgerow and woodland species including goldcrest and spotted flycatcher.

13.10.23. Potential Effects in the Absence of Mitigation

Table 13.10.1: Summary of Potential Effects Biodiversity

Project Phase	Potential Direct, Indirect and Cumulative Effects (without mitigation)
Do Nothing	The current state of the environment would likely remain in use for agriculture / forestry purposes. The ecological value of the subject site would be expected to remain comparable with current conditions
Construction	<p>Biodiversity</p> <p>Direct impacts include: clearance of vegetation, soil and rock for access roads, hardstands and turbine bases leading to the loss of habitats; clearance of hedgerows / treelines to facilitate infrastructure such as access roads; loss of potential roost or swarming site due to demolition or disturbance during construction; light and noise disturbance; clearance of woodland around turbines to reduce turbulence; clearance of woodland around turbines to implement 105m bat feature buffers at turbines 4 and 10; creation of temporary infrastructure such as a site compound, blade set-down areas and crane pads; excavation of trenches for cable ducting; excavation of borrow pit; and placement of material arising from infrastructure works.</p> <p>Indirect impacts include: noise disturbance; displacement; introduction and spread of invasive alien species; changes in insect productivity in foraging sites due to lighting or changes in the vegetation composition; deterioration in water quality due to potential emissions to surface water including hydrocarbons, sediment; and disturbance to qualifying interests of the Lower River Suir SAC.</p> <p>In the absence of mitigation, the effect of these potential impacts would vary. There is potential for significant effects</p>

from the proposed wind farm and TDR upon habitats. No likely significant effects upon habitats are anticipated in association with the GCR, with the exception of the potential spread of invasive plant species.

There is also potential for significant impact upon aquatic ecology from water quality impacts. It is noted that while indirect effects may occur to Marsh Fritillary an Annex II species, as there was no evidence of it occurring within the site, there will be no likely significant effects.

Potential direct and indirect impacts upon badgers from the destruction or vacation and disturbance of setts, which would equate to a significant effect. As there were no pine martens recorded on the site and habitats were considered to be sub-optimal for dens, no likely significant effects on this species. Due to the characteristics of hare, no likely significant effects are anticipated to arise to this species.

In relation to bats, direct impacts include vegetation removal, leading to the loss of potential roost sites and foraging habitats / potential swarming areas equating to significant adverse impact. Other significant indirect impacts include noise disturbance near roost sites, changes in insect productivity in foraging sites due to lighting or changes in the vegetation composition. Lighting and noise can also be a cause of significant direct impacts, such as the barriers created by lighting or noise in more sensitive/rare species.

The potential for significant effects, in the absence of mitigation, upon QIs of the Lower River Suir SAC is identified in the submitted NIS and addressed in section 12 of this report above.

Ornithology

	<p>During construction, works have the potential to displace wintering waterbirds. These are part of a population of regional importance that utilise various sites in the area including the Cabragh Wetlands and the proposed site. alternative locations, including the Cabragh Wetlands can support mobile flocks, and therefore any short-term disturbance and/or displacement effects on wintering waterbirds during construction would be imperceptible and not significant. Potential to displace wintering lapwing, golden plover, snipe which utilise the site in numbers of county importance, would be an adverse effect of low significance over a short-term period. Jack snipe and woodcock also has potential to be disturbed by construction with wintering bird populations of these species of local importance displaced, resulting in a very low significance affect over the short-term.</p> <p>During construction, if works took place during breeding season, this has potential to result in disturbance to nesting (and potentially young birds), of lapwing, snipe, barn owl, peregrine and stock dove. This would be an adverse effect of low significance on nationally, county and locally (respectively) important populations over the short-term. There is also potential to disturb breeding sparrowhawk, buzzard and long-eared owl with an adverse effect of very low significance on locally important populations over the short-term; as well as a not significant effect on breeding meadow pit, yellowhammer and amber listed passerines.</p> <p>During construction, there is potential for a pollution event impacting water quality at the River Suir, affecting prey availability for cormorant, kingfisher, little egret, grey heron, which would be a low significance effect upon a regionally important population, over the short-term; with a not</p>
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	<p>significant effect on a locally important population of grey wagtail, over the short-term.</p> <p>During construction there is potential for disturbance of foraging kestrels, barn owl, peregrine, buzzard, long-eared owl, swift, redwing, meadow pit, yellowhammer, and amber listed passerines assessed as an imperceptible and not significant effect.</p> <p>Other wintering bird species are considered unlikely to be affected by construction activities.</p>
Operation	<p>Direct impacts include: collisions or barotrauma risk with turbines for bats; and disturbance to other existing mammals.</p> <p>Indirect impacts include: collection / drainage of surface water runoff; operational activities and servicing (limited in number); displacement effect of operating turbines; and displacement effects of lighting for substation.</p> <p>No likely significant effects are anticipated in relation to these potential impacts for designated sites (see section 12 of this report for AA), habitats, aquatic ecology, marsh fritillary or terrestrial (non-volant) mammals.</p> <p>In relation to bats, section 6.4.3.1.7.1 of the EIAR sets out a bat collision risk assessment. Direct collision and barotrauma as a result of the proposal would be a significant effect upon bats, with impact varying depending upon species. Significant effect from lighting may also result to light sensitive bat species.</p> <p>Ornithology</p> <p>Operational phase effects upon birds include surface water runoff, operational activities / servicing and displacement effect of operating turbines including long-term habitat loss and barrier effects.</p>

	<p>Potential for deterioration in water quality could impact birds reliant on aquatic habitats such as kingfisher and grey wagtail, with potential for significant effects.</p> <p>Collision risk modelling is described in section 7.3.3.5. For buzzard predicted collision risk is anticipated to have likely significant effects on the local breeding population, with recently fledged birds identified as being particularly at risk. There is also a moderate potential effect upon the local breeding population of kestrel and wintering population of wintering lapwing from collision risk. Worst case scenario predicted collision risk for wintering golden plover, snipe and lesser black-backed gull would be at the county and local population level to a low magnitude.</p> <p>Turbine type B was found to have marginally higher levels of collision risk.</p> <p>Potential for long-term loss of habitat resulting in the displacement effects or loss of resources for breeding, roosting or foraging birds. Displacement of birds to the nearby wetlands is anticipated to have imperceptible and not significant impact upon the Cabragh Wetlands pNHA.</p> <p>Potential for the long-term displacement of breeding populations of lapwing, snipe, with an adverse effect of low significance on a nationally important populations over the long-term. Potential for an adverse effect of low significance on regionally important populations of wintering lapwing, golden plover as a result of displacement.</p> <p>Negligible and not significant effects anticipated for other relevant bird species.</p>
Decommissioning	Broadly similar to the construction stage impacts, but at a reduced magnitude.

Cumulative	The list of projects considered for cumulative assessment are included in Chapter 1 of the EIAR. No potential for significant cumulative impacts or effects are identified with respect to biodiversity and ornithology.
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13.10.24. Mitigation

13.10.25. Section 6.5.1 of the EIAR outlines mitigation measures to avoid or reduce the potential impacts upon biodiversity summarised above.

13.10.26. A summary of mitigation measures during construction phase (for biodiversity) is set out below:

- Measures to prevent adverse effects on the downstream Lower River Suir SAC as outlined in the submitted NIS and reflected in the EIAR. These measures relate to the protection of watercourses which will also mitigate potential impacts upon aquatic ecology and invertebrates, and include the following:
 - set-back distance of 50m to the EPA mapped watercourse,
 - horizontal direction drilling for water crossings (avoiding instream works),
 - flood attenuation to limit flow rate into settlement ponds,
 - silt fences,
 - avoiding work near watercourses during or after prolonged rainfall,
 - appointment of an Environmental Manager to oversee implementation of protective measures,
 - appointment of an Ecological Clerk of Works to oversee works,
 - CEMP,
 - adherence to good practice measures,
 - on site worker inductions,
 - felling licence,
 - measures to prevent and manage spills / sources of contamination,

- artificial lighting kept to a minimum with dark hour restrictions and directional,
- measures to prevent spread of invasive species.
- Designed-in measures to prevent impact upon Annex I habitat Molinia meadows, poor fen and flush habitat and marsh habitat, with layout altered to avoid this habitat.
- Bat buffers.
- Ecological Clerk of Works to oversee all works.
- Root protection areas.
- Pre-construction otter survey.
- No works within 150m of otter holt.
- Methods to reduce noise and vibration, such as through working hours, no vehicle queuing, control of noise from reversing vehicles.
- Shut down of equipment not in use and examination for faults.
- Use of silenced and efficient plant, generators, compressors.
- Ecological walkover survey prior to works or tree felling commencing with use of exclusion zones if any mammal resting places identified.
- Pre-construction pine martin and badger surveys.
- No works within 20m of active badger setts, heavy machinery exclusion zone 30m from badger setts, buffer of 30m around sett entrances and avoidance of periods of time when badgers particularly sensitive to disturbance with no works within 50m of setts during breeding season.
- Limiting construction works largely to daylight hours and providing egress points to excavation holes.
- Where identified at having potential roost features, prior inspection of trees planned for felling by a bat specialist, with felling to be delayed if necessary.
- If a derogation licence is required, this will be sought from the NPWS prior to any construction works being undertaken.

- Prior inspection of trees with potential to be utilised for bat roosts, for potential roost features, by qualified ecologist before felling.

13.10.27. A summary of mitigation measures during operation phase (for biodiversity) is set out below:

- Mitigation measures to prevent adverse effects upon the Lower River Suir SAC are outlined in the NIS and reflected in the EIAR. They relate to the protection of water quality and will be sufficient to also avoid impact upon other aquatic ecology included salmonids.
- Hedgerows required to be felled during the construction phase will be replanted for the operational phase, resulting in no net loss of hedgerow length.
- Measures to avoid operation impacts, including collision and barotrauma on bats, as well as indirect impact on foraging and commuting (with detail set out in appendix 6B of the EIAR).
- SMART curtailment measures at turbines with the highest collision risk (feathering wind turbines – reducing speed or stopping rotation, when predetermined climatic conditions suggest increased bat activity), minimising power generation losses.
- Compensatory planting of hedgerow / treeline habitat to mitigate loss of habitat impact upon foraging / commuting bats.
- Monitoring programme and requirements for remedial measures.

13.10.28. During the decommissioning phase, similar mitigation measures as detailed for construction phase will minimise and avoid impacts.

13.10.29. Section 7.5 of Chapter 7 of the EIAR outlines mitigation measures with respect to ornithology.

13.10.30. A summary of mitigation measures during construction phase (for ornithology) is set out below:

- Measures to protect water quality as set out in the CEMP (Appendix 2B EIAR), to avoid adverse effect on birds relying on the maintenance of water quality in downstream aquatic habitats, including cormorant, grey heron, little egret, kingfisher and grey wagtail.

- Avoidance of direct and indirect disturbance / displacement. Prior to commencement of works, due diligence ecological site walkover to ensure potentially sensitive ornithological receptors are identified and allow for appropriate control measures to be implemented.
- Restricting works to the footprint of the proposed works, to avoid widespread disturbance to birds.
- Avoiding direct and indirect disturbance to breeding birds: construction timing to be outside bird breeding season; habitat clearance prior to 1st March; vegetation removal for bat buffers outside of bird breeding season and maintaining conditions to limit suitability for ground nesting; where vegetation clearance required during bird breeding season this shall have surveyed before by the Ecological Clerk of Works (ECoW);
- Construction works required during breeding bird season to be preceded by a survey with ongoing monitoring; pre-construction lapwing survey; works to borrow pit within 500m of a known peregrine nest, to commence prior to the onset of the bird breeding season to allow the resident pair to habituate to the disturbance or relocate, if the site is occupied, no works will take place within 500m of the peregrine nest during egg laying or early incubation (April and mid-May).

13.10.31. A summary of mitigation measures during operation phase (for ornithology) is set out below:

- Measures to protect water quality: utilisation of drainage infrastructure from the construction stage, with partial fill of sediment ponds, and regular inspection of this infrastructure, along with culverts and stream crossings; restricted vehicle movements to internal access tracks; no fuels, oils or construction fluids stored on site unless within a designated area with bunds of 110% storage capacity and away from watercourses.
- Mitigation measures to reduce collision risk and displacement effects: management measures for breeding lapwing, to increase productivity and survival of young birds, to consequentially offset the (low magnitude) effect of predicted collision risk and displacement arising from the proposed wind

turbines; management measures to improve the quality of breeding habitat for snipe to maintain baseline breeding densities and potentially increase the number of territories, to offset the (low magnitude) predicted displacement arising from the proposed wind turbines; measures for wintering waterbirds including facilitating continued utilisation of the River Suir floodplain and restricting the hunting of wildfowl; measures for kestrel including provision of nest boxes and site clearance actions to limit prey availability around turbines; measures for peregrine including post-construction monitoring; and measures for swift including nest boxes via financial support to Swift Conservation Ireland with provision on suitable buildings in the wider area.

- Operational phase monitoring.

13.10.32. Direct and Indirect Effects Assessment

13.10.33. I have examined, analysed and evaluated Chapters 6 and 7 of the EIAR and associated documentation, including submissions on the file related to these topics+. Third parties raise various concerns, including in relation to data presented, impacts upon birds, bats, aquatic ecology, otter, and loss of hedgerow / woodland habitat.

13.10.34. In relation to the survey data relied upon in the EIAR and methodology in general for the biodiversity, ornithology and related chapters of the EIAR, I am satisfied that the applicant's ecologists and surveyors are suitably qualified, best practice has been applied, and the submitted assessments can be relied upon in this regard. I also refer to the Commission's Ecologist's conclusions in this regard as set out on pages 6 and 7 in Appendix 4 of this report. With particular regard to ornithology, I note that the Commission's Ecologist highlights that the surveys undertaken in this regard are comprehensive (section 4.1.10 Appendix 4). While I note third party concern that local knowledge of the extent of species present on the site is not reflected in the survey data, I am satisfied that the survey data covers a range of periods and areas for the site, providing a good representation of the habitats and species present, and can be relied upon for my assessment. In my view, there is nothing in the submitted documentation to suggest a lack of rigor in this regard.

13.10.35. In relation to potential impact upon habitats on the site and sensitive habitat in the area, the assessment set out in this EIA with respect to biodiversity and my AA in section 12 with associated appendices 2 and 3, fully consider potential impact upon

sensitive habitat on the site and in the area. I note a submission referencing concern about impact upon Lough Corrib SAC also a RAMSAR site. This is situated over 100km from the subject site and there are no pathways, and therefore no potential for adverse effect, from the proposed development. In relation to Cabragh Wetlands, the EIAR notes distances to this in section 7A.2.2.3, the subject site being c.6.5m from Cabragh Marshes and c.1km to the Tank wetland (part of the Cabragh Wetlands). I am satisfied that the EIAR fully considers potential effects upon the wetlands and associated species.

13.10.36. With specific reference to habitat on the site, the loss of 4086m of hedgerow and 1.4ha of woodland is categorised as a significant impact at the local level. To mitigate this impact, compensatory planting is proposed, however the detail of this compensatory planting is not clear and this is also highlighted in the Commission's Ecologist report (section 3.2.3 Appendix 4). The EIAR does give a commitment to no net loss of hedgerow, and with respect to reestablishing habitat connections for bats, some clarification is provided that this will take place surrounding T4 and T.10, as well as replanting around T7. In relation to high value/sensitive habitat (including Molina Meadows), the design approach to layout avoids this, and any consequential effect from drainage during construction will be monitored to ensure that this habitat is not impacted. However, if impact occurs, the Commissioner's Ecologist has highlighted that remedy will be required for this (section 3.2.5 Appendix 4). I am satisfied that a condition can be relied upon to secure the detail of compensatory planting, and to require the remedy of any effect to Molina Meadow habitat, and I have included a condition regarding the same in my recommended order below should Commissioners agree with this approach.

13.10.37. In relation to submissions regarding impact upon trout and freshwater mussel, the conclusions set out here and as part of my AA with respect to potential effect upon water quality, consider aquatic species, including fish. Mitigation is included to reduce and eliminate potential risk to water quality which will consequentially protect aquatic species, including should there be any trout or freshwater mussel present, although surveys do not suggest they are a particular feature of the site.

13.10.38. With respect to potential impact upon badgers, the potential for significant impact at a county level is identified on the basis of possible destruction / abandonment of 2 active setts to accommodate proposed turbines T9 and T4 and possible disturbance of

a main sett within 100m of another proposed turbine (in the pre-mitigation condition). To address this potential impact, the EIAR includes mitigation in the form of timing of works and buffer zones ranging from 20-50m to sett entrances. However, the location of badger setts are not confirmed given the sensitivity of this information. The Commission's Ecologist report in section 3.3.1 Appendix 4 highlights that as a result, it is not possible to clarify the efficacy of buffer zones. Actions to be adopted if a sett is removed or destroyed is also not addressed in the EIAR, despite risk of such occurrence being identified. I am satisfied that the proposed mitigation set out in the EIAR is intended to avoid the risk of disturbance or destruction of badger setts. With the application of buffer zones to the entrance of setts, it will be possible to protect badger setts and avoid significant impact. However, in the unlikely event that disturbance or destruction is not avoided, the Commission's Ecologist has recommended a condition to clarify appropriate actions in this circumstance. I have therefore included this condition in my recommended order below, should Commissioner's agree with this approach, which requires pre-construction survey for setts and application of best practice measures should destruction be unavoidable.

13.10.39. In relation to bats, I note submissions raising concern regarding potential impacts and adequacy of mitigation. As set out in this report above, survey data for the site was undertaken using various techniques over multiple periods. Mitigation is proposed as part of the development as outlined above, including buffer zones, compensatory planting and use of curtailment – feathering of blades. In respect of survey data, limitations are identified with respect to static detectors, I note that these were not used within 300m buffer of turbines T2, T3, T4, T9 and T10 due to the design process. The applicant contends that given the data provided across the site, the lack of static detectors at these locations should be acceptable. The Commission's Ecologist accepts this justification with respect to T2 and T3. In relation to T4 it is noted that vegetation will be removed here which will reduce bat habitat in any case thereby making collision risk less likely. The Commission's Ecologist states that she is satisfied that the applicant has taken a precautionary approach in view of the data collected across the site, although concern is highlighted with respect to lack of static data at proposed turbines T9 and T10. In relation to proposed turbines T9 and T10, the Commission's Ecologist states that collision risk persists despite mitigation measures set out in the EIAR, as it is possible that the magnitude of effect has been

underestimated in these locations given their woodland and riparian characteristics, therefore the Commission's Ecologist contends that the magnitude of effect is greater than set out in the EIAR, and moderate at these locations (rather than not significant – refer to table 1-3 Chapter 1 in the EIAR for criteria for assessing effects of development).

- 13.10.40. No significant impacts are anticipated with respect to T1 to T8. I am satisfied that given the extent of data collected across the site in total, an adequate representation of bat activity is provided for the site which can be relied upon for my assessment in general. However, I concur with the Commission's Ecologist view that collision risk may be underestimated for T9 and T10 due to the characteristics of these locations and in the absence of specific static detector data. As a result, collision risk is of moderate magnitude with respect to these two turbines, however the conclusion remains that significant effects will not result to bats. The EIAR includes post construction monitoring as part of mitigation which will ensure that the efficacy of curtailment mitigation can be monitored with adaptive measures applied should higher bat mortality be recorded than predicted in the EIAR. I am therefore satisfied that mitigation in the EIAR will adequately protect bats and ensure that a significant adverse effect does not result particularly in relation to collision risk.
- 13.10.41. As no bat roosts were identified for removal, a derogation under Regulation 54 of the European Communities (Birds and Natural Habitats) Regulations 2011 is not required to accompany the planning application, but it remains the developer's responsibility to obtain this should roosts be identified during pre-construction survey / site clearance.
- 13.10.42. The potential for adverse effect to otter is considered in detail as part of Appropriate Assessment in section 12 and associated appendices 2 and 3 of this report. In summary, due to the known range of otter, individuals utilising the subject site can be considered part of the Lower River Suir SAC population and mitigation set out in the NIS ensures protection of this species. This can be read alongside mitigation set out in the EIAR, which will also protect otter, including pre-construction surveys, supervision of activities by an Ecological Clerk of Works and detail with respect to watercourse crossings during construction. Otter is an Annex II species, and disturbance will require derogation under the European Communities (Birds and Natural Habitats) Regulations 2011 should pre-construction surveys identify an active holt, and it is the responsibility of the developer to obtain derogation if disturbance is likely.

13.10.43. I note submissions with respect to potential adverse impact upon birds. Submissions suggest that the full extent or intensity of species that frequent the site are not reflected in surveys for the EIAR, particularly in relation to birds. I also address this at the start of this section of my report above, where I note that the Commission's Ecologist report (Appendix 4 of this report) confirms that surveys are acceptable. In relation to swans and geese, submissions state that the importance of the site for these species is underrated in the EIAR. The Commission's Ecologist states that these species have been adequately considered and assessed as part of the EIAR and Response document. In light of the comprehensive data presented in the EIAR, the characteristics of the site, and the advice from the Commission's Ecologist, I am satisfied that the survey findings as presented in the EIAR are an accurate representation of species present on the site and can be relied upon for my assessment.

13.10.44. I note submissions with respect to potential bird mortality from operation of the turbines, including reference to a US study regarding decline of bird species as a result of turbines. In relation to the potential for collision risk for birds with the proposed turbines, the EIAR presents collision risk modelling (CRM) in appendix 7H, which can be considered indicative of likely effects. The CRM incorporates an avoidance rate for lapwing and golden plover in particular, and a rationale for this is presented in section 5.5 of appendix 7H for the EIAR. The Commission's Ecologist considers this in section 4.1.12 in Appendix 4 of this report. This approach has been accepted by the commission on other wind farm applications, and I am satisfied that it is an acceptable approach. Mitigation is summarised out on page 134 of Chapter 7 in the EIAR with respect to collision risk to birds as follows:

“Proposed mitigation for predicted collision risk and displacement effects are considered together in Section 7.5.1.3 (EIAR), with species specific mitigation strategies provided employing a combination of avoidance, e.g. important wetland habitats, offsetting with enhancement measures, e.g. provision of nest boxes to increase productivity and monitoring during sensitive periods, e.g. at fledging time for peregrine.” (Pg.134 Chp.7 EIAR).

13.10.45. I concur with the EIAR findings that with the application of mitigation, significant effects are not anticipated with respect to bird collision risk from operation of the proposed turbines.

13.10.46. With specific reference to potential effect upon breeding lapwing, there is a population assessed as being of national importance within the site. This species is in unfavourable conservation status and red-listed on Birds of Conservation Concern Ireland resulting from severe long-term decline in the breeding population. I note the Commission's Ecologist highlights concern that while the design of the proposed development avoids areas of wetland habitat of significance for breeding lapwing, given the sensitivity of breeding lapwing to disturbance and the existing pressures on the species, it is concluded in the specialist report (ref. page 25 of Appendix 4), that pre-mitigation impact upon breeding lapwing may be underestimated for both construction and operational phase, should alternative habitat not be available in the locality. The Commission's Ecologist anticipates that potential effect from displacement or disturbance of breeding lapwing from the site would equate to a short-term adverse effect of high significance on the regional scale during construction, and a potential long-term moderate effect on the regional scale during operation, on the basis of the pre-mitigation condition. Page 125 of Chapter 7 in the EIAR outlines specific mitigation with respect to breeding lapwing. With the application of mitigation as described in the EIAR, the Commission's Ecologist states that significant effect on the county/regional and national population levels of breeding lapwing will be avoided. I have had regard to submissions, the survey findings of the EIAR, the proposed mitigation in the EIAR and the Commission's Ecologist report. Overall, I am satisfied that the mitigation proposed is comprehensive and will be effective at avoiding significant effect upon breeding lapwing.

13.10.47. In relation to submissions regarding peregrine falcons including a breeding pair in Knox's Wood. The EIAR surveys confirm the presence of a number of raptor species in the area, including peregrine falcon confirmed to be breeding at Brittas Castle within 600m of the nearest turbines. Pages 178 and 179 of the EIAR sets out specific mitigation for peregrine. There are no displacement effects anticipated and there is a low magnitude potential for collision risk for the breeding population, with impact categorised as imperceptible. However, the EIAR recognises that the proximity of the proposed turbine to the breeding location introduces collision risk to recently fledged birds. Therefore, mitigation is outlined in the form of post-construction monitoring, in years 1, 2, 3, 5, 10 and 15 around fledging time. This mitigation is expanded upon in section 7.5.2 of the EIAR. I am satisfied that the EIAR has given comprehensive

consideration of potential impact upon breeding peregrine falcons and that with the application of proposed mitigation, no significant effect will occur.

13.10.48. I note submissions with respect to kingfisher, particularly in relation to buffer zone distance to habitat. Kingfisher are not at risk of collision with turbines due to being low flying and situated close to their river and channel habitat. With reference to buffer zones, I note that Goodship & Furness (2022) suggest a breeding and non-breeding season buffer zone of 50-100m (depending upon habituation levels) to protect kingfisher from pedestrian disturbance, and therefore distance to blade tip would not be relevant in that instance. The EIAR describes mitigation to protect water quality for kingfisher benefit. Reference to buffer zones and kingfisher in the EIAR is primarily related to nest/roost sites, and as none were identified on the site, there is no likelihood of breeding disturbance. I am satisfied that the EIAR has fully considered potential effect upon kingfisher and contains suitable mitigation in this regard, and I concur that no significant effects are anticipated.

13.10.49. I note submissions that raise particular concern with respect to impact upon owls. Surveys include record of owl species on the site and it is concluded that with there would be no significant residual impact upon owl species, and I concur with this assessment in the EIAR.

13.10.50. In relation to a submission highlighting concern with respect to shadow flicker and livestock / wildlife, shadow flicker is addressed with respect to human health in section 13.9 of this EIA and amenity in section 11.4 above. A condition is recommended that will use proven technology to eliminate shadow flicker and while there is no requirement with respect to livestock or wildlife, this mitigation would also be beneficial in this regard.

13.10.51. In relation to submissions on PFAS use and consequential impact upon the environment, I address this with respect to amenity in section 11.4 above which would also relate to any wider environmental effect.

13.10.52. I note submissions on potential impact to bee / pollinator species. Section 6.2.2.3 of the EIAR outlines that with respect to invertebrates, there is a lack of suitable habitat on the site and specific terrestrial invertebrate surveys were not required, with the exception of the Annex II marsh fritillary butterfly. While there was no recording of marsh fritillary on the site, their presence could not be ruled out, and potential effects

are assessed in the EIAR. No likely significant effects on marsh fritillary (or any other invertebrates) are anticipated, and I concur with this conclusion.

13.10.53. I note submissions with respect to the adequacy of the consideration of in-combination effects in the EIAR (and NIS). I have described above that the EIAR concludes that there are no significant cumulative effects anticipated with consideration of other development in the area. I also note that the Commission's Ecologist notes in section 4.1.16 of Appendix 4 of this report, that the consideration of cumulative effects arising from displacement and collision risk with other wind farms and other development is considered comprehensively in the EIAR, and is a good example of cumulative impact assessment. With respect to the consideration of farms, forestry and quarries that are operational in the area, these will contribute to the baseline condition which is accounted for in the surveys that have informed the findings of the EIAR. I am satisfied that the assessment of cumulative effects in the EIAR (and NIS) is acceptable and I concur with the conclusion that no significant in-combination effects are anticipated.

13.10.54. I have had regard to relevant policies and objectives under the County Development Plan with respect to ecological impact, including policy 11-4 with respect to the conservation, protection and enhancement of areas of biodiversity value, as well as the National Biodiversity Plan. The assessment set out above provides a detailed examination of the potential effects upon ecology, and alongside my consideration of AA in section 12 of this report, I am satisfied that with the implementation of mitigation outlined above, no significant negative residual effects upon biodiversity and ornithology.

13.10.55. Direct and Indirect Effects Conclusion

13.10.56. Having regard to the examination of environmental information in respect of biodiversity, in particular the EIAR provided by the applicant and the submissions during the course of the application, it is considered that the main direct and indirect effects on biodiversity and ornithology are as follows:

- Residual impact upon biodiversity during construction: Potential for emissions to impact water quality to be mitigated to ensure no significant effects. Habitat removal, including hedgerow removal, to be offset through replanting, with reinstatement of hedgerows with similar species or native species. Any

hedgerow lost permanently will be replanted in a more appropriate area.

Following establishment of compensatory planting, no significant residual effect upon habitat. Disturbance / mortality / loss of breeding and foraging habitat for terrestrial mammals and bats, with measures to mitigate against habitat loss and reduce disturbance, reducing residual effect upon terrestrial mammals and bats to not significant.

- Residual impact upon ornithology during construction: With mitigation, not significant effects upon Lapwing (breeding), snipe (breeding), Jack snipe (wintering), Stock dove (breeding), Kestrel (resident), Peregrine (resident), Riverine species (Cormorant, Kingfisher, Little egret), Barn owl (resident), Buzzard (resident), Sparrowhawk (resident), Long-eared owl (resident); and negative effects of 'low significance' on Lapwing (wintering), Golden plover (wintering – reducing to not significant over the long-term), snipe (wintering).
- Residual impact upon biodiversity during operation: With the implementation of the mitigation and monitoring measures outlined in the EIAR and summarised above, residual effect is anticipated to be not significant upon designated sites, habitats, aquatic ecology, other taxa (Marsh Fritillary), terrestrial mammals and bats. With the exception of collision risk associated with turbines T9 and T10 for bats, with an effect of moderate significance following the application of mitigation due to the woodland and riparian characteristics of these locations.
- Residual impact upon ornithology during operation: With mitigation, not significant effects upon Lapwing (breeding and wintering), Golden plover (wintering), Snipe (breeding and wintering), Lesser black-backed gull, Swift (summer), Kestrel (resident), Peregrine (resident), Riverine species (Cormorant, Kingfisher, Little egret), Buzzard (resident), Long-eared owl (resident).
- Residual impact upon biodiversity and ornithology during decommissioning: Not significant.

13.10.57.I concur with the conclusions reached in the EIAR with respect to impact upon biodiversity and ornithology. With the application of mitigation as set out above, no significant negative direct or indirect effects upon biodiversity (including ornithology) will arise from the proposed development.

13.11. Land, soil, water, air and climate

13.11.1. Issues Raised

13.11.2. Submissions raise concern regarding potential adverse impact with respect to water and air pollution which are addressed as part of my assessment below. Potential effect upon air and water, as well as land, soil and climate, is outlined below.

13.11.3. Context

13.11.4. Chapter 8 of the EIAR 'Land and Soils' considers how the proposed development could affect the local land and soil environment, chapter 9 of the EIAR is entitled 'Hydrogeology and Water Quality' assessing potential effects upon the same, and chapter 14 of the EIAR considers 'Air and Climate'.

13.11.5. Baseline

13.11.6. Chapter 8 'Land and Soils' describes the existing land use at the subject site, being made up of agricultural fields bounded by hedgerows and treelines, as well as a broadleaf forest to the southwest of the site, and the River Suir transecting the site from north to south. The N62 is to the west of the site and the L8017 local road traverses the centre of the site from east to west. The topography of the site is largely flat. The site is underlain by Carboniferous Limestones. Surveys of the site found that topsoil is typically 300mm thick across the site and 'peaty' in locations, with very soft organic silt underneath topsoil in locations, as well as dense sands and gravels interspersed with layers of sandy gravelly clay. the predominant soil type on the proposed project site is "BminDW- Deep well drained mineral with calcareous composition (mainly basic)" followed by "BminPD – Poorly drained mineral with calcareous composition (mainly basic)" mapped in a few parts of north-east and southwest of the proposed project site. There are no Geological Heritage Sites, also known as County Geological Sites (CGSs), within the site boundary. The closest quarry to the site is Castletown Quarry which is located approximately 6km east of the wind farm site. The entire site is classified as being within a 'low' or 'low (inferred)' landslide susceptibility area and no peat is mapped within the site on the GSI Quaternary Geology Maps.

13.11.7. Chapter 9, 'Hydrogeology and Water Quality', describes the site characteristics with regard to water. The River Suir transects the site from north to south and the site is

within Hydrometric Area no.16, the Suir catchment, within sub catchments 16_22 (Suir_SC_010) and 16_21 (Suir_SC_040), and the river sub basins Suir_050 and Suir_060. The Rossestown Stream (IE_SE_16R010300) flows to the east of the proposed project site and confluences with the Rossetown Bridge Stream (IE_SE-16S020500). The Farranreigh 16 Stream (IE_SE_16D020400) is located to the east of Thurles and is crossed by the grid connection over a single span arch bridge before connecting into the Thurles substation. The River Suir is designated as a Natura 2000 site downstream of the subject site after Thurles (the Lower River Suir SAC Site code 002137), section 12 of this report considers European designated sites in detail. Table 9-6 of the EIAR sets out the River Water Quality at Relevant EPA stations in proximity to the site, for the Suir River, while this is 'Not at Risk' where it flows through the subject site, it is 'At Risk' of not achieving the WFD objectives.

13.11.8. The EIAR includes a Flood Risk Assessment in Appendix 9A, which identifies that the site is at risk of fluvial flooding from the River Suir, and the Rossestown Stream and its tributaries. The CFRAMS flood extents also indicate that the site is vulnerable to flooding. The hardstand for proposed turbine 4 is in Flood Zone A, proposed turbines 1, 2, 3 and 7 are in Flood Zone B, proposed turbines 5, 6, 8 and 9 are in Flood Zone C, and the proposed sub-station is within Flood Zone C.

13.11.9. In terms of hydrogeology, the site is situated in groundwater body Templemore (IE_SE_G_131) (poorly productive bedrock), with the proposed grid connection within groundwater body Thurles (IE_SE_G_158) (karstic). The majority of the proposed project site and grid connection are situated within an aquifer that is described by Geological Survey Ireland (GSI) as a Locally Important Bedrock Aquifer, Moderately Productive only in Local Zones (Category LI). Parts of the grid connection route to Thurles is situated within an aquifer which is described as a Regionally Important Aquifer, which comprises of bedrock which is Karstified (diffuse) (Category Rkd) and a locally important aquifer with bedrock that is generally moderately productive (Category Lm). Currently, the EPA classifies the Templemore GWB as having Water Framework Directive (WFD) Status (2016-2021) of 'Good', with a current WFD risk score of 'At risk'. The Thurles GWB has a WFD Status (2016-2021) of 'Good', with a current WFD risk score of 'Not at risk'. The GSI database lists sixteen boreholes and

one dug well in proximity to the proposed project site, with table 9-9 of the EIAR identifying these.

13.11.10. Chapter 14 of the EIAR addresses Air and Climate. This sets out the baseline characteristics of the area which the site is situated in with respect to air and climate. In terms of air quality, the nearest station in Kilkenny, gives an Air Quality Index Health classification of '2-Good' for the area. In general, existing baseline levels of CO, NO₂, SO₂, PM_{2.5} and PM₁₀ are well below ambient air quality limit values in the vicinity of the proposed development. There is a spike for SO₂ annual levels at Letterkenny station associated with winter heating season. The nearest sensitive receptor with respect to dust soiling to the main wind farm site is approximately 294m from the proposed substation and there are approximately 60 receptors within a 50m buffer zone to the proposed grid connection. The nearest synoptic stations (operated by Met Éireann providing weather data) to the site are at Birr approximately 42km to the north and Kilkenny 38km to the east. A description of Ireland's GHG emissions (greenhouse gas) and climatic conditions is also provided, with the general trend of increased temperatures and extreme weather events for the state highlighted.

13.11.11. Potential Effects in the Absence of Mitigation

Table 13.11.1: Summary of Potential Effects land, soil, water, air and climate

Topic	Project Phase	Potential Direct, Indirect and Cumulative Effects (without mitigation)
Land and Soils	Do Nothing	Land use would remain unchanged and agricultural practices will remain the same, with no alteration to existing land and soils.
	Construction	Soil and bedrock excavation have the potential to cause changes in land and soil environment. These effects are not anticipated to be significant. Not significant effects arising from temporary and transient disturbance of road surfaces and soil/subsoils during excavation of soils and subsoils for the turbine delivery route.

	<p>Felling of approximately 1.4ha of forestry and removal of 4086m of hedgerow to facilitate construction of turbine bases, hardstands, permanent meteorological lidar, substation, BESS, internal access tracks, cable trenches, grid connection and turbine delivery route works. Existing agricultural land uses will continue in the areas immediately adjacent. There will be temporary disruption effect on existing road transport land uses. Overall impact from changes to land use are anticipated to be of negative, localised, short term, moderate, low, slight in effect, in the absence of mitigation.</p> <p>Soil erosion arising from soil, subsoil and bedrock excavation, movement, alteration and removal associated with construction activities, with negative, localised, short term, moderate, low slight effect. Soil compaction associated with construction activities such as from the movement of overland traffic, in the absence of mitigation, temporary increasing surface water runoff and further soil erosion, with negative, localised, short term, negligible, low and not significant effect. Potential for overburden collapse at proposed horizontal direction drilling (HDD) locations, considered to be a negligible, low and not significant effect prior to mitigation. Not significant effects arising from the grid connection route and turbine delivery route upon soil erosion / compaction and slope stability.</p> <p>If piling is used, a slight effect on the land and soils and geology will occur within the wind farm</p>
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	<p>site, grid connection route and turbine delivery route during construction works without the implementation of the proposed mitigation measures. If piling is not used, a not significant effect will occur.</p> <p>Use of machinery during construction has the potential to result in spillage of fuels, oils, lubricants or other hydrocarbons to land and soils, potentially adversely effecting land and soils, with contamination leading to the degradation and physio-chemical alteration of lands and soils, and indirect effects to biodiversity, human health and material assets. Negative, localised, temporary, moderate, high and moderate effect.</p> <p>Potential for concrete and other cement based product spill associated with concrete truck chute washing, wheel washing and placement of machinery, with indirect impact on hydrological environment and groundwater environment, altering pH, damaging aquatic ecology. Negative, localised, temporary, indirect, high and moderate effect.</p> <p>Blasting at borrow pit may be necessary to enable excavation of rock, if not mitigated, this could result in soil liquefaction and contribute to slope instability. Also potential to create excessive dust, impacting soils or nearby aquatic environment. Negative, localised, brief and occasional, minor, low and not significant effect.</p> <p>Landscaping, soil excavation, and root and stump harvesting can cause extensive soil disturbance and expose underlying overburden which may</p>
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		influence soil stability and contribute to soil sedimentation, soil erosion and surface water runoff. Slight, not significant effect.
	Operation	<p>Additional, temporary displacement effects on some agricultural land use adjacent to the turbines may occur during the operational phase if any wind turbine blades require replacement. Reinstatement of two temporary hardstand areas along TDR may be required in the event of turbine blade replacement. Once operational, unused areas will return to their land uses. Approximately 1.8ha of the site will be permanently displaced, with loss of land use not significant.</p> <p>Not significant effects upon land, soils and geology during operation.</p> <p>Potential for accidental spillages from plant and machinery operating at the site during maintenance of turbines. The transformer in the substation and transformers in each turbine are also oil cooled. Negative, localised, temporary, moderate, high, and moderate effect.</p>
	De-commissioning	Minimal earthworks to cover foundations and hardstands, revegetation impacts, with negligible effects. Hydrocarbon spill could arise from vehicles and machinery used to remove turbine component, with no significant effect. A return to the original land use practices will recommence, with positive, localised, long-term, negligible, low, not significant effect.
	Cumulative	The EIAR identifies relevant plans and projects considered with respect to the potential for in-

		combination effects. No significant cumulative effects on land and soils.
Hydrogeology and Water	Do Nothing	Agricultural practices will remain the same, with no alteration to the existing hydrological or hydrogeological regime.
	Construction	<p>Replacement of vegetated surface with impermeable surfaces could result in an increase in the proportion and speed of surface water runoff. During storm events, additional runoff coupled with increased velocity of flow could increase hydraulic loading, resulting in erosion of watercourses and impact on aquatic ecosystems, or increase the flood risk downgradient. This negative impact results in an effect of moderate significance.</p> <p>Earthworks, cut and fill and excavation activities could result in the release of suspended solids to surface watercourses resulting in increased suspended sediment load, increased turbidity, affecting water quality and aquatic species. This would result in a significant negative effect.</p> <p>Use of machinery during construction could result in spillage of fuel, oil, lubricants, or other hydrocarbons to surface waters and groundwater, potentially adversely affecting local groundwater quality and surface water quality in downstream areas. This would result in a significant negative effect.</p> <p>Concrete chute washing, wheel washing, and placement of machinery has the potential to create a cement spill, effecting water quality and</p>

		<p>consequentially fish species, with negative effect of moderate significance.</p> <p>Water crossings are required for internal access road, internal cables and the grid connection. Diversion, culverting and bridge crossings of surface watercourses can result in morphological changes, changes to drainage patterns and alteration of aquatic habitats. Construction of structures over watercourses also has the potential to interfere with water quality and flows. These impacts have a resulting negative effect of moderate significance.</p> <p>Wastewater associated with construction worker welfare facilities on the site, has the potential to contaminate receiving waters if stored incorrectly and should leaks occur. With a negative effect of moderate significance.</p> <p>Groundwater levels may be lowered by dewatering during excavation works and associated with the borrow pit, with potential to affect local well supplies in close proximity. This results in a negative effect of slight significance.</p>
	Operation	<p>Increase in surface run-off form a storm event to streams within the site due to decreased ground permeability at turbine hardstands, grid connection, BESS and substation compound. Additional flow discharge to drains adjacent to access tracks. Resulting in a not significant effect.</p> <p>Potential for oil spills associated with cooling of transformers at the substation and BESS. The transformer will however be located in a concrete</p>

		bund to prevent loss of oil. Resulting in a not significant effect.
	De-commissioning	Potential for increased surface runoff resulting in an increase in suspended solids. However, increase in runoff will be negligible compared to the flows of receiving waters. Hydrocarbon spills could arise from vehicles and machinery used to remove turbine components. Impacts would be temporary in nature, and no significant effect will result.
	Cumulative	Addressed in section 9.7 of the EIAR, with the identification of relevant projects for consideration of in-combination effects. No cumulative negative effects with other existing or proposed projects in the vicinity.
Air and Climate	Do Nothing	In the absence of the proposed development, the opportunity to offset GHG emissions from fossil fuel-based energy would be lost. Potential for Ireland to reach its renewable energy targets set out in the National Climate Action Plan and contribution to climate change mitigation would be reduced. There would also be continued deterioration in air quality. This equates to a negative, slight to moderate and long term effect.
	Construction	Emissions from vehicle exhaust, from the movement of machinery, construction vehicles and the use of generators, containing CO ₂ , SO ₂ , NO _x , CO and PM ₁₀ . Equating to a negative, imperceptible, local, short-term and direct effect on air quality. Dust generated from excavation, moving and transporting soil and materials. Equating to a

		negative, slight to moderate, temporary to short-term and direct effect on dust sensitive receptors.
	Operation	No significant negative impacts on air quality from dust and traffic emissions given the only activity of site will consist of occasional maintenance. The proposed development will contribute to national renewable energy targets and reductions in GHG emissions. Tables 14-25 to 14-27 detail the CO ² losses due to the proposed development, accounting for all components, including construction, forestry/hedgerow felling and peat removal, with a payback time of 0.9 years for each turbine option estimated, and therefore the remaining 34.1 years of operation of the proposed development would be directly responsible for carbon savings. The proposed wind farm will save approximately 56,174 tonnes CO ₂ to 65,043 tonnes CO ₂ per year. This results in a long-term, moderate, positive effect.
	De-commissioning	Dust generating activities will be reduced compared to the construction phase. Emissions from plant and machinery will also be lower than construction phase. Impact is predicted to have a negative, slight, temporary to short-term and direct effect.
	Cumulative	Planning applications of relevance are listed in section 1.6.4.6 of Chapter 1 of the EIAR. With respect to air quality, the most likely cumulative effect would arise from construction phase dust emissions. The nearest development of significant scale to the proposed development which is currently under construction is Ballincurry Wind

		<p>Farm (14.7km from proposed development) and Upperchurch Wind Farm (17.05km from proposed development). Other developments, including housing developments are considered sufficient distance away and are not considered likely to cause cumulative effects to air quality, particularly dust emissions. The resultant cumulative effects on air quality will be imperceptible. During operation, the combination of the proposed wind farm and other operational renewable electricity generation projects, will result in greater benefits in terms of tonnes of CO₂ emissions avoided. Resulting in long term, significant and positive effect on air quality and climate.</p>
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13.11.12. Mitigation

13.11.13. Section 8.5 of the EIAR describes the proposed mitigation with respect to land and soils. Mitigation is incorporated into the design of the project as described in the EIAR. A summary of mitigation measures during construction phase is set out below:

- Site surface water management system to be constructed to attenuate run-off, guard against soil erosion and safeguard downstream water quality.
- Measures to control temporary stockpiling of excavated spoil.
- Excavated material from the grid connection route will be used to reinstate the area around the cable trench following backfilling of the trench with approved materials.
- Measures for the turbine delivery route, including use of existing road network, localised and minimal soil/subsoil excavation, excess excavated material to be used for local landscaping, temporary hardstand area to be reinstated to original condition on completion of works.
- Silt traps placed in existing drainage and inspected weekly.

- Measures to minimise and mitigate soil compaction including, a Traffic Management Plan (Appendix 16A EIAR) to manage and control vehicular movement and pore water pressure to be kept low around excavations.
- Temporary cuts/excavations to be carried out in a manner where they are stable or adequately supported.
- All site excavations and construction to be supervised by a suitably competent and experienced engineer.
- A competent project geotechnical engineer or engineering geologist to be employed during the construction phase of works, with detailed assessment and identification of potential weakness in the overburden with respect to slope stability. Horizontal directional drilling to be undertaken by an experienced specialist.
- The Construction and Environmental Management Plan (CEMP) (Appendix 2B of the EIAR) includes management controls to mitigate for contamination / pollution, including to prevent or manage accidental spills.
- Bunded containment area within the compound for the storage of fuels, lubricants, oils etc. Spill kits to be maintained on the site. Only refuelling construction machinery and vehicles in designated areas.
- Drainage and treatment system to be managed and monitored.
- Blasting will not occur after periods of heavy rain. Preparation of a Blast Management Plan.
- Mitigation measures to be implemented with respect to tree and hedge felling, including use of topsoil from felled areas in landscaping, treatment of runoff from clear-felled areas, use of brash mats, and works to be completed to standard forestry guidelines (Dept. Agriculture, Food and the Marine) and licence conditions.
- Managed drainage from borrow pit. Regular inspections of the borrow pit. Backfill of borrow pit with spoil from onsite excavation works.

13.11.14. During operation, mitigation with respect to land and soils is summarised below:

- Excavation works are not ordinarily expected during operational phase, but should they be required due to exceptional circumstances, the same mitigation with respect to soil and geology for the construction phase will be applied.
- Mitigation measures to prevent or manage accidental spills and contamination/pollution remains the same as the construction phase.

13.11.15. Section 9.5 of the EIA sets out the proposed mitigation with respect to hydrogeology and water. Mitigation is also incorporated into the design of the project as described in section 9.2.4 of the EIA, including site drainage design principles, flood attenuation, design to mitigate flood risk, drainage / stream channel crossings, spoil management, permanent and temporary deposition areas, treatment processes, sediment pond design, attenuation design, check dams, and silt fences, etc. During construction, mitigation is summarised below:

- Forestry felling to be undertaken in accordance with a licence and good working practices, including buffer zone guidelines for aquatic zones, ground preparation and drainage, chemicals, fuels and machine oils.
- A works 50m buffer zone to EPA mapped watercourses, with the exception of works outlined in section 9.4.2.4 of the EIA relating to drainage / stream channel crossings. With works taking place in the vicinity of unmapped watercourses or land drains in accordance with mitigation set out in the CEMP (Appendix 2B EIA).
- Measures to avoid spilling concrete outside construction areas and to prevent concrete entering the drainage system.
- Measures with respect to plant and refuelling, including only qualified personnel operating, regular checks, no refuelling within 50m of watercourses, doubly-bunded bowsters or bunded areas for fuel stores, plant nappies and spill kits, designated refuelling areas, containment facilities, no discharge of priority or hazardous substances to groundwater and surface waters and a suitable permanent fuel and oil interceptor.
- Continuous management and monitoring of drainage and treatment system, particularly after heavy rainfall.
- Weather monitoring with planned responses in the event of heavy rainfall.

- Wheel washing outside of the site.
- Water quality monitoring.
- An Environmental Manager to be employed to ensure that all the environmental design, control and mitigation measures outlined in the EIAR and supporting planning documentation in relation to the water environment are implemented.

13.11.16. During operation, the retention of this drainage infrastructure will ensure that runoff continues to be attenuated and dispersed across existing vegetation before reaching the downstream receiving waters. This infrastructure will be inspected regularly by the operational maintenance personnel. Sediment ponds will be partly filled with stone so that they will not present a long-term safety risk. Culverts will also be regularly inspected.

13.11.17. Section 14.5 of the EIAR sets out the proposed mitigation with respect to 'Air and Climate' During the construction phase, mitigation is summarised below:

- Minimisation of dust generation through implementation of measures set out in the CEMP (appendix 2B EIAR), including dust suppressant through water spraying, inspection of roads and materials, and measures around the washing and speed of vehicles.
- Reduction in construction traffic emissions through measures, such as maintenance of plant and equipment, implementation of a Traffic Management Plan (Appendix 16A EIAR), switching of vehicles when not in use and use of borrow pit to reduce deliveries to site.

13.11.18. During operation, there are no mitigation measures required with respect to climate and air quality. During the decommissioning phase, mitigation will reflect that implemented during construction as impact is expected to be similar in nature, however smaller in scale, compared to the construction phase

13.11.19. Where appropriate, mitigation measures used during decommissioning will be comparable to those during construction for land, soil, water, air and climate.

13.11.20. Direct and Indirect Effects Assessment

13.11.21. Land use of the site will alter as a result of the proposal, however the development will contribute towards statewide targets for renewable energy production. Mitigation is

outlined which will ensure that the risk of contamination to soils and water will be reduced and controlled, ensuring no significant adverse effects will arise. The EIAR considers effects upon existing land uses as a result of the proposed development in chapters 5 and 8. I note a submission raising concern that the proposed development will adversely affect farming use on adjacent lands, however the EIAR addresses this and concludes that no significant adverse effect will result. In section 5.4.3, the EIAR notes that while there will be temporary disruption to existing land use during construction, all existing land-uses can co-exist with the wind farm and agricultural activity can continue in adjacent fields, and I concur with this conclusion.

13.11.22. I note submissions with respect to potential impact upon drinking water from Uisce Éireann and the public. Section 9.3.5.3 of Chapter 9 of the EIAR outlines the baseline characteristics with respect to abstraction (wells and springs) specifically in Table 9-9. There are 16 boreholes and one dug well in proximity to the site, with the use of 10 of the boreholes unknown, and the remainder identified for agricultural and domestic use. The proposed turbines are not located within any Groundwater Group Schemes or Public Supply Source Protection Area. Section 9.4.3.7 of the EIAR identifies potential effect with respect to groundwater levels and local well supplies during excavation works and from the proposed borrow pit. This states that as no groundwater will be abstracted as part of the proposed project, groundwater wells and springs identified in section 9.3.5.3 (EIAR) will be unaffected by any activity associated with the proposed site development. However, it goes on to identify that there is potential to affect local well supplies in close proximity to the site from the lowering of groundwater levels associated with dewatering of the excavation works and the borrow pit. This potential pre-mitigation effect is categorised as slight, and not significant, as it is not anticipated that large volumes of groundwater will be encountered, therefore while there is potential for the effect, it is unlikely.

13.11.23. Potential effects are then mitigated, as outlined in section 9.5 of the EIAR in relation to measures to protect water quality, with residual impact upon groundwater levels and local well supplies categorised as imperceptible (table 9-21 EIAR). Public supplies are located a significant distance away, and as identified in the applicant response, will not be affected by the proposed works. I have also included a condition as part of my recommended order below to require compliance with the requirements of Uisce Éireann with respect to any diversion of infrastructure within the site and connections

to the public network. I am satisfied that appropriate mitigation is incorporated in the EIAR to ensure protection of drinking water supplies and that Uisce Éireann infrastructure can also be protected by condition.

13.11.24. I also note a submission with respect to the need for OPW consent for proposed culvert works. Section 9.4.2.1 of the EIAR describes site drainage design principles, and section 9.4.2.7 on page 9-33, point I. confirms that with respect to the installation works for the proposed clear span pre-cast concrete culvert, prior to the commencement of works, the design will be submitted for approval to the OPW under Section 50 of the Arterial Drainage Act 1945 and to Inland Fisheries Ireland.

13.11.25. I note third party comment with respect to the achievement of an improved WFD status. With respect to objectives set out in Article 4 of the Water Framework Directive (WFD), section 9.8, Chapter 9 of the EIAR considers compliance with the Water Framework Directive. A full Water Framework Directive Report is included in Appendix 9B of the EIAR and confirms that the proposed project will not result in any deterioration of WFD status of any water body or jeopardise the achievement of good status under the WFD for any waterbody. I have outlined the baseline hydrological conditions of site / surrounds above, and I am satisfied that with the application of the proposed mitigation summarised in this report, the proposed development will not result in a risk of deterioration on any water body (rivers, lakes, groundwaters, transitional and coastal) either qualitatively or quantitatively or on a temporary or permanent basis or otherwise jeopardise any water body in reaching its WFD objectives and consequently can be excluded from further assessment.

13.11.26. During the construction phase, the proposed development will generate the potential for dust nuisance, however sufficient separation to sensitive receptors and the implementation of mitigation measures will ensure that significant adverse effect will not result.

13.11.27. Positive effects will result to the climate as the proposed development contributes towards offsetting emissions from fossil fuel energy generation and consequential reductions to GHG associated with fossil fuel emissions.

13.11.28. Direct and Indirect Effects Conclusion

13.11.29. Having regard to the examination of environmental information in respect of land, soil, water, air and climate, in particular the EIAR provided by the applicant and the

submissions during the course of the application, it is considered that the main direct and indirect effects on land, soil, water, air and climate during all phases are as follows:

- Land and soil: With the implementation of mitigation, no significant residual effects.
- Water: With the implementation of mitigation, no significant negative effect on surface water quality, surface water flows or groundwater resources, with low impact on the receiving environment. Effect will be imperceptible/not significant as a result.
- Air and climate: No significant adverse residual effects are predicted during construction, operation or decommissioning with the implementation of mitigation. Effect during construction will be adverse, not significant and short-term, with impact during operation equating to a positive, moderate and long-term effect upon air quality and climate. Decommissioning phase is similar to construction, with an adverse, not significant, temporary to short-term effect.

13.11.30. I concur with the conclusions reached in the EIAR with respect to impact upon land, soil, water, air and climate. With the application of mitigation as set out above, no significant residual negative direct or indirect effects upon land, soil, water, air and climate will arise from the proposed development.

13.12. Noise and vibration

13.12.1. Issues Raised

13.12.2. Submissions have raised significant concern with respect to noise generation from the proposed wind turbines in operation. I address submissions below as part of my assessment of direct and indirect effects in this section of my report, as well as above as part of consideration of amenity impacts in section 11.4 above.

13.12.3. Context

13.12.4. Chapter 12 of the EIAR concerns potential noise and vibration effects that could arise from the proposed development. It describes the methodology for the assessment of impacts identified in the chapter.

13.12.5. In relation to construction noise, reference is made to BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise, which has been adopted in the EIAR, with relevant threshold levels derived from existing ambient noise levels at sensitive locations. Table 12-2 of the EIAR sets out the threshold values.

13.12.6. Page 6 of Chapter 12 sets out a summary of operational noise limits. The Wind Energy Development Guidelines 2006 (WEDG-06) are identified as setting out the appropriate noise criteria in relation to operation of the wind farm development. A summary of the operational noise limits set out in WEDG-06 is as follows:

- 35 to 40 dB for quiet daytime environments of less than 30dB;
- 45dB for daytime environments greater than 30dB or a maximum increase of 5dB above background noise (whichever is the higher); and
- 43dB for night-time periods or a maximum increase of 5dB above background noise (whichever is the higher).

13.12.7. It is also highlighted that the EPA document ‘Guidance Note for Noise: License Applications, Surveys and Assessments in Relation to Scheduled Activities’ proposes a daytime noise criterion of 45 dB(A) in ‘areas of low background noise’.

13.12.8. The EIAR also considers relevant provisions regarding noise in the Tipperary County Development Plan and World Health Organisation (WHO) Noise Guidelines for the European Union.

13.12.9. The EIAR refers to the Transport Infrastructure Ireland (TII) criteria with respect to vibration, in their publication ‘Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes’ (NRA 2014).

13.12.10. The EIAR addresses Amplitude Modulation (AM) from page 12-9 of Chapter 12. AM is defined in the Amplitude Modulation Working Group (AMWG) document, A Method for Rating Amplitude Modulation in Wind Turbine (IOA, 2016), as ‘Periodic fluctuations in the level of audible noise from a wind turbine (or wind turbines), the frequency of the fluctuations being related to the blade passing frequency (BPF) of the turbine rotor(s)’. The sound may be experienced as ‘blade swish’ coined as ‘normal’ AM by The Renewable UK AM project (Renewable UK, 2013), or if the sound characteristic is a ‘thumping’ or ‘whoomping’ at relatively low frequencies, this has been coined as

'other' AM, or 'enhanced' / 'excess' AM (EAM). As highlighted in the EIAR, it is not possible to predict the occurrence of AM at the planning stage and the EIAR asserts that it is a rare event associated with a limited number of wind farms. Page 12-12 of the EIAR highlights the appropriate guidance for the assessment of special acoustic characteristics including AM, and states that 'should a compliant arise once a development is operational, these characteristics can be assessed using the relative techniques and, if necessary, appropriate mitigation applied.'

13.12.11. Page 12-10 of the EIAR addresses infrasound (sound at frequencies below 20Hz) and low frequency noise (frequency components less than approximately 200Hz). The EIAR notes with reference to the EPA that infrasound is no longer a feature of modern turbines and with reference to industry publications, there is no evidence that low frequency noise (including infrasound) from wind farms has adverse effects on neighbours (page 12-11 EIAR).

13.12.12. Section 12.4.7 of the EIAR states with reference to peer reviewed research that there are no negative effects on people with long term exposure to wind turbine noise.

13.12.13. Baseline

13.12.14. Section 12.5 of the EIAR sets out the results of baseline noise surveys undertaken. Figure 12-1 identifies the noise sensitive locations in the area surrounding the site where it is predicted noise will exceed 35dB. There are 1,002 sensitive receptors within this range. In order to assess the noise environment for these receptors, 7 noise monitoring locations were chosen to represent ambient noise conditions, as illustrated in figure 12-2 and table 12-4, identified as NMT1 to NMT7. Meteorological data is accounted for in the survey analysis. In terms of the existing noise environment, surveys found that the primary noise sources are from local and distant traffic, domestic activity and wind generated noise from foliage. Table 12-5 details the baseline noise levels for the noise monitoring locations and table 12-6 of the EIAR sets out a summary of average ambient noise levels to inform the assessment set out in the EIAR, with a daytime level of 45 LAeq(dB) / 35 LA90(dB) and a night-time level of 36 LAeq(dB) / 30 LA90(dB).

13.12.15. I note a third party submission following circulation of the applicant's response stating that their property was not included on the noise survey despite being the closest receptor at Clobanna. However, I am satisfied that Figure 12-1 of the EIAR

identifies the location of this dwelling as a NSL and that Figure 12-2 indicates the location of noise monitoring location (NML6) which is representative of conditions in the area, including for the property in question.

13.12.16. Page 12-7 states that “ETSU-R-97 considers it appropriate to allow a higher level of incident noise associated with turbine operation for properties with occupants that have an interest in the development, both as a higher fixed level (45 dB) and/or a higher level above the prevailing background noise level. It is considered that the occupants of a financially involved property should be direct beneficiaries to allow an increase to the fixed limit noise levels.”

13.12.17. There are no significant causes of vibration contributing to the baseline condition.

13.12.18. Potential Effects in the Absence of Mitigation

Table 13.12.1: Summary of Potential Effects Noise and Vibration

Project Phase	Potential Direct, Indirect and Cumulative Effects (without mitigation)
Do Nothing	The existing noise environment will remain largely unchanged. Increases in traffic volumes on local networks will be expected over time and would likely result in slight but imperceptible increase in the overall baseline noise levels.
Construction	The most significant proposed elements with potential for adverse noise and vibration impact are associated with construction of the following: wind turbine foundations and hardstands (piling maybe required); substation compound; battery energy storage system; and grid connection. Typical construction noise predictions associated with these activities have been carried out using guidance set out in British Standard BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise. At the nearest noise sensitive location (NSL), the predicted noise levels from individual items of plant range between 39 to 50dB with a total worst-case construction level of the order of 56dB (based upon all plant operating simultaneously). For the

	<p>construction of the BESS and Substation, the calculated worse case noise level at the nearest NSL is 60dB LAeq. For the construction of temporary construction compounds and welfare facilities the predicted noise level is 53dB LAeq. These levels are below the criteria outlined in table 12-2 of the EIAR (copied above). Construction traffic noise and noise associated with the turbine delivery route (including night time deliveries) are also predicted to be below the criteria.</p> <p>Two scenarios are outlined in relation to the breaking out of material from the proposed borrow pit on site. Scenario A being rock breaking operations/ripping and scenario B being blasting operations. For scenario A, the predicted noise levels at the nearest NSL are 55dB LAeq and below the criteria set out in table 12-2 of the EIAR (copied above) and the magnitude of source vibration would also not exceed appropriate levels. For scenario B, the EIAR states that it is not possible to reliably calculate noise (air overpressure) from this activity due to the large number of variables that would impact the intensity of the source noise. However, blasting does have a higher intermittent noise level than rock breaking. With respect to blasting / piling and vibration, the vibration levels at the NSLs are expected to be negligible.</p> <p>Construction of internal site access and tracks are predicted to generate noise levels of between 53 to 62dB with a worst-case construction level of the order of 70dB, which exceeds the criteria set out in table 12-2 of the EIAR (copied above).</p> <p>Horizontal Directional Drilling (HDD) is proposed at 2 river crossing locations for the wind farm and 2 stream crossings for the grid connection. The NSLs to these works are c.30m from bridge points and c.680m from river crossings, with worst case LAeq noise levels of 76dB and 49dB respectively. The former of these levels is above the criteria.</p>
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	<p>Tree felling is required to facilitate construction works. The maximum calculated worst case noise level at the most proximate NSLs is 84dB LAeq, exceeding criteria.</p> <p>The proposed grid connection route cable trenching and jointing bays, have a predicted noise level of 80dB LAeq at NSL exceeding the criteria.</p> <p>Where noise levels are exceeded, impact is concluded to be a negative, significant to very significant effect, over a brief or temporary period.</p>
Operation	<p>Noise will be generated by the wind turbines during operation. A total of 1002 no. noise sensitive locations (NSLs) were identified within the study area and noise levels for each turbine type was predicted to the NSLs for wind speeds between cut-in and rated power (3m/s to 8m/s). The maximum predicted noise levels were found at NSL No. 868. The EIAR identifies that this property satisfies the criteria as being 'financially involved' in the proposed project and therefore a night-time criteria of 45dB(A) has been applied (with reference to Section 12.3.2.3 of the EIAR).</p> <p>Table 12-19 of the EIAR identifies the NSLs and level of effect. There are 2 NSLs where noise will have a very significant/profound effect, and these are both financially involved in the project. There are 84 NSLs with a significant effect, where the level of change is substantial, but limits are not exceeded. There are 108 with slight/moderate effect and 808 with imperceptible/not significant effect.</p> <p>In relation to the proposed substation and BESS, negative impact with an imperceptible effect is predicted with respect to noise.</p>
Decommissioning	<p>The noise and vibration impacts associated with any decommissioning of the site are considered to be comparable</p>

	to those outlined in relation to the construction of the proposed project, but at a reduced level.
Cumulative	The most relevant existing wind farm developments to be considered with respect to cumulative effects are listed in the EIAR (with reference to number of turbines and model) as follows: Lisheen 1: 18no. Vestas V90; Lisheen 1a: 12no. Vestas V90; Lisheen 3: 8no. Vestas V136; Bruckana: 16no. Siemens SWT-3.0-101; and Borrisbeg: 9no. Nordex N163. There are 13 NSLs identified in the EIAR where predicted noise reached a maximum of 30dB(A), which is below the limit criteria, and therefore a cumulative assessment was not undertaken.

13.12.19. Mitigation

13.12.20. Section 12.7 describes mitigation with respect to noise. No specific mitigation is required with respect to vibration as levels are below criteria values due to sufficient separation.

13.12.21. A summary of mitigation measures during construction (and decommissioning) phase is set out below:

- Adherence to best practice with reference to BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise.
- Noise abatement measures to comply with the recommendations of BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction on open sites – Noise.
- Maintenance of plant.
- Use of exhaust silencers.
- Compressors to be attenuated models with sealed acoustic covers and all ancillary pneumatic tools to be fitted with suitable silencers.
- Shut down of machinery when not in use.

- Acoustic enclosure or portable screen for plant required to operate before 07:00hrs or after 19:00hrs.
- Construction operations shall be restricted to between 07:00hrs and 19:00hrs weekdays and between 07:00hrs and 14:00hrs on Saturdays, with work outside of these times to be agreed with the Local Authority.
- Specific mitigation with respect to blasting activities.

13.12.22. A summary of mitigation measures during operational phase is set out below:

- Post-commissioning noise survey of operating wind turbines to be carried out and any exceedances of the planning conditions (attributed to the Wind Farm) to be mitigated by curtailment.
- Should issue with any special audible characteristic associated with the project arise, an appropriate detailed investigation will be undertaken (reference to EIA section 12.3.2.7).

13.12.23. Direct and Indirect Effects Assessment

13.12.24. Numerous representations were made on the topic of noise by third parties, with concerns raised particularly in relation to operational noise. I have also addressed consultation responses in section 11.4 above with respect to impact upon amenity, which should be read in conjunction with this section of my report.

13.12.25. The EIA highlights activities during construction that have the potential to generate the greatest noise disturbance to surrounding residents. In relation to blasting activities, for Borrow pit scenario B, the EIA highlights that while blasting has a higher intermittent noise level than rock breaking, it decreases the amount of breaking/ripping required with a subsequent reduction in time to extract material and the associated overall noise levels. It is therefore asserted that a combination of the two techniques minimises the noise effects. Construction of internal site access and tracks will exceed noise limits in the absence of mitigation. With the application of mitigation set out in the EIA, construction activities will generate noise within limit values and are not expected to cause a significant adverse effect.

13.12.26. In relation to operational noise levels, the EIA identifies that there are 2 NSLs where noise will have a very significant/profound effect, but that these are both stakeholders in the project and benefit financially from the project going ahead.

However, there are also 84 NSLs with a significant effect. The significant effect arises due to the degree of change to noise levels as a result of operation of the turbines, albeit WEDG limits are not exceeded. These 84 NSLs are not financially involved in the project and will experience significant increase in noise, however noise remains within WEDG limits. Table 13.12.1.1 below shows the difference between WEDG Limit and Baseline/Background (dB) for the 7 noise monitoring locations being representative of NSLs for the scheme.

Table 13.12.2. Difference between WEDG Limit and Baseline/Background (dB)

Noise Monitoring (NM) Location and Period	Derived $L_{A90,10min}$ Levels (dB) at Standardised 10m Height Wind Speeds									
	3	4	5	6	7	8	9	10	11	12
Appropriate WEDG Limits										
Day	45	45	45	45	45	45	45	45	45	45
Night	43	43	43	43	43	43	43	43	43	43
NMT1										
Day	37	38	38	39	39	39	39	39	39	39
Night	26	26	27	30	30	30	30	30	30	30
Difference (Day)	8	7	7	6	6	6	6	6	6	6
Difference (Night)	17	17	16	13	13	13	13	13	13	13
NMT2										
Day	33	34	36	38	38	38	38	38	38	38
Night	22	23	24	26	26	26	26	26	26	26
Difference (Day)	12	11	9	7	7	7	7	7	7	7
Difference (Night)	21	20	19	17	17	17	17	17	17	17
NMT3										
Day	30	30	30	30	30	30	30	30	30	30
Night	24	23	24	26	26	26	26	26	26	26
Difference (Day)	15	15	15	15	15	15	15	15	15	15
Difference (Night)	19	20	19	17	17	17	17	17	17	17
NMT4										
Day	30	30	31	32	32	32	32	32	32	32
Night	22	22	23	24	24	24	24	24	24	24
Difference (Day)	15	15	14	13	13	13	13	13	13	13
Difference (Night)	21	21	20	19	19	19	19	19	19	19
NMT5										
Day	33	33	34	36	36	36	36	36	36	36
Night	22	23	24	26	26	26	26	26	26	26
Difference (Day)	12	12	11	9	9	9	9	9	9	9
Difference (Night)	21	20	19	17	17	17	17	17	17	17
NMT6										
Day	32	33	33	34	34	34	34	34	34	34
Night	27	27	28	30	30	30	30	30	30	30
Difference (Day)	13	12	12	11	11	11	11	11	11	11
Difference (Night)	16	16	15	13	13	13	13	13	13	13

NMT7										
Day	36	36	36	36	36	36	36	36	36	36
Night	29	29	29	30	30	30	30	30	30	30
Difference (Day)	9	9	9	9	9	9	9	9	9	9
Difference (Night)	14	14	14	13	13	13	13	13	13	13

13.12.27. Table 12-19 of the EIAR gives a summary of the range of effects at the NSLs and is extracted below:

Table 12-19 EIAR 'Summary of Range of Effects per No. of NSLs'			
Category	Noise Level Change (dB)	No. of effected NSLs per Category (% of total)	Comments
Imperceptible / Not Significant	<2.9	808 (80.6%)	WEDG-06 operational noise limits not exceeded.
Slight / Moderate	3.0-4.9	108 (10.8%)	WEDG-06 operational noise limits not exceeded.
Significant	5.0-9.9	84 (8.4%)	WEDG-06 operational noise limits not exceeded.
Very Significant / Profound	>10	2 (0.2%)	These are the two closest NSLs (Nos.0851 and 0868) and are financial involved. WEDG-06 operational noise limits not exceeded as properties financially involved, night-time criteria of 45dB(A) applied (reference to ETSU-R-97).
Total number of NSLs: 1002			

13.12.28. The EIAR states on page 12-40 Section 12.6.3.1 that:

“A comparison of the predicted noise levels with the noise criteria for daytime and night-time periods at the NSLs are presented in Section 12.6.3.1. The assessment has been undertaken in accordance with best practice guidance outlined in the IOA GPG and calculated to the ISO 9613-2 standard. It should be noted that the predicted noise levels assume that all receptors (Noise Sensitive Locations) are downwind of all turbines simultaneously and therefore represents a worst-case assessment for each turbine type.”

- 13.12.29. While the methodology has been correctly applied throughout the noise assessment in the EIAR, the specific results for predicted noise at the 7 NM locations has not been provided. Instead, the EIAR provides a high-level explanation of the summary range of effects as set out in table 12-19 extracted above. This confirms that the proposed development will comply with WEDG 06 limits in operational phase.
- 13.12.30. While predicted noise levels at the 7 NM Locations is not provided, the requirement is correctly applied with respect to the WEDG 06 limits, which are the applicable restrictions currently in place. Table 13.12.1.1 above presents the degree of change that could result should noise increase to the extent permitted under the WEDG 06 limits, which would be a worst-case scenario, but essentially reflects the noise limit that would be permissible and secured by planning condition should An Coimisiún Pleanála approve the development. I am not recommending that further information be sought with respect to the actual predicted noise levels at the NM locations. This is because the EIAR provides the high level summary which confirms that WEDG 06 limits will be applied with, and indeed the WEDG 06 limits are what would be secured by planning condition. Therefore, it is the WEDG 06 limit level that is of most relevance in this sense, as that will be the permissible noise level should An Coimisiún Pleanála grant consent. My assessment is therefore on the basis of this worst case scenario as presented in Table 13.12.1.1 above.
- 13.12.31. The EIAR is clear that there would be significant change to the noise experienced by a significant number of noise sensitive receptors (84 neighbouring properties) as a result of the operation of the proposed wind turbines. This is a significant negative impact arising from operation of the development, albeit an impact that is within permitted noise limits under the current applicable standards in WEDG 06. However, this impact must be considered in balance alongside the wider strategic considerations with respect to the proposal.
- 13.12.32. The proposed development is for a renewable energy development, specifically a windfarm formed of 10 turbines, with an estimated Export Capacity (MEC) of between 57 and 66 megawatts (MW). The legislation and policy context at national, regional and local levels, all promote the delivery of renewable energy. It is important in my view to acknowledge the opportunity that this development provides to contribute towards renewable energy generation targets, which in turn seek to address carbon emission and meet associated climate targets. However, it is also necessary to

demonstrate that environmental impacts associated with the proposed development are acceptable, particularly with reference to policies such as 10-1 under the Tipperary Development Plan and RE1 under the Renewable Energy Strategy for the Plan. The proposed development will have a significant negative effect upon 84 NSLs (as well as a profound effect upon 2 NSLs which are stakeholders in the project), with respect to noise during operation. This effect is as a result of the degree of change that will result in consideration of permissible noise limits under the WEDG 06. The proposed development will however comply with the limits set out under WEDG 06, which can also be secured by planning condition. Therefore, the proposed development can be considered acceptable with respect to applicable limits. On balance, and in the context of the urgent need to respond to the climate crisis, I am satisfied that the proposed development is acceptable with respect to noise, and the degree of impact can be justified in light of strategic considerations and compliance with WEDG 06.

13.12.33. Direct and Indirect Effects Conclusion

13.12.34. Having regard to the examination of environmental information in respect of noise and vibration, in particular the EIAR provided by the applicant and the submissions during the course of the application, it is considered that the main direct and indirect effects on noise and vibration are as follows:

- For construction and decommissioning phases, with the application of mitigation, noise and vibration associated with the construction phase are not expected to exceed recommended limit values and are not expected to cause a significant adverse effect.
- During operation, residual noise from wind turbines is expected to remain between Imperceptible to Very Significant depending on the distance to the NSL. 2 NSLs will experience a very significant/profound impact and will benefit financially from the project. 84 NSLs will experience a significant adverse impact with respect to the level of noise increase. Noise levels will comply with WEDG 06 limits in all cases.
- No significant effects arising from the proposed substation and BESS, or with respect to vibration during operation.

13.12.35. I concur with the conclusions reached in the EIAR with respect to impact upon noise and vibration. As outlined in my assessment of effects above, significant increases in

the level of noise will be experienced by 86 NSLs, with 2 of these benefiting financially from the project. While significant alteration in noise will be experienced by these receptors, I am satisfied that the proposal will operate within WEDG 06 limits overall, and in consideration of the overarching policy support for renewable energy, in my view the proposed development is therefore acceptable. My conclusion here has particular regard to relevant obligations under the Climate Act 2021 as noted in section 10 above, and in recognition that the proposed development will contribute to national renewable energy targets and reductions in GHG emissions as outlined in section 13.11 of this report above.

13.13. Material assets (land use, telecommunications, electricity networks, air navigation, quarries and utilities)

13.13.1. Issues Raised

13.13.2. Submissions of relevance are highlighted below and considered in my assessment of direct and indirect effects as well as in associated sections of my assessment of amenity in section 11.4 above.

13.13.3. Context

13.13.4. Chapter 10 'Material Assets' of the EIAR considers grid capacity and electrical infrastructure, gas, telecommunications and aviation, water and wastewater infrastructure and waste management. Land use is addressed as part of Chapter 8 of the EIAR 'Land and Soils', and above in the EIA set out in this report.

13.13.5. Baseline

13.13.6. In relation to grid capacity and electrical infrastructure, there is an incomplete ESB overhead 38kV powerline that passes through the proposed wind farm site. It is expected that this power line will be constructed prior to the anticipated construction period for the proposed development. The powerline would need to be rerouted as a result of the proposed development, and a separate planning application for the re-routing of this section of powerline will be required to be submitted by the wind farm developer. The rerouting options are considered in the EIAR. The grid connection route of the proposed project runs between the proposed Brittas on-site substation within the wind farm site in the townland of Killeenleigh and the existing Thurles

110kV substation in the townland of Ballygammane. The overall 110kV connection cable route will be approximately 7.0km.

13.13.7. There are no gas network utilities within the proposed development site boundary.

13.13.8. With respect to aviation infrastructure, 4 airports / airfields are situated within 75km of the subject site, namely Shannon Airport (74km), Woodcock Hill (60km), Moyne Aerodrome (5.8km), and Waterford Airport (75km).

13.13.9. In relation to telecommunications, there are four radio links operated by Enet, Three Ireland and Vodaphone, that cross over the proposed project which could be potentially impacted by the wind farm development. Digital Terrestrial Television (Saorview TV) is principally received from the transmitter at Kilduff, Co. Tipperary 54km to the northwest. The EIAR quotes consultation with the Broadcasting Authority Ireland (Appendix 10B of the EIAR) which states that they are not currently aware of any issues from existing windfarms in FM networks.

13.13.10. There is no existing wastewater or water supply infrastructure within the subject site, however there are distribution watermains along a section of road where the grid connection route passes. The most proximate wastewater treatment plant is Thurles, which has a good capacity (Uisce Éireann).

13.13.11. There are no waste or construction waste facilities within the subject site area, the nearest facilities are listed in Table 10-4 of the EIAR.

13.13.12. Potential Effects in the Absence of Mitigation

Table 13.13.1: Summary of Potential Effects Material Assets

Project Phase	Potential Direct, Indirect and Cumulative Effects (without mitigation)
Do Nothing	The potential effects to grid capacity and electrical infrastructure, gas, telecommunications and aviation, water and wastewater infrastructure and waste management outlined below, would not occur in the do-nothing scenario.
Construction	A section of a currently incomplete ESB overhead 38kV powerline, which is expected to be completed prior to the

	<p>construction of the proposed development, will need to be rerouted where it passes through the windfarm site.</p> <p>A 110kV grid connection cable will be constructed in the public road between the proposed substation and the existing Thurles 110kV substation. This will be formed of underground cabling in a trench in the public road. Existing electrical services will be avoided by providing ducting and through survey, and relevant authorities will be consulted with. It is anticipated that the grid connection will cause minor, brief disruption to electrical supply at the local level, however EirGrid will balance the loading so that no significant disruption / effects occurs.</p> <p>Accommodation works for the TDR will require brief disruption to electrical supplies due to movement of existing overhead lines and poles at 2 pinch points along the route. Neutral, not significant, localised, brief and direct effects on electrical infrastructure.</p> <p>No effect upon gas infrastructure.</p> <p>Due to the lack of proximity to aerodromes and airports, neutral, slight, localised, temporary effect on aviation.</p> <p>Telecommunications - Neutral, slight, localised, direct, likely and temporary effect from the construction of the proposed wind farm, with impact upon four radio links that cross over the site. Neutral, not significant, localised, direct, likely effect, over a temporary period from the grid connection upon underground services, and over the long term from the TDR, with disruption to overhead lines at 2 pinch point locations on the route.</p> <p>Water and wastewater infrastructure – Construction staff welfare facilities on the site will include toilets, with sanitary wastewater collect and disposed of through a managed</p>
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	<p>contract. Water will be needed for construction activities such as concrete truck chute washing, dust suppression and sanitary facilities, with this water to be imported in bulk water tanks. During construction of a 110kV underground cable, should this meet existing water infrastructure, ducting will be placed over the water mains. These impacts are anticipated to have short-term, neutral, imperceptible, localised, direct and likely effect. Ducting will be used during grid connection works to avoid interference with water infrastructure, with neutral, imperceptible, localised, direct, likely and temporary effect. There is no expected impact upon water / wastewater infrastructure associated with the TDR.</p> <p>Waste management – Waste will be storey, sorted, reused, recycled and disposed of in accordance with best practice. Waste volumes will not be significant and there is sufficient capacity at licenced disposal or recycling facilities proximate to the site. Impact will be slight, negative, localised, indirect and short term.</p>
Operation	<p>The electricity generated by the proposed project will assist to displace electricity produced from coal, oil and gas fired power plant, thus reducing emission from these power plants. This will contribute towards the State's commitments under the Paris Agreement and the Climate Action Plan 2024. The proposed 110kV Substation and battery energy storage system (BESS) will accommodate the additional renewable energy generated. The effects on grid capacity and electrical infrastructure are likely, direct, long term, regional, significant and positive.</p> <p>Temporary accommodation works may be required along the TDR for additional replacement turbine components, with neutral, not significant localised, brief effect on electrical infrastructure.</p>

	<p>No impact on gas infrastructure.</p> <p>Should planning permission be granted, the proposed project will be required to register in the IAA Air Navigation Obstacle Data set. By incorporating aviation warning lighting, effect is anticipated to be neutral, slight, localised, direct and long term upon aviation.</p> <p>Telecommunications – Potential interference with signals on some networks from turbine structures, equating to a negative, slight, localised, likely and long-term effect.</p> <p>Additional temporary works for the delivery of additional turbine components resulting in neutral, localised, brief and direct effects.</p> <p>Water / wastewater - The wastewater generated during the operational phase at the on-site substation will be managed by a holding tank which is fitted with an alarm to indicate levels and when it is due to be emptied. The holding tank will be emptied by a permitted contractor and brought to a licenced waste water treatment plant. Potable water required will be supplied as bottled water. Welfare facilities during the operational phase will utilise rainwater harvesting at the substation. Neutral, imperceptible, localised, long-term, direct and likely effect.</p> <p>Waste management – Minimal amounts of waste on site which will be collected, sorted and transported to a licenced facility for disposal or recycling. Hazardous materials such as gear and hydraulic oils will be disposed of in accordance with requirements. Effect will be slight, negative, localised, indirect, likely and long term.</p>
Decommissioning	<p>Negative, significant, regional, permanent, direct and likely effect on power generation as a result of removal of renewable electricity from the national grid. Potential direct permanent positive effect associated with the 110kV</p>

	<p>substation and underground grid infrastructure which will remain in place and used for electricity distribution.</p> <p>Positive imperceptible, permanent, temporary, direct, and likely effect upon aviation.</p> <p>No effect on telecommunications, with the removal of any potential obstruction to networks.</p> <p>Similar effect upon water / wastewater to that described during construction phase but to a lesser extent.</p> <p>Waste management – The majority of materials will be recycled. Domestic non-recyclable waste or reusable materials will be disposed of at a licenced facility. The applicant has committed to reuse, recycle or otherwise recover all wind blades from decommissioned wind farms and avoid any blades going into landfill, with broken down composites used for new products. Effect will be negative, slight, localised, short term, indirect and likely.</p>
Cumulative	<p>The EIAR identifies proposed developments in the surrounding area where there is potential for cumulative effects to arise. The only potential development where there are potential for direct cumulative effects is the incomplete powerline which transects the site. This development was permitted in mid-2023 and is likely to be constructed prior to construction phase of the proposed project. The wind farm developer will submit a separate planning application for the rerouting of this line through the wind farm site to Tipperary County Council, in consultation with ESB and the EIAR considers the options for the rerouting (Chapter 04 Alternatives of the EIAR). The construction of this powerline will be completed prior to construction of the Brittas windfarm project and will therefore not have any additional cumulative effects in combination with the proposed wind farm. The energy produced by the proposed Brittas wind farm</p>

	development would positively cumulate with other wind farm developments in the region to advance in delivering local, regional, and national Green Energy targets
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13.13.13. Mitigation

13.13.14. Section 10.6 of the EIAR describes intended mitigation with respect to material assets.

13.13.15. A summary of mitigation measures is set out below:

- All works in the vicinity of ESB Networks infrastructure will be carried out in ongoing consultation with ESB networks and will be in compliance with any requirements or guidelines they may have including procedures to ensure safe working practices are implemented when working near live overhead/underground electrical lines.
- Aeronautical obstacle warning light scheme to be agreed with the IAA. IAA will be provided with the as-constructed coordinates in WGS84 format together with ground and tip height elevations at each wind turbine location; and the IAA will be notified of intention to commence crane operations with a minimum of 30 days prior notification of turbine erection.
- With respect to the Enet radio link from Urlingford to St Joseph’s College: Relay the Enet radio link via an existing Telecoms Mast. With respect to the ESB radio link from Kilduff to the Thurles 110 kV Substation: Relocate the monopole at the Thurles 110 kV Substation or relocate the radio antenna at the Thurles end of the radio link. In the event of interference to television and telecommunication services arising from the wind farm development, the applicant will work with telecommunication providers to remedy any issues of interference to affected communication links and appropriate mitigation measures can be implemented. A signed Protocol between the developer and RTE will be put in place, in which the developer will be responsible to resolve any issue of interference with television reception as a result of the proposed project.

- All works affecting the water and waste water infrastructure will be carried out in ongoing consultation with the local authorities and service providers and will be in compliance with any requirements or guidelines they may have.
- Waste to be managed in accordance with best practice construction methods as discussed in the CEMP Appendix 2B of the EIAR.

13.13.16. Direct and Indirect Effects Assessment

13.13.17. I note submissions with respect to disruption during construction works and with respect to cabling within the public road, and I address these as part of my assessment of amenity in section 11.4 above, which should be read alongside this section of my report.

13.13.18. I note submissions with respect to the potential for interference with electronic signals, telecommunications, wifi and specifically calving cameras. As set out above, the EIAR identifies that there is potential for interference with some signals and mitigation is described to reduce and eliminate potential for negative effect in this regard, including working with telecommunication providers and a signed protocol with RTE. In addition, in the event that the Commission determine to grant consent, I recommend a condition that would place an obligation upon the developer to rectify any interference with individual occupier's telecommunication signals should it occur as a result of the proposed development, and I have included this in my recommended order below.

13.13.19. A separate planning application will be required from the developers for the rerouting of an ESB line through the site. The options for rerouting are: undergrounding the whole route through the subject site; a new overhead route to the east of the permitted overhead line; a new overhead line route to the west of the permitted overhead line. The ESB has indicated that the proposal to underground the line through the windfarm is possible, but they would prefer an overhead line for ease of maintenance. The ESB will be consulted on these proposed changes and will need to approve them and facilitate the connection of the rerouted line should this be completed prior to construction of the proposed wind farm. The new re-routed powerline will be constructed before the existing line is disconnected and removed.

13.13.20. Direct and Indirect Effects Conclusion

13.13.21. Having regard to the examination of environmental information in respect of Material assets (electrical infrastructure, gas, aviation, telecommunications, water and wastewater, and waste management), in particular the EIAR provided by the applicant and the submissions during the course of the application, it is considered that the main direct and indirect effects on these material assets are as follows:

- Impact during construction will primarily relate to potential disruption to services and the generation of waste. With the application of mitigation, no significant negative effects will arise, and these impacts will be over a temporary period.
- During operation, significant positive effect will arise with respect to electrical power generation and storage on the site from a renewable source.
- During decommissioning, with the generation of renewable energy halted at the site, significant negative effect would arise with respect to electrical power generation and storage.

13.13.22. I concur with the conclusions reached in the EIAR with respect to impact upon material assets (telecommunications, electricity, air navigation and utilities). With the application of mitigation as set out above, no significant negative direct or indirect effects will arise from construction or operation of the proposed development. Significant positive effects will arise from operation of the proposed wind farm with respect to the generation of renewable energy. Conversely, during decommissioning, significant negative effect will arise with respect to the loss of electricity generation from the site.

13.14. Material assets (traffic and transport)

13.14.1. Issues Raised

13.14.2. Submissions raise concern regarding disruption to the local road network and inadequacy of documentation for the application. I consider these as part of my assessment below and in section 11.6 above.

13.14.3. Context

13.14.4. Chapter 16 addresses potential effects upon the existing road network arising from the construction, operation and decommissioning of the proposed development, and associated traffic arising from this.

13.14.5. The proposed wind farm site is located 3km north of Thurles town. The N62 is located west of the site, running north to south, connecting Templemore to Thurles, and provides access to the M6, M7 and M8 motorways. The L8017 local road traverses the centre of the site from east to west and bridges over the River Suir. The proposed grid route to Thurles is located within or along the boundaries of the townlands of Kileenleigh, Collgarrane, Clobanna, Athnid More, Rossestown, Cassestown, Farranreigh, Laghtagalla, Furze, Loughlahan and Ballygammane. From the proposed substation site entrance, the proposed grid route follows the L-4120 road south to the L-8017 Rossestown Road. At the T-junction with the L-8015 road the route will turn east until the fork in the road and will then follow the L-8014 to the existing Thurles substation. The TDR runs from the Port of Foynes in County Limerick to the wind farm site via the national, regional and local road network. All cement and fill materials are proposed to be delivered to the proposed site from the west at the junction of the N62 and the L-8017 Rossestown Road. HGV deliveries will access the wind farm site at the three proposed access points on the L8017.

13.14.6. Baseline

13.14.7. Annual Average Daily Traffic (AADT) for the roads surrounding the wind farm and substation sites is set out in Tables 16-1 and 16-2 of the EIAR. This is based upon the NRA Project Appraisal guidelines. For the wind farm site, with a total vehicle per an hour of 134 travelling westbound and 60 eastbound, the road is estimated to operate with a reserve capacity of approximately 82% and 92%. For the substation site, with a total vehicle per an hour of 104 travelling northbound and 56 southbound, the road is estimated to operate with a reserve capacity of approximately 86% and 93% respectively. The EIAR states in section 16.3.5 that based upon this and the surveyed existing vehicular traffic along the access route, the existing local roads L8017 and L4120 currently operate with sufficient reserve capacity.

13.14.8. Potential Effects in the Absence of Mitigation

Table 13.14.1: Summary of Potential Effects Traffic and Transport

Project Phase	Potential Direct, Indirect and Cumulative Effects (without mitigation)
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Do Nothing	Under the do nothing scenario, the L8017 and L4120 roads would continue to operate within their estimated urban road link capacity.
Construction	<p>It is estimated that the construction phase will attract 8,846 deliveries to the site. For the 2028 peak daily movements, construction traffic is estimated to be 250 vehicles, 80 of which would be HGVs. This equates to 8 HGVs per hour. Based upon predicted construction AADT volumes (TII high growth scenario) and proposed construction traffic volumes, the surrounding road network is predicted to continue to operate within its estimated rural road link AADT capacity. This equates to a moderate, negative, local and short-term effect.</p> <p>With respect to the TDR, turbine blades ranging in length from 73m to 76m will be delivered at night to avoid peak daytime disruption. 22 pinch points are identified where the works will be required to accommodate deliveries, including: temporary removal of traffic signs and lights; temporary removal of electricity poles, bollards and lamp posts; hedges and tree removal or trimming; temporary land take; lowering of some roadside banks; temporary fence removal; and road widening. Hardstanding areas are also required at two points. Based upon AADT for the TDR, the route will operate with reserve capacity during the construction phase. Overall, the effect of the TDR upon the road network will be slight, negative, regional and temporary, with a moderate negative temporary and local effect as a result of temporary works required to accommodate turbine blade deliveries.</p> <p>The EIAR predicts that with respect to the grid connection, the entirety of the grid route will continue to operate within capacity. A stop-and-go traffic management system is proposed, with temporary diversions should they be needed.</p>

	<p>Access to specific houses along the grid route will be maintained and outside of construction hours open trenches will be temporary reinstated to allow access to dwellings in the normal manner. This impact is categorised as a moderate to significant, local, negative and temporary effect.</p> <p>There is potential for heavy vehicle traffic volumes to result in damage to existing and proposed road infrastructure. Any such damage will be repaired and road infrastructure reinstated post construction activities. These equates to a negative, not significant, temporary, and local effect.</p> <p>These impacts will be reversed following completion of construction activities.</p>
Operation	<p>Periodic maintenance on site will generate a relatively low volume of vehicles with occasional heavy loads. Routine inspection and preventive maintenance visits will be necessary, with approximately 2 staff generating 2 vehicular trips to and from the site daily. A regional supervisor will also visit the site 2 times a month, with civil maintenance and Original Equipment Manufacturer visits each required twice a year. Vehicular movements associated with these impacts would equate to a long term, neutral, local and imperceptible traffic effect on road networks.</p> <p>Occasional need to replace a blade or other large component for a turbine might arise, and use of the TDR would necessitate with associated accommodation work to road infrastructure, with a not significant, negative, regional, occasional and brief effect.</p> <p>The grid connection cable will remain in situ, and it is unlikely that much maintenance will be required. Should a fault occur, and works be required, stop-go-measures to manage traffic</p>

	will be required. This would be a negative, imperceptible, occasional, brief and unlikely effect on the transport network.
Decommissioning	Impact from removal of the wind turbines during the decommissioning phase would be significantly less than during delivery of the wind turbines for the construction phase, with less staff requirements, less deliveries and materials. The TDR will not be required as the turbine components can be cut down on site. Equating to temporary, slight and negative traffic effects on the surrounding transport network.
Cumulative	The EIAR considers potential cumulative effects upon traffic and transport (section 16.1). No significant cumulative effects are anticipated during any phase of the proposed development.

13.14.9. Mitigation

13.14.10. Section 16.7 describes proposed mitigation with respect to traffic and transport.

13.14.11. A summary of mitigation measures during construction phase is set out below:

- Appendix 16A of the EIAR includes a Traffic Management Plan (TMP). A final TMP will be updated prior to commencement of construction.
- Dedicated traffic management coordinator to be appointed for the duration of the project construction, being the main point of contact for traffic management.
- Safe access at all times to private residences and commercial/business premises in proximity to the works.
- All existing services to be identified on the grid connection route prior to works and relevant bodies contacted.
- Surveys to be carried out of roads / structures prior and post construction works. Repairs carried out as necessary.
- Advance warning to residents with respect to use of roads by large volumes of HGVs and appropriate signage to be used.

- Avoiding peak traffic times for construction deliveries.
- Protocols for HGV drivers.
- Adequate parking for employees / visitors to the site.
- Delivery of large turbine components under garda and traffic management escort.
- Use of a road sweeping vehicle.
- Wheel washing.

13.14.12. Due to the low operational traffic anticipated during operation of the proposed development, no mitigation measures are proposed for that phase.

13.14.13. During decommissioning, a Decommissioning Plan will be prepared and agreed with the Local Planning Authority. This will contain similar mitigation to the construction phase.

13.14.14. Direct and Indirect Effects Assessment

13.14.15. I note submissions from third parties and prescribed bodies with respect to impact to the public road network, as well as traffic and transport considerations. I address these more directly in section 11.6 of my report above which should be read alongside the assessment set out here.

13.14.16. I am satisfied that the EIAR has correctly identified the range of potential effects with respect to traffic and transportation and contains appropriate mitigation measures to reduce or eliminate potential impacts. As described in section 11.6 of my report above, I am also recommending additional mitigation through conditions to enhance the measures set out in the EIAR and in response to matters raised in submissions.

13.14.17. Direct and Indirect Effects Conclusion

13.14.18. Having regard to the examination of environmental information in respect of traffic and transport, in particular the EIAR provided by the applicant and the submissions during the course of the application, it is considered that the main direct and indirect effects on traffic and transport are as follows:

- During the construction phase of the proposed wind farm, temporary, direct negative, slight to moderate effects, with moderate to significant effects arising

from works associated with the proposed grid route, upon traffic on the transport network. These effects will be reversed in the post construction phase.

- During operation, direct, neutral or negative effects upon traffic, range from imperceptible to not significant.
- During decommissioning, temporary neutral or negative effects range from imperceptible to slight.

13.14.19. I concur with the conclusions reached in the EIAR with respect to impact upon traffic and transport. With the application of mitigation as set out above, in general, no significant residual negative direct or indirect effects upon traffic and transport will arise from the proposed wind farm development, with the exception of moderate to significant effects arising from works associated with the proposed grid connection. This effect arises as a result of works taking place in the roadway, necessitating stop-go and other traffic management measures that will disrupt local traffic. This effect is short-term, temporary, and reversible in the post construction phase. I am satisfied that this short term effect would be an acceptable consequence of construction of the proposed renewable energy development.

13.15. Archaeology and cultural heritage

13.15.1. Issues Raised

13.15.2. I note submissions raising concern with respect to potential effect upon heritage assets. I address these as part of my assessment of direct and indirect effects below.

13.15.3. Context

13.15.4. Chapter 11 of the EIAR considers potential effects on cultural heritage assets informed by a desktop study of the historical environment context of the site and field surveys of the site. In my assessment I reference photomontages where relevant, and these are taken from Volume 4 of the EIAR. While the photomontages are primarily associated with the LVIA set out below this section of my report, they also assist in the assessment set out here.

13.15.5. Baseline

13.15.6. The EIAR states that there are no UNESCO World Heritage Sites or those on the Tentative List within 20km of the nearest proposed turbine. The closest to the site is the Rock of Cashel which is one of the Royal Sites of Ireland on the Tentative List from 2010. It is situated over 21km to the south of the nearest proposed turbine (T10). There are two National Monuments within a c.10km radius from the proposed wind farm site, namely two early medieval churches at Leigh townland (National Monument No.266) and Holycross Abbey (National Monument No.121). There are four Sites and Monuments Records (SMR) / Record of Monuments and Places (RMP) within the subject site, being two ringforts (TN035-075, TN03-076; and two enclosures: TN041-008 and TN041-087. Within c.3km of the nearest proposed turbine, there are a total of 86 SMR / RMP which are identified in Table 11-3 of the EIAR. There are several recorded protected structures (RPS) within the 3km area identified in Figure 11-6 and Table 11-6 of the EIAR and one protected structure in the vicinity of the proposed grid connection, a cottage abutting the L-4119. There is one monument (Ringfort TN041-026) situated within the 120m buffer corridor of the proposed grid route, this monument abuts the existing L-4119 road.

13.15.7. Section 11.3.10.2 of the EIAR highlights other possible cultural heritage assets for the site with reference to historic mapping and including the Rossetown Bridge. The site is not situated within a designate archaeological landscape under the County Development Plan and field surveys of the site did not reveal any previously unrecorded features or sites. However, the EIAR states that there is potential for previously unrecorded sites proximate to the River Suir.

13.15.8. Potential Effects in the Absence of Mitigation

Table 13.15.1: Summary of Potential Effects Archaeology and Cultural Heritage

Project Phase	Potential Direct, Indirect and Cumulative Effects (without mitigation)
Do Nothing	No potential to effect archaeology or cultural heritage.
Construction	Ground disturbance, including topsoil removal and excavation of cable trenches, with the potential to cause physical effect to known and unknown potential archaeological features.

	<p>There is one recorded monument (ringfort TN041-026) abutting the proposed grid connection to the west, with some potential for features associated with the fort to remain beneath ground level. In that context there will be likely slight direct physical effect on the ringfort TN041-026.</p> <p>Potential for moderate physical effects to previously unrecorded sub-surface archaeological features during the construction works for the proposed wind farm, based upon the archaeological context of the site. Similarly, likely slight or not significant effects as a result of the proposed grid connection and TDR works.</p> <p>No effects are anticipated with respect to protected structures and NIAH.</p> <p>Potential for sub-surface remains of a building (identified as vernacular structure 1 in the EIAR) and Kiln (vernacular structure 7 EIAR), with slight physical effect.</p> <p>Potential for moderate physical effect on sub surface features of a historic farm complex (identified as vernacular structure 3 in the EIAR) and Kiln (vernacular structure 6 EIAR).</p> <p>While there will be no direct physical effect to Rossestown Bridge during the construction phase, there is unlikely possibility that the bridge could be damaged during the machinery movement, equating to a slight physical effect (vernacular structure 4 EIAR).</p> <p>Potential physically effect upon historic parish or townland boundaries: construction of proposed T3 and internal underground cables/access track connecting T3, T5 and T4, will have negative physical effect on Loughmoe East/Shyane Parish boundary. Underground cables/access tracks to T5 will also have negative physical effect on the Rossestown and Clobanna townland boundary. The cables/tracks between T4</p>
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	<p>and the substation will have negative effects on the Brownstown and Killeenleigh townland boundaries. These equate to likely moderate physical effects.</p>
<p>Operation</p>	<p>Potential visual effect upon the following national monuments, from which all proposed turbines will be theoretically visible:</p> <p>Church (National Monument No.266): Situated c.9.4km to the southeast. The monument site is surrounded by an overgrown boundary and the proposed turbines will not be visible from the central point of the monument site. Effect is classified as not significant.</p> <p>Holycross Abbey (National Monument No.121): Situated c.8km to the southwest. The monument site is surrounded by mature trees and houses, consequently proposed turbines will not be visible, and effect is classified as not significant.</p> <p>Rock of Cashel (National Monument No.128): Situated c.21km to the south of the proposed wind farm. The monument site is elevated and proposed turbines will be visible, considering the distance, likely visual effect is classified as slight. (Viewpoint 22 photomontages).</p> <p>With respect to recorded monuments, potential visual effect is classified as follows in the EIAR:</p> <p>Slight cultural visual effect upon Ringfort TN035-075, Ringfort TN035-076, and a further 19 recorded monuments situated outside of the redline boundary but within a 3km radius.</p> <p>Not significant cultural visual effect upon Enclosure TN041-008, Enclosure TN041-087, and a further 60 recorded monuments situated outside of the redline boundary but within a 3km radius.</p>

	<p>Moderate cultural visual effect upon a tower house TN035-030005 and a church TN035-03002 situated c.3.7km to the northwest.</p> <p>Significant cultural visual effect upon a church TN035-078 and a graveyard TN035-078001, as there are no visual blockers and these recorded monuments are open to the public. (viewpoint 28 photomontages)</p> <p>With respect to Registered Protected Structures, slight effect upon a detached three-bay single-storey vernacular house, built c.1800 (Reg. No. TRPS834) and the Ballyduag Creamery built c. 1915 (TRPS769), due to the site context, as they are located adjacent to the main road (L-4119).</p> <p>Brittas Demesne: The entire site consists of a country house (Reg. No. TRPS99) built on the site of a medieval castle), a second single-storey house (Reg. No. TRPS830) in use, a gate lodge as well as walls, gates and railings. There is a possibility that the proposed turbines will be visible from some of these features. The EIAR states that as Brittas Demesne belongs to the private owner who is involved in the proposed development, the visual effect will be classified as likely slight. This is addressed further below in the assessment of effects. (Viewpoint 23 photomontages.)</p> <p>Slight visual effect to the Rossestown Bridge, which is not a protected structure. Visual effect upon the remains of a Kiln in the Brittas Demesne also classified as slight.</p>
Decommissioning	No potential for significant effect as potential subsurface archaeological issues will have been resolved during construction phase.
Cumulative	No cumulative effects identified during the construction phase. During the operational phase, slight cumulative effects identified due to the potential to see more turbines in the wider

	<p>landscape setting from recorded monuments and structure listed in NIAH (figure 11-20 of the EIAR), with reference to 11 existing or permitted wind farms within a 20km radius zone of the proposed development.</p>
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13.15.9. Mitigation

13.15.10. Section 11.5 sets out proposed mitigation measures. A summary of mitigation measures during construction phase is set out below:

- Archaeological monitoring under licence from the National Monuments Service (NMS) of groundworks.
- Archaeological monitoring of ground works associated with the Grid Connection Route within the ZON of the ringfort TN041-026 under the license from NMS.
- Groundworks associated with cuttings through the townland/parish boundaries to be kept to a minimum and with archaeological monitoring, including photographs, survey and written descriptions.
- Where possible, it is proposed to excavate external grid connection trench to the east side of the road to minimize potential physical impact to the recorded ringfort TN041-026.

13.15.11. During operational and decommissioning phase, no mitigation measures are proposed.

13.15.12. Direct and Indirect Effects Assessment

13.15.13. The assessment I set out below has been undertaken in light of relevant considerations in the Architectural Heritage Protection Guidelines for Planning Authorities and relevant policies and objectives in the Development Plan. Of particular note, is the protection set out under the guidelines for the setting of Protected Structures, and under the Development Plan, Policy 13-1 which states that proposals which have an unacceptable impact on the character and integrity of a protected structure will not be permitted, and Policies 13-4 and 13-6 concerning visual / impact assessment of effect upon archaeological heritage, and the safeguarding of archaeological heritage.

- 13.15.14. I note submissions with respect to impact upon sites, monuments and structures of heritage significance. The assessment set out in this EIA is informed by the EIAR and takes into account potential effects upon the most relevant, proximate and sensitive heritage assets surrounding the site. Other heritage assets of lesser relevance or sensitivity would experience reduced or no effects. I address concern with respect to the most sensitive heritage assets surrounding the site further below.
- 13.15.15. The EIAR concludes that through the application of mitigation measures in the form of archaeological monitoring, and the full recording of potential remains of vernacular structures, potential archaeological effects will be reduced to 'not significant'. Similarly, proposed mitigations to the townland boundaries consisting of archaeological monitoring and reverting the boundaries to pre-construction phase status will reduce the effect to 'slight', and indirect effect during the operation phase which may cause change to the surroundings of the archaeological or architectural heritage resource will be reversed following the decommissioning phase. I consider potential effects upon cultural heritage in more detail below.
- 13.15.16. I concur with the EIAR with respect to the majority of findings with respect to archaeological and cultural heritage. During construction, no significant adverse effects are anticipated with respect to archaeology and cultural heritage. In relation to archaeology, with the application of mitigation, there will also be no long term significant adverse effects. In relation to cultural heritage, there is potential for significant adverse effects during operation, and I highlight in my assessment below my considerations in this regard.
- 13.15.17. In relation to Brittas Castle (Reg. No. TRPS99 and Reg. No. TRPS830), a Registered Protected Structure of Regional Importance, the EIAR states that as the owner is involved in the project, the effect is slight. In the wider parkland of Brittas Demesne, there are a number of other built heritage features including a private estate church and graveyard and the relict remains of a lime kiln. The church and graveyard are recorded monuments (TN041-007). While I note that the EIAR finds a slight effect, this is justified with reference to the involvement of the owner in the project. The ownership status of a historic structure does not diminish a finding of harm with respect to cultural heritage. The fact that property may be in private ownership does not reduce protection with respect to its protected status, neither does the accessibility of the site to the public, or the interest of an owner in a project. In my

view, and with reference to viewpoints 23 A & B, the proposed development will have a significant adverse effect upon the setting of this protected structure, regardless of the circumstances of its ownership. I also note that these views are shown when trees are in full foliage, and so I am cognisant of how views will appear during winter months and into spring, when there is less leaf cover to screen the proposed turbines. That being said, this does not necessarily render the effect so harmful as to warrant a refusal of the application, but it is necessary to understand the full extent of impacts resulting from a development before a decision is made on its acceptability. In this case, I do not agree with the conclusions of the EIAR in terms of the significance of impact upon Brittas Castle and associated Demesne.

13.15.18. The EIAR does identify that the proposed development will result in significant adverse impact upon the setting of the historic remains of recorded monuments, a church and graveyard in Clobanna (TN035-078 and TN035-0780001), and with reference to viewpoint 28 I agree with this finding. The EIAR concludes with respect to residual impact, that effects upon historic structures will be reversed in decommissioning phase. Whilst I agree that the effect will be reversed in decommissioning phase and this is material to my assessment, I am also aware of the substantial time that the development will be operational (the applicant is seeking an operating period of 35 years). The effect on the setting of these heritage assets is therefore significant in my view, despite ultimate decommissioning of the development in future. However, as indicated above, the finding of significant effects does not necessarily render a proposed development unacceptable, and I continue my assessment with respect to cultural heritage effects below.

13.15.19. In relation to Rossestown Bridge, this is not a protected structure, and therefore the EIAR has categorised impact upon this historical form as slight. Separately, the EIAR considers impact with respect to landscape and visual effects with respect to this structure and I refer to viewpoint 3 in this regard. I assess this further as part of the LVIA below. I concur with the findings of the EIAR with respect to this structure in terms of cultural heritage, as it is not protected.

13.15.20. I note the consultation response from the OPW which highlights concern regarding potential impact upon the potential Outstanding Universal Value (OUV) of the Rock of Cashel. This is National Monument No.128 and one of six sites forming part of a World

Heritage Property bid for inspection on the World Heritage List (one of three sites on the Irish Tentative List).

13.15.21. Viewpoint 22 illustrates the potential effect of the proposed development upon the view from this nationally (and potentially internationally) important site. I agree with the OPW that while there is existing and planned wind farms in this view, they are not visually prominent due to distance to the Rock of Cashel, and the presence of the proposed development in the view would be more apparent above the horizon line. On a clear day, the proposed development would likely be visible from the Rock of Cashel due to the elevated position of the heritage asset, which allows wide ranging views. However, the distance to the proposed development is still substantial, at c.21km, and the proposed development will not appear prominent in the view. The proposed wind turbines while discernible, will not attract the viewers' attention in my opinion, and will form part of the wider setting of urban forms that are apparent in the view. In my opinion, visibility would be obtained by a viewer seeking out the turbines in the view, rather than the turbines forming a key feature in the view. In this sense, I agree with the findings of the EIAR that the effect will be slight.

13.15.22. Following circulation of the applicant response, the OPW referred the Commission to a publication regarding cultural landscapes surrounding the Rock of Cashel, however no extracts or copy is provided with the submission, and the publication does not form part of relevant planning guidelines to inform development management decisions. I have set out in detail my assessment of potential effect upon the Rock of Cashel above and I am satisfied that no significant harm will result from the proposed development. Assessment of all potentially effected archaeological sites or historical heritage that may be impacted by the proposed development has been addressed in the submitted EIAR and my EIA set out here. I am satisfied that the proposed development will not adversely affect the potential OUV of the Rock of Cashel or disrupt views between the Rock of Cashel and other cultural heritage sites, specifically due to its significant distance to the site.

13.15.23. I note the concern from the OPW with respect to viewpoint 14 of Holycross Abbey National Monument No.121, which was taken in spring/summer when vegetation is in full foliage, and that screening may be less effective in the other 6 months of the year. In this view, the proposed development is situated a significant distance away (c.8km), and beyond distant tree and shrub planting that densely populates the perimeter view.

While I accept that the view only presents visibility when vegetation is in full foliage, given the distance to the proposed development, and the density of the planting, visibility will always be well screened regardless of the season. Even if planting was not screening the view, there are houses in the perimeter view, and the distance to the proposed development would still diminish the presence of the proposed development. Therefore, I concur with the findings of the EIAR that effect upon this monument is not significant. I note the OPW further submissions on this matter following circulation of the applicant's response, and I have set out here that I am satisfied even when discounting the effect of vegetation screening, that visibility of the proposed development will not be harmful in this view. I am also satisfied that no further photomontages are necessary to inform my assessment.

13.15.24. The OPW also highlighted in their response that Ballynahow Castle (TNI041-019; NM No.234; Registered Protected Structure TRPS832) has not been included in the EIAR. In response, the applicant has provided an assessment, with photographs of the view towards the proposed wind farm. The applicant response concludes that the view is constrained by the doorway access and coupled with the distance, as well as limited access to the monument (which is on private land), the impact is classified as imperceptible. As outlined above, ownership and public access do not diminish the protection afforded to heritage assets. While I accept that public access is of relevance in the assessment of landscape and visual impact (see related assessment below), the same does not apply with respect to archaeological and cultural heritage. Following circulation of the applicant's response, the OPW state that the full extent of the view of the proposed development is not illustrated in the photos provided in the applicant response. However, I am satisfied that the photos provided a good illustration of potential views from the site, being at elevated level. At ground level, the view towards the proposed development site would be interrupted by buildings and trees. I concur with the applicant's findings that potential impact upon this protected structure would be imperceptible.

13.15.25. In summary, I consider there to be significant negative effect from the proposed development in operation, upon the setting of 2 recorded monuments, a church and graveyard in Clobanna (TN035-078 and TN035-0780001), as well as upon the setting of Brittas Castle (Reg. No. TRPS99 and Reg. No. TRPS830) a Registered Protected Structure of Regional Importance, and associated Demesne with a wider parkland and

other built heritage features and recorded monuments. Moderate effect also occurs 2 monuments situated c.3.7km away, a tower house (Reg. No. TN035-030005) and church (Reg. No. TN035-03002). Other effects can be classified as slight or not significant. While the proposed development would result in significant negative effect upon these recorded monuments and protected structure, this impact must be considered in balance alongside the wider strategic considerations with respect to the proposal.

13.15.26. As a renewable energy project, the proposed development is promoted and supported through legislation and policy at national, regional and local levels. The proposed development will have a significant negative effect upon heritage assets during operation. However, the 2 recorded monuments, a church and graveyard in Clobanna (TN035-078 and TN035-0780001), are poorly preserved and formed of remains. In addition, the status of protected structures at Brittas Demesne (Reg. No. TRPS99 and Reg. No. TRPS830) are of regional importance and not national or international importance. The effect will also be reversed after an operation period of c.35 years. I also note that there are no other significant effects arising from the proposed development upon archaeological or cultural heritage.

13.15.27. Given the specific circumstances of this application, the condition/status of the heritage assets effected and the reversibility of the effect, the degree of impact can be justified in light of strategic considerations. On balance, and in the context of the urgent need to respond to the climate crisis, I am satisfied that the proposed development is acceptable with respect to archaeological and cultural heritage.

13.15.28. In reaching this conclusion, I am cognisant of Policy 13-1 of the Development Plan which states that proposals which have an unacceptable impact on the character and integrity of a protected structure will not be permitted. While I am concluding that the proposal will have a significant adverse visual effect upon the Protected Structure, I do not consider that this translates to an unacceptable impact upon its character and integrity. As set out here, I am concluding that this effect is acceptable given the wider strategic considerations that form part of my assessment, and I also consider this impact to be reversible in the decommissioning phase. With respect to Policies 13-4 and 13-6 I am satisfied that the LVIA set out in the EIAR and outlined here, provides a comprehensive visual / impact assessment of the proposals upon archaeological features.

13.15.29. Direct and Indirect Effects Conclusion

13.15.30. Having regard to the examination of environmental information in respect of archaeology and cultural heritage, in particular the EIAR provided by the applicant and the submissions during the course of the application, it is considered that the main direct and indirect effects on archaeology and cultural heritage are as follows:

- During construction, through the application of mitigation measures in the form of archaeological monitoring, effects will be reduced to 'not significant'.
- During operation, the locating of the proposed wind turbines will have significant negative effect upon the setting of 2 recorded monuments, a church and graveyard in Clobanna (TN035-078 and TN035-0780001), as well as upon the setting of Brittas Castle (Reg. No. TRPS99 and Reg. No. TRPS830) a Registered Protected Structure of Regional Importance, and associated Demesne. Moderate effect also occurs 2 monuments situated c.3.7km away, a tower house (Reg. No. TN035-030005) and church (Reg. No. TN035-03002). Other effects can be classified as slight or not significant.

13.15.31. The proposed development would result in significant negative effect upon these recorded monuments and protected structure; however this impact must be considered in recognition of the sensitivity of these features, and in balance alongside the wider strategic considerations. In light of the poor condition of the recorded monuments effected, and the status of protected structures of regional importance (not national or international importance); alongside the reversibility of these effects in the decommissioning phase (in the absence of any further planning permission); and in light of the national, regional and local planning policy context, which support renewable energy projects as needed to urgently respond to the climate crisis; in my view, these significant negative effects are justified and therefore acceptable. My conclusion here has particular regard to relevant obligations under the Climate Act 2021 as noted in section 10 above, and in recognition that the proposed development will contribute to national renewable energy targets and reductions in GHG emissions as outlined in section 13.11 of this report above.

13.16. Landscape and visual

13.16.1. Issues Raised

13.16.2. I note submissions with respect to landscape and visual effects which I address below as part of my assessment of direct and indirect effects. My assessment of design and visual amenity in section 11.5 above also addresses submissions regarding visual effect and should be read in conjunction with this section of my report.

13.16.3. Context

13.16.4. Chapter 15 addresses the landscape and visual effects arising from the proposed development. The assessment contained in chapter 15 is informed by photomontages included in Volume 4 of the EIAR. Photomontages illustrate viewpoints of the proposed development from locations as identified on maps towards the front of the booklet in volume 4, with corresponding descriptions in Chapter 15. A list of viewpoint locations is set out in table 15-8 of the EIAR. The EIAR describes how viewpoint analysis is organised as follows:

13.16.5. For each viewpoint, a table is included which includes the following information:

- The existing view is described (this is the 'Baseline Photograph') to express the landscape context.
- Within the Volume 4 Photomontage booklet, a wireframe view is also shown underneath the existing view, illustrating theoretical visibility of the turbines. This includes existing, permitted or consented turbines, as well as proposed turbines (those which have not yet been determined).
- Magnitude of Change is then described in the 'Proposed Photomontage' view. The Photomontage view is shown as 53.5 degrees, (as per SNH guidance) with some viewpoints requiring two or more 53.5 degree views. For some viewpoints (View 1, 3, 4, and 27) in closer vicinity to the site, there are two or more Photomontage views, as these locations are in close proximity to the proposed turbines.
- Other headings include Visual Receptor Sensitivity, Significance of Effect and cumulative visibility. These are assessed, as per Table 15-1 to Table 15-5 (of the EIAR). The quality of the effect is also assessed, as per Table 15-6 (of the EIAR).
- In the operational phase, the duration of the visual effect will be long term (i.e. lasting 15-60 years, according to the EPA - see Table 15-7 of the EIAR). It is important to note that, in the advent of planning permission being granted, the

turbines may be decommissioned after 35 years (i.e. any further proposals for development at the site during or after this time will be subject to a new planning permission application). The change, therefore, is considered to be reversible, as the removal of turbines, and other tall elements of the proposed project, will remove the visual effects associated with it.

- It should be noted that, where relevant, the photomontages also depict cumulative visibility, and this heading describes visibility of other turbines. Any existing turbines are depicted in the baseline views and/or in the wireframe view. These are briefly referenced in the descriptions in Section 15.6.2 (EIAR) but are later addressed and assessed separately in the cumulative visual effects Section 15.7 (EIAR).

13.16.6. The EIAR notes in section 15.2.4.4 that three types of turbines are assessed in the chapter with respect to design flexibility. All have a tip height of 180m but differ in blade length between 73m and 76m, hub height between 102.5m and 105m and rated power between 5.7 and 6.6 MW). For the purposes of visual impact assessment, the EIAR states that the spectrum of different turbine types considered present an insignificant range of differences, so as to be negligible. However, 'Type A', being a hub height of 105m and with a blade length of 73.7m (180m height) was selected to represent the 'worst case scenario' of the options in terms of visual impact.

13.16.7. Of note is viewpoint 23 in volume 4 which illustrates the proposed development in views from Brittas Castle, also referred to as Brittas Demesne. This is included as part of a corresponding assessment set out in Chapter 11 of the EIAR with respect to cultural heritage, as outlined above in this report. This viewpoint is not considered further within Chapter 15 as part of the Landscape and Visual Impact Assessment (LVIA) because the EIAR states the land is privately owned and not publicly accessible. I note that the Guidelines for Landscape and Visual Impact Assessment (GLVIA) state that with respect to the selection of viewpoints, these may include public viewpoints, and in some instances it may also be appropriate to consider private viewpoints (mainly from residential properties) with the scope of any such assessment to be agreed with the competent authority (page 107 GLVIA 3rd Edition). Page 108 of the GLVIA goes on to identify factors of relevance to the selection of final viewpoints, including accessibility to the public and the potential number and sensitivity of viewers to be affected. Therefore, I am satisfied that the EIAR applies

the correct methodology in this regard, and an assessment of effect upon Brittas Castle (and Demesne) is set out above with respect to cultural heritage, rather than in this section of my EIA.

13.16.8. I note a third-party submission following circulation of the applicant response that similarly queries the exclusion of an assessment of Clobanna Church and Graveyard in the LVIA as it is not publicly accessible. I have set out an assessment of potential effect upon this heritage asset with respect to archaeological and cultural heritage in section 13.5 above. Whilst I note that there is a sign for the old cemetery and space for parking on the road, the site is private and as set out above, an assessment is therefore not required under the LVIA.

13.16.9. Baseline

13.16.10. A 20km study area was selected for the LVIA, with an exception to this extent in consideration of the Rock of Cashel which is situated just outside of the 20km range. There are a number of scenic routes as designated under the Tipperary County Development Plan situated within the study area, including 3 views (V02, V03 and V04) towards the Rock of Cashel. The site is located in the LCA5 Templemore Plains Landscape Character Area (LCA) under the Development Plan. There are also nine other LCAs lying within the 20km radius of the study area. These are: LCA1 Urban and Fringe Area, LCA2 Thurles Hinterland, LCA3 Nenagh Corridor, LCA4 River Suir Central Plain, LCA5 Templemore Plains, LCA8 Littleton Raised Bog, LCA9 Littleton Farmland Mosaic and Marginal, LCA17 Hollyford Hills Mountain Mosaic and LCA22 Devilsbit Upland. The EIAR also identifies Scenic View 14 (views to the north and east on the Johnstown/Gattabaun Road) under the Kilkenny County Development Plan located within the study area, but more than 18km from the site.

13.16.11. The topography of the site is low-lying, rising to a height of approx. 110m AOD in the north east / south west regions, and lowering to 100m AOD in the central region. The River Suir dissects the northern half of the site, flowing south and aligning with the site's south-eastern edge. The topography of the surrounding area is also lowland in nature, with mountains in the wider landscape setting. The site is in agricultural use with the pastures also making up the character of the wider area. There are also peat bogs stretching from the north-east, entering County Kilkenny and stretching across Tipperary County for its entire eastern section towards the southeast. In addition, there

are urban settlements in the area. There are 12 wind farms in operation within c.20km of the site. The nearest is Lisheen Wind Farm, at about 9.8km north-east of the site and located on the border between Tipperary and Kilkenny County. The proposed Borrisbeg Wind Farm is approx.12.9km from the site (granted planning permission by ABP in September 2024 ref.318704) and located within Tipperary County, and the Gortnahalla Wind Farm (single turbine), is approx. 13.4km from the site, also within Tipperary County. In terms of cultural heritage, section 13.15 above identifies the baseline features of relevance in this regard. There are also a number of recreation and amenity trails within 20km of the site as identified in table 15-12 of the EIAR, however none of these trails are within 5km of the site. The L8017/ Rossestown road intersects the centre of the site and is linked to the N62, a national secondary road that aligns a small section of the western extent of the site, connecting the counties of Westmeath and Offaly with Tipperary.

13.16.12. The EIAR concludes that the landscape sensitivity of the subject site is low-medium.

13.16.13. Potential Effects in the Absence of Mitigation

Table 13.16.1: Summary of Potential Effects Landscape and Visual

Project Phase	Potential Direct, Indirect and Cumulative Effects (without mitigation)
Do Nothing	It is assumed that the likely evolution of the baseline would continue to be used mostly for agricultural purposes and the vicinity of the site would continue to be constructed. The likely evolution of the baseline will also entail a permitted ESB overhead 38kV powerline passing through the site. In the wider area, wind farms will be completed.
Construction	Landscape: Construction activities on the site, including site preparation, clearance, excavation, building of proposed components, removal of woodland, vehicle movements and equipment, will result in landscape change affecting landscape character. Excavation works are also proposed with respect to the proposed grid connection and the TDR will require temporary works such as traffic sign / furniture

	<p>removal and vegetation removal, as well as hardstanding areas in two pinch point locations. Rerouting of an overhead powerline is also required to facilitate the works. These short-term or temporary impacts will have adverse effects upon landscape character of moderate significance with respect to the wind farm site, slight significance with respect to the GCR and TDR and not significant effect with respect to the relocation of a powerline.</p> <p>Visual: On site construction phase activities will have visual effects upon the area. Due to the presence of existing hedgerows, trees, embankments and walls, as well as a lack of public access, this impact will not be significant. Moderate, adverse visual effect is anticipated in the vicinity of the wind farm site over a short-term period. Not significant, temporary, adverse visual effect is predicted with respect to the grid connection and TDR. Rerouting the powerline will have imperceptible, neutral, temporary effect.</p>
Operation	<p>Landscape: The EIAR highlights that the proposed 10 No. turbines within the site will inform the site's landscape character and will impart a larger degree of change to the local landscape. The EIAR goes on to state that 'while wind energy is a palpable facet of the wider landscape, there are no such developments (i.e. operational, permitted or proposed wind energy developments) within the immediate vicinity of the site, or, indeed, the central study area'. This will impart a high operational phase magnitude of change to the landscape character. Other parts of the development including the GCR, TDR, and rerouting of the overhead line have a negligible magnitude. The EIAR considers that the existing landscape has a low-medium sensitivity, and coupled with a high magnitude of change, a moderate significance of landscape effect will occur with respect to the operation of the proposed</p>

windfarm site. Neutral effects would occur with respect to other elements making up the proposal.

Visual: Section 15.6.2.1 of the EIAR considers each viewpoint as illustrated in the photomontages for volume 3 of the EIAR, with a classification of the significance of effect. The following summarises those viewpoints of most relevance to the assessment in this report, either due to the significance of effect or the degree of sensitivity of the existing character.

Viewpoint 1 – Taken from the crossroads of two local roads looking across open improved grassland, representing a local view from surrounding residence, with a classification of a Moderate-Significant adverse visual effect in the proposed condition.

Viewpoint 2 – Taken from a local road representing the view from residences at Brownstown Crossroads. Moderate adverse visual effect in the proposed condition.

Viewpoint 3 – Taken from Rossestown Bridge near the centre of the site. Classified as a Significant adverse visual effect in the proposed condition.

Viewpoint 4 – View from residences along the N62 to the west of the site. Moderate-significant adverse visual effect in the proposed condition.

Viewpoint 11 – View from Loughmoe Abbey looking across the surrounding historic graveyard, representing a local historic, cultural and religious site in the public sphere. Classified as a Moderate adverse visual effect.

Viewpoint 14 – From Holy Cross Cistercian Abbey, a National Monument, with high-medium sensitivity. Classified as a Not significant neutral effect.

Viewpoint 22 – View from Rock of Cashel, an elevated view looking northwards, approx. 21m from the subject site. The

	<p>Rock of Cashel is of national importance and a key tourist destination, with a Very High visual sensitivity. The EIAR considers the magnitude of change in the view to be negligible and therefore concludes that the proposal would have a neutral Not Significant effect.</p> <p>Viewpoint 24 – View from Tipperary Scenic Route (V55) along R503 9km west of the proposed project site, with a High visual sensitivity. Classified as a Slight-Moderate adverse visual effect.</p> <p>Viewpoint 27 – View from residences at Brownstown, classified as a Moderate-Significant adverse visual effect.</p> <p>Visual effect from the grid connection route and TDR are of negligible magnitude and categorised as imperceptible, neutral and long-term effects.</p>
Decommissioning	<p>Temporary landscape and visual disturbance from cranes and on-site machinery, with similar effects to the construction phase. Once fully decommissioned, the landscape and visual effects will be reversed.</p>
Cumulative	<p>Volume 3 of the EIAR illustrates photomontages of the proposed development as outlined in the viewpoints highlighted above. Where other wind energy developments are visible in the photomontage, they appear as separate elements and at a distance. The EIAR highlights that there no other wind energy developments within 9km of the site, and only one within 13km of the site. Wind turbines identified within 20km of the proposed Brittas development, operational, under construction, awaiting decision or appealed, are listed in Table 15-14 of the EIAR, and have been considered in the assessment. Significant cumulative impacts are not considered to occur in combination with other wind farm developments or any other developments in the area.</p>

13.16.14. Mitigation

13.16.15. Section 15.8.1 of the EIAR outlines mitigation measures with respect to landscape and visual effects.

13.16.16. During construction phase works will be carried out in line with the CEMP for the project (Appendix 2B EIAR) to minimise disturbance, including the installation of temporary fencing to protect landscape elements, in addition, the borrow pit will be filled-in with excess material and returned to its current use.

13.16.17. During operation, mitigation by design is referred to, being the choice of appropriate turbine colour, sensitive siting and design. The EIAR also refers to minimal vegetation removal and the reinstatement of areas follow construction phase, including 1.4ha of woodland. It is noted that new planting is subject to an afforestation licence.

13.16.18. Direct and Indirect Effects Assessment

13.16.19. During construction, I concur with the EIAR findings that impact will be over a short term period and therefore will not result in significant negative effects.

13.16.20. During operation, the proposed development of 10 wind turbines, with a blade tip height of 180m, hub height range from 102.5 to 105.5m and a rotor diameter range from 149m to 155m, would form a striking addition to the existing landscape and visual character of the area. The EIAR concludes that impact upon landscape character will be moderately significant, formed by the high magnitude of change, coupled with a landscape character that is of low medium sensitivity.

13.16.21. I note submissions that suggest that the applicant findings with respect to the sensitivity of landscape character are incorrect. The LVIA set out in the EIAR details the relevant policy context with respect to landscape character (section 15.3.2), including that the subject site is situated within the Templemore Plains LCA5, and nine other LCAs (landscape character areas) within a 20km radius of the study area for the proposed development. A small portion of the planning boundary is also within the LCA2 Thurles Hinterland. Both of the LCAs that the site overlaps are noted to have a high capacity/ low sensitivity Landscape, with change or development being generally acceptable. I am satisfied that the EIAR has correctly identified the landscape character policy context for the area.

13.16.22. A submission also references Figure 5.4 of the Tipperary Landscape Character Assessment and Table 6.2. Figure 5.3 relates to generalised sensitivity mapping, with Thurles indicated to have higher sensitivity, however the subject site itself is not highlighted. Figure 5.4 concerns Landscape Character Area Sensitivity mapping, with the general location of the site marked 10a on this map, which is not identified as sensitive. Table 6.2 concerns the compatibility of different land uses with LCAs, categorised from most to least compatible. Wind farms are categorised as having a low compatibility with the LCAs where the subject site is situated. This indicates that there could be significant visual effects (page 47 of the Landscape Character Assessment). Table 6.3 of the Landscape Character Assessment categorises wind farms as being compatible only in exceptional circumstances within 300m of major rivers and waterbodies, with the supporting text noting that the guidance is an estimation and actual visual impacts depending upon other factors. The applicant response to this point highlights the location of the site in an area designated as open for consideration for wind farm development and that their LVIA has assessed potential visual effects and found the scheme to be acceptable. I also note that table 6.3 categorises wind farms within agricultural land, as being 'likely to be compatible if sited and designed with great care', and the primary character of the existing site is agricultural land.

13.16.23. I agree with submissions that the Landscape Character Assessment for the County identifies that wind farms are likely to have significant visual effects, however I am also satisfied that the LVIA in the submitted EIAR addresses these potential effects and identifies where significant negative effect may occur. I am therefore satisfied that the EIAR has correctly identified the landscape sensitivity of the site and I continue with my assessment below. With respect to the demonstration of exceptional circumstances within 300m of a major river, my assessment considers the overall effects of the project in total and impacts which must be considered in balance alongside wider strategic considerations, including the urgent need to respond to the climate crisis. I set out my conclusions in this regard at the end of this section of my report below.

13.16.24. I note submissions that the viewpoints / photomontages are inadequate and do not give a clear indication of impact, as well as suggestion that viewpoint 15 is not from the N62 road. Viewshed analysis in appendix 15A and 15B of the EIAR indicate the

potential visibility of the proposed wind turbines along with identification of photomontage locations. I am satisfied that the viewpoints selected give a good representation of the visual effect of the proposed wind turbines. While it is not possible to include every possible visibility point, the viewpoints selected indicate a range of visibility effects that are reflective of surrounding areas as well as the viewpoint itself. Specifically in relation to viewpoint 15, this is clearly identified as being from the M8 and N62 junction roundabout, and I am satisfied that the findings with respect to this view are accurate and no significant adverse effect results. The Local Authority also suggest further views should be sought from the N62, however as I outline here, I am satisfied that the provided photomontages are sufficient for the purposes of my assessment and represent resulting visual effect, including from the N62. It is apparent that the proposed development will have extensive visibility in the locality and my assessment outlines the range of effects resulting from this visibility.

13.16.25. I note submissions categorising the location of the site as flat farmland, however as set out in the baseline description above, while the site is low lying, there is a gentle undulating landscape with topographical variation. Submissions reference standards and policies with respect to integration with the landscape, this section of my report considers in detail the location of the site with respect to visual effects, with visual amenity considered in section 11.5 above.

13.16.26. In relation to visual effects, viewpoints are highlighted in the table above where significant effects have been identified, or where sites have a high level of sensitivity, and I address these viewpoints below.

13.16.27. Viewpoints 1, 2, 4 and 27 are taken from local roads / residences and are representative of the local resident view of the proposed development, particularly from nearby dwellings, the N62 and Brownstown. Visual effects upon these viewpoints are categorised as moderate or moderate-significant, reflecting the visual prominence of the proposed turbines for residents experiencing these views. I concur with the EIAR findings in this regard, and in my opinion, the proposed development will have some visual dominance in these views. While the magnitude of change is high, the effect is categorised as moderate or moderately significant due to the medium sensitivity of these locations. Viewpoint 6 is also taken from the residences on the N62 and is moderate-slight, reflecting a lesser extent of impact than that experienced at the

aforementioned viewpoints, but still demonstrating some visual dominance, and I agree with the EIAR in this regard.

13.16.28. Viewpoint 3 is taken from Rossestown Bridge and is classified in the EIAR as a significant adverse visual effect. This is reflective of the very high magnitude of change that occurs in the proposed view, with the turbines in close proximity to passing road users. However, while the bridge itself is a historic structure, it is not a formally designated heritage asset. It is not a protected structure and therefore the sensitivity of this setting is categorised as medium low, reflective of the scenic value to rural views, albeit in a heavily worked agricultural landscape. I agree with the EIAR findings with respect to this view.

13.16.29. Viewpoint 11 is from Loughmore Abbey and across the historic graveyard. The EIAR categorises the visual effect as a moderate adverse due to the medium-high sensitivity of the location and medium magnitude of change. In the view, the distance to the nearest proposed turbine is c.4km and while the turbines are clearly in view, they do not dominant the visual experience. This is a historic graveyard with a rural scenic setting that is largely intact and accessible to the public. The proposed turbines will alter this setting and have an adverse impact. However, the site has no specific protection with respect to visual amenity. I agree with the EIAR findings with respect to this view.

13.16.30. Viewpoint 14 concerns Holy Cross Cistercian Abbey, which is a National Monument, with a high-medium sensitivity. The impact upon this national monument is also addressed in the cultural heritage section of my EIA above. The proposed turbines are well screened by dense vegetation and set a significant distance away at some 8km. Even during months when foliage is reduced, I agree with the EIAR that the visual effect is not significant and neutral, as the magnitude of change in this view will be negligible with the turbines in place.

13.16.31. Viewpoint 22 represents the view from Rock of Cashel towards the proposed development site. It is an elevated view from a key tourist destination, approx. 21m from the subject site. The Rock of Cashel is of national importance, with a very high visual sensitivity. I also address potential effect upon The Rock of Cashel in the cultural heritage section of my EIA above which should be read in conjunction with this section of my report. The EIAR considers the magnitude of change in the view to be

negligible, and I concur with this assessment. In this view, the turbines appear as a distant feature likely to be visible only on clear days. While discernible in the view, the viewer is required to seek out the turbines in the view. The turbines appear alongside other urban features in the view, including distant houses, as well as electrical infrastructure and a road in the foreground. The overall visual effect is not significant.

13.16.32. Viewpoint 24 is from Tipperary Scenic Route (V55) along R503 9km west of the proposed project site. This view has a high visual sensitivity as it is a view along a designated scenic route. The view will be experienced by road users, including tourists and the proposed development will alter the viewer experience. The nearest proposed turbine is located c.9.5km away from the view and turbines appear as a distant feature, albeit larger and more apparent than other existing turbines, and above the horizon line readily discernible in the view. Given the distance to the proposed turbines, I am satisfied with the EIAR categorisation of the visual effect as slight moderate significance.

13.16.33. The remaining viewpoints are either from less sensitive contexts and/or do not have a significant impact, and I concur with the EIAR findings for these remaining views that no significant impact arises.

13.16.34. Overall, it is clear that the proposed development in operation, will have significant adverse visual impact from certain areas, namely moderate-significant at Viewpoints 1, 2, 4 and 27 (representative of local resident views); significant at Viewpoint 3 (Rossestown Bridge); moderate at Viewpoint 11 (Loughmore Abbey); and slight moderate at Viewpoints 24 (Scenic route V55) and 6 (residences at the N62). I am also cognisant that similar visual effects to Viewpoints 1, 2, 4, 6 & 27 are likely to be experienced in other locations at similar distances from the site, across the rural road network and rural residences along them. However, the visual effect from the most sensitive area, being the Rock of Cashel, will not be significant. The nature of the proposed development is that it is introducing very large, tall infrastructure, into a largely undeveloped landscape, characterised by agricultural fields, low rise dwellings and rural structures. Therefore, the visual effect will inevitably be significant from certain aspects, particularly in close proximity to the proposal. However, the purpose of this proposed infrastructure is for renewable energy generation, which is supported and promoted at a strategic level, and necessary to contribute towards reduced reliance upon fossil fuels, associated carbon emission reductions and the energy

security of the State. The effect will also be reversed (in the absence of any further planning permission) after an operation period of c.35 years.

13.16.35. Given the specific circumstances of this application, the context / sensitivity of the viewpoints where notable adverse visual effect occurs, as well as the limited extent of significant adverse visual effect, and the reversibility of the effect, the degree of impact can be justified in my view, in light of strategic considerations. On balance, and in the context of the urgent need to respond to the climate crisis, I am satisfied that the proposed development is acceptable with respect to landscape and visual impact.

13.16.36. Direct and Indirect Effects Conclusion

13.16.37. Having regard to the examination of environmental information in respect of landscape and visual, in particular the EIAR provided by the applicant and the submissions during the course of the application, it is considered that the main direct and indirect effects on landscape and visual are as follows:

- During construction, adverse effects upon landscape character of moderate significance with respect to the wind farm site, slight significance with respect to the GCR and TDR and not significant effect with respect to the relocation of a powerline, over a short term / temporary period. In relation to visual effects, moderate, adverse visual effect is anticipated in the vicinity of the wind farm site over a short-term period. Not significant, temporary, adverse visual effect is predicted with respect to the grid connection and TDR. Rerouting the powerline will have imperceptible, neutral, temporary effect.
- During operation with respect to landscape character, a moderate significance of landscape effect will occur with respect to the operation of the proposed windfarm site. Neutral landscape effects would occur with respect to other elements making up the proposal. With regards visual effect of proposed wind turbines, of the 25 No. viewpoint locations assessed, there is one viewpoint judged to be 'Significant' and 'adverse,' while there are three viewpoints judged to be 'Moderate Significant' and 'adverse.' The majority (21 of the 25 viewpoints) are not likely to experience 'Significant' visual impacts. Visual effect from the grid connection route and TDR are of negligible magnitude and categorised as imperceptible, neutral and long-term effects.

13.16.38. I concur with the conclusions reached in the EIAR with respect to impact upon landscape and visual. Noting the extent of impact, the degree of sensitivity of the effected views, and the reversibility of these effects in the decommissioning phase; alongside the national, regional and local planning policy context, which support renewable energy projects as needed to urgently respond to the climate crisis; in my view these significant negative effects are justified and therefore acceptable. In reaching this conclusion, I have had particular regard to obligations under the Climate Act 2021 as set out in section 10 above, and in recognition that the proposed development will contribute to national renewable energy targets and reductions in GHG emissions as outlined in section 13.11 of this report above.

13.17. The interaction between the above factors

13.17.1. Chapter 17 of the submitted EIAR is entitled 'Interaction of the foregoing effects'.

Figure 17-1 of the EIAR highlights the potential for interactions between topic areas. I have considered the interrelationships between factors and whether these might as a whole affect the environment, even though the effects may be acceptable on an individual basis. Having considered the mitigation measures contained in the EIAR, I am satisfied that residual impact resulting from interaction between all factors is minimised.

13.18. Cumulative impacts

13.18.1. The proposed development would occur in tandem with the development of other sites that are in the area. Such development would reflect land uses envisaged under the development plan which has been subject to Strategic Environment Assessment. A number of developments in the surrounding area have been specifically identified as being considered in Chapter 1 (section 1.6.4.6) and associated Appendix 1G of the submitted EIAR.

13.18.2. Each topic chapter in the submitted EIAR has considered cumulative impacts, and I have highlighted these where most relevant to my assessment. The potential cumulative impacts primarily relate to nuisances (such as emissions, traffic etc) arising from the construction of the development, with other planned or existing projects, and each of the EIAR chapters has regard to these in the assessment and

mitigation measures proposed. It is concluded that the culmination of effects from the existing, planned and permitted development and that currently proposed would not be likely to give rise to significant effects on the environment, other than those that have been described in the EIAR and considered in this EIA.

13.19. Reasoned Conclusion on the Significant Effects

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

13.19.2. **Population and human health** – Implementation of a CEMP forms the main mitigation during construction phase. Specific enhanced mitigation is required to be secured by condition during the operation phase, to ensure the shutdown of turbines to prevent shadow flicker. No significant negative effects envisaged during all phases with mitigation in place. Localised positive economic impact, and significant positive effect during operation with respect to community health and safety.

13.19.3. **Biodiversity** – The proposed development will result in the loss of habitat on the site and generates potential for risk of collision / injury to bats and birds. With the implementation of mitigation, including hedgerow re-instatement, protection of watercourses, pre-clearance and pre-construction surveys, measures to reduce collision risk (including curtailment), and monitoring, there will be no significant negative residual effects upon biodiversity.

13.19.4. **Land, soils, geology, water, air quality or climate** - Mitigation is formed of measures to reduce and manage impact upon land, soils, geology, water, air quality and climate, including implementation of a Construction Environmental Management Plan and Traffic Management Plan, as well as water quality monitoring. With the implantation of mitigation, no significant residual negative impacts. During operation, residual impact will be moderate positive upon air quality and climate due to the avoidance of emissions from fossil fuel generators.

13.19.5. **Noise and vibration** – For construction and decommissioning phases, with the application of mitigation, no significant effects. During operation, residual noise from

wind turbines is expected to remain between Imperceptible to Very Significant depending on the distance to the NSL. Two NSLs will experience a very significant/profound impact and will benefit financially from the project. 84 NSLs will experience a significant adverse impact with respect to the level of noise increase, however overall noise levels will comply with WEDG 06 limits in all cases. While the degree of change experienced to these NSL's is significant, actual noise levels are within guideline limits. In consideration of the overarching policy support for renewable energy and noting that the proposal will operate within WEDG 06 limits, this effect is acceptable.

- 13.19.6. **Material assets (land use, telecommunications, electricity networks, air navigation, quarries, and utilities)** – Mitigation measures include the consultation with utility bodies to ensure their requirements and standards for works are met during construction. Use of Aeronautical obstacle warning light scheme during construction and notification of IAA prior to erection of turbines. Coordination with telecoms providers to remedy any issues of interference to network links, with a signed protocol to be in place with RTE. Implementation of measures in the CEMP. With the implementation of mitigation, no significant residual negative impacts.
- 13.19.7. **Material assets – traffic and transportation** –Primary potential effects arise during the construction phase. With implementation of mitigation, particularly through the Traffic Management Plan, effects will be slight to moderate. Effect associated with the proposed grid route will be moderate to significant with implementation of a stop-and-go traffic management system and temporary diversions, generating disruption to users of the road network. This will be localised and temporary. During operation effect will be imperceptible and not significant, and effect during decommissioning will be imperceptible to slight.
- 13.19.8. **Archaeology and cultural heritage** – During construction, through the application of mitigation measures in the form of archaeological monitoring, effects will be reduced to 'not significant'. During operation, the locating of the proposed wind turbines will have significant negative effect upon the setting of 2 recorded monuments, a church and graveyard in Clobanna (TN035-078 and TN035-0780001), as well as upon the setting of Brittas Castle (Reg. No. TRPS99 and Reg. No. TRPS830) a Registered Protected Structure of Regional Importance, and associated Demesne. Moderate effect also occurs 2 monuments situated c.3.7km away, a tower

house (Reg. No. TN035-030005) and church (Reg. No. TN035-03002). Other effects can be classified as slight or not significant. Noting the reversibility of these effects in the decommissioning phase (in the absence of a further planning permission) and in light of the national, regional and local planning policy context, which support renewable energy projects as needed to urgently respond to the climate crisis, these significant negative effects are justified.

13.19.9. **Landscape and visual impacts** – During construction, moderate significant adverse effect upon landscape character and visual effect over a short-term period. During operation, moderate significant effect upon landscape character. Visual effect during operation is summarised as follows: of the 25 No. viewpoint locations assessed, there is one viewpoint judged to be ‘Significant’ and ‘adverse,’ while there are three viewpoints judged to be ‘Moderate Significant’ and ‘adverse.’ The majority (21 of the 25 viewpoints) are not likely to experience ‘Significant’ visual impacts. Visual effect from the Rock of Cashel will not be significant. Noting the reversibility of these effects in the decommissioning phase (in the absence of a further planning permission) and in light of the national, regional and local planning policy context, which support renewable energy projects as needed to urgently respond to the climate crisis, these significant negative effects are justified and therefore acceptable.

13.19.10. Having regard to the above, the likely significant environmental effects arising as a consequence of the proposed development have been satisfactorily identified, described and assessed in this EIA. I also consider that the EIAR is compliant with Article 94 of the Planning and Development Regulations, 2001, as amended.

14.0 **Recommendation**

14.1. I recommend that planning permission be GRANTED for the proposed 10 Wind Turbines, 110kV Electrical Substation and ancillary development.

15.0 **Reasons and Considerations**

15.1. The Commission reached its decision in accordance with its duties under Section 15(1) of the Climate Action and Low Carbon Development Act 2015, as amended, and the requirement to, in so far as practicable, perform its functions in a manner

consistent with inter alia the Climate Action Plan 2025 and the furtherance of the national climate objective.

15.2. The Commission performed its functions in relation to the making of its decision, in a manner consistent with Section 15(1) of the Climate Action and Low Carbon Act 2015, as amended by Section 17 of the Climate Action and Low Carbon Development (Amendment) Act 2021, (consistent with Climate Action Plan 2024 and Climate Action Plan 2025 and the national long term climate action strategy, national adaptation framework and approved sectoral adaptation plans set out in those Plans and in furtherance of the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State).

And in coming to its decision, the Commission had regard to the following:

- European legislation, including of particular relevance:
 - Directive 92/43/EEC (Habitats Directive) and Directive 79/409/EEC as amended by 2009/147/EC (Birds Directive) which set the requirements for Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union.
 - EU Renewable Energy Directive 2009/28/EC which aims to promote the use of renewable energy and amending Directive EU/2023/2413 which aims to speed up the EU's clean energy transition.
 - Directive 2011/92/EU (The EIA Directive) as amended by Directive 2014/52/EU.
- National and regional planning and related policy, including:
 - National policy with regard to the development of alternative and indigenous energy sources and minimisation of emissions from greenhouse gases. Particularly the NPF First Revision 2025 and National Policy Objective 70.
 - Wind energy Guidelines: Guidelines for Planning Authorities 2006 and the draft guidelines published in 2019.
 - The objectives and targets of the National Biodiversity Action Plan 2023-2030.

- Regional and local planning policy, including:
 - Regional Spatial Economic Strategy for the Southern Region;
 - Tipperary County Development Plan 2022-2028.
- Other relevant national policy and guidance documents.
- The nature, scale and design of the proposed development as set out in the planning application and the pattern of development in the vicinity.
- The likely consequences for the environment and the proper planning and sustainable development of the area in which it is proposed to carry out the proposed development and the likely significant effects of the proposed development on European sites.
- The submissions made on the planning application to An Coimisiún Pleanála and the applicant responses to the same.
- The report and the recommendation of the Inspector, including the examination, analysis and evaluation undertaken in relation to appropriate assessment and environmental impact assessment, as well as the specialist ecologist report for the Commission relating to the same.

15.3. Appropriate Assessment: Stage 1:

15.4. The Commission noted that the proposed wind farm development is not directly connected with or necessary for the management of a European Site. The Commission completed an appropriate assessment screening exercise in relation to the potential effects of the proposed development on designated European Sites, taking into account the Screening Report for Appropriate Assessment submitted and the report and screening assessment completed by the Inspector. The Commission agreed with the inspector's assessment and conclusion that the European Site for which there is potential for significant effects is the Lower River Suir SAC. The Commission concluded, in agreement with the inspector, that Appropriate Assessment is required for that European Site.

15.5. Appropriate Assessment Stage 2:

15.6. The Commission considered the Natura Impact Statement and associated documentation submitted with the application, the mitigation measures contained

therein, the submissions and observations on file, and carried out an Appropriate Assessment of the implications of the proposed wind farm development for European Sites in view of the conservation objectives for the Lower River Suir SAC. The Commission considered that the information before it was adequate to allow the carrying out of an Appropriate Assessment and to allow it to reach complete, precise and definitive conclusions for Appropriate Assessment.

- 15.7. In completing the assessment, the Commission considered, in particular, the likely direct and indirect impacts arising from the proposed development, both individually and in combination with the other plans and projects (including all aspects of the entire windfarm project, including the substation and grid connection) and taking into account any mitigation measures which are included as part of the current proposal, in view of the conservation objectives for the European Site.
- 15.8. The Commission accepted and adopted the Appropriate Assessment carried out in the inspector's report with respect to the potential effects of the proposed development on the integrity of the aforementioned European Site, having regard to the Site's conservation objectives.
- 15.9. In overall conclusion, the Commission was satisfied that the proposed development, by itself or in combination with other plans or projects, (including all aspects of the entire windfarm project as addressed in the inspector's assessment) would not adversely affect the integrity of any European Site, in view of the Sites' conservation objectives and there is no reasonable scientific doubt as to the absence of such effects.
- 15.10. This conclusion is based on a complete assessment of all aspects of the proposed project, both alone and in combination with other plans and projects of relevance, (including all aspects of the entire windfarm project as addressed in the inspector's assessment) and took into account all submissions received during the course of the application.

15.11. Environmental Impact Assessment

- 15.12. The Commission completed an Environmental Impact Assessment of the proposed development together with the substation, taking into account:

- (a) The nature, scale, location and extent of the proposed development;
- (b) The Environmental Impact Assessment Report and associated documentation submitted;
- (c) The submissions received during the course of the application; and
- (d) The Inspector's report and the report of the Commission's Ecologist.

15.13. The Commission considered that the Environmental Impact Assessment Report supported by the documentation submitted by the applicant during the course of the application, adequately considers alternatives to the proposed development and identifies and describes adequately the direct, indirect, secondary and cumulative effects of the proposed development on the environment. The Commission agreed with the examination, set out in the Inspector's report, of the information contained in the Environmental Impact Assessment Report, and associated documentation submitted by the applicant and submissions made in the course of the planning application.

15.14. Reasoned Conclusion of the Significant Effects:

15.15. The Commission considered that the Environmental Impact Assessment Report and supporting documentation submitted by the applicant during the course of the application, provided information which is reasonable and sufficient to allow the Commission to reach a reasoned conclusion on the significant effects of the proposed development on the environment, taking into account current knowledge and methods of assessment. The Commission is satisfied that the information contained in the Environmental Impact Assessment Report is up to date and complies with the provisions of Directive 2011/92/EU as amended by EU Directive 2014/52/EU amending. The Commission considered that the main significant direct and indirect effects of the proposed development (including the windfarm and substation) on the environment are those arising from the impacts listed below.

15.16. The main significant effects, both positive and negative, are:

15.16.1. **Population and human health** – Implementation of a CEMP forms the main mitigation during construction phase. Specific enhanced mitigation is required to be secured by condition during the operation phase, to ensure the shutdown of turbines to prevent shadow flicker. No significant negative effects envisaged during all phases

with mitigation in place. Localised positive economic impact, and significant positive effect during operation with respect to community health and safety.

15.16.2. **Biodiversity** – The proposed development will result in the loss of habitat on the site and generates potential for risk of collision / injury to bats and birds. With the implementation of mitigation, including hedgerow re-instatement, protection of watercourses, pre-clearance and pre-construction surveys, measures to reduce collision risk (including curtailment), and monitoring, there will be no significant negative residual effects upon biodiversity.

15.16.3. **Land, soils, geology, water, air quality or climate** - Mitigation is formed of measures to reduce and manage impact upon land, soils, geology, water, air quality and climate, including implementation of a Construction Environmental Management Plan and Traffic Management Plan, as well as water quality monitoring. With the implementation of mitigation, no significant residual negative impacts. During operation, residual impact will be moderate positive upon air quality and climate due to the avoidance of emissions from fossil fuel generators.

15.16.4. **Noise and vibration** – For construction and decommissioning phases, with the application of mitigation, no significant effects. During operation, residual noise from wind turbines is expected to remain between Imperceptible to Very Significant depending on the distance to the NSL. Two NSLs will experience a very significant/profound impact and will benefit financially from the project. 84 NSLs will experience a significant adverse impact with respect to the level of noise increase, however overall noise levels will comply with WEDG 06 limits in all cases. While the degree of change experienced to these NSL's is significant, actual noise levels are within guideline limits. In consideration of the overarching policy support for renewable energy, and noting that the proposal will operate within WEDG 06 limits, this effect is acceptable.

15.16.5. **Material assets (land use, telecommunications, electricity networks, air navigation, quarries, and utilities)** – Mitigation measures include the consultation with utility bodies to ensure their requirements and standards for works are met during construction. Use of Aeronautical obstacle warning light scheme during construction and notification of IAA prior to erection of turbines. Coordination with telecoms providers to remedy any issues of interference to network links, with a

signed protocol to be in place with RTE. Implementation of measures in the CEMP. With the implementation of mitigation, no significant residual negative impacts.

15.16.6. **Material assets – traffic and transportation** –Primary potential effects arise during the construction phase. With implementation of mitigation, particularly through the Traffic Management Plan, effects will be slight to moderate. Effect associated with the proposed grid route will be moderate to significant with implementation of a stop-and-go traffic management system and temporary diversions, generating disruption to users of the road network. This will be localised and temporary. During operation effect will be imperceptible and not significant, and effect during decommissioning will be imperceptible to slight.

15.16.7. **Archaeology and cultural heritage** – During construction, through the application of mitigation measures in the form of archaeological monitoring, effects will be reduced to ‘not significant’. During operation, the locating of the proposed wind turbines will have significant negative effect upon the setting of 2 recorded monuments, a church and graveyard in Clobanna (TN035-078 and TN035-0780001), as well as upon the setting of Brittas Castle (Reg. No. TRPS99 and Reg. No. TRPS830) a Registered Protected Structure of Regional Importance, and associated Demesne. Moderate effect also occurs 2 monuments situated c.3.7km away, a tower house (Reg. No. TN035-030005) and church (Reg. No. TN035-03002). Other effects can be classified as slight or not significant. Noting the reversibility of these effects in the decommissioning phase (in the absence of any further planning consent) and in light of the national, regional and local planning policy context, which support renewable energy projects as needed to urgently respond to the climate crisis, these significant negative effects are justified and acceptable.

15.16.8. **Landscape and visual impacts** – During construction, moderate significant adverse effect upon landscape character and visual effect over a short-term period. During operation, moderate significant effect upon landscape character. Visual effect during operation is summarised as follows: of the 25 No. viewpoint locations assessed, there is one viewpoint judged to be ‘Significant’ and ‘adverse,’ while there are three viewpoints judged to be ‘Moderate Significant’ and ‘adverse.’ The majority (21 of the 25 viewpoints) are not likely to experience ‘Significant’ visual impacts. Visual effect from the most sensitive areas will not be significant. Noting the reversibility of these effects in the decommissioning phase (in the absence of any further planning

consent) and in light of the national, regional and local planning policy context, which support renewable energy projects as needed to urgently respond to the climate crisis, these significant negative effects are justified and therefore acceptable.

15.16.9. Having regard to the above, the Commission is satisfied that the proposed development would not have any unacceptable direct or indirect effects on the environment. The Commission is satisfied that the reasoned conclusion is up to date at the time of making the decision. The Commission completed an environmental impact assessment in relation to the proposed development and concluded that, subject to the implementation of the mitigation measures proposed and subject to compliance with the conditions set out herein, the effects on the environment of the proposed development by itself, and, cumulatively with other development in the vicinity, would be acceptable. In doing so, the Commission adopted the report and conclusions of the reporting Inspector.

15.16.10. **Proper Planning and Sustainable Development**

It is considered that the proposed development would accord with European, national, regional and local planning policy provision. The Commission was satisfied that an approval for the proposed development would be consistent with the national climate ambitions and with the relevant provisions of the Climate Action Plan 2025. Furthermore, the Commission has performed its functions in relation to the making of its decision, in a manner consistent with Section 15(1) of the Climate Action and Low Carbon Act 2015. The Commission considered that by reason of scale, form and extent, that, subject to compliance with the following conditions, the proposed renewable energy development would be in accordance with the relevant provisions of the Tipperary County Development Plan 2022-2028. The proposed renewable energy development was concluded to be in accordance with the proper planning and sustainable development of the area.

16.0 **Conditions**

1.	The proposed development shall be carried out and completed in accordance with the plans and particulars lodged with the planning application, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be
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	<p>agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.</p> <p>Reason: In the interests of clarity and of proper planning and sustainable development of the area.</p>																				
2.	<p>The final selected dimensions of the turbines, which formed the subject of an opinion under section 37CD(2), shall be one of the specified options below:</p> <table border="1"> <thead> <tr> <th>Turbine Type</th> <th>Rotor Diameter</th> <th>Tip Height</th> <th>Blade Length</th> <th>Hub Height</th> </tr> </thead> <tbody> <tr> <td>A(1)</td> <td>150m</td> <td>180m</td> <td>73.7m</td> <td>105m</td> </tr> <tr> <td>B(2)</td> <td>155m</td> <td>180m</td> <td>76m</td> <td>102.5m</td> </tr> <tr> <td>C(3)</td> <td>149m</td> <td>180m</td> <td>73m</td> <td>105m</td> </tr> </tbody> </table> <p>The developer shall notify the relevant Planning Authority of the selected turbine type in writing at least 12 weeks prior to the commencement of the development.</p> <p>Reason: In the interests of clarity.</p>	Turbine Type	Rotor Diameter	Tip Height	Blade Length	Hub Height	A(1)	150m	180m	73.7m	105m	B(2)	155m	180m	76m	102.5m	C(3)	149m	180m	73m	105m
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3.	<p>The mitigation measures contained in the submitted Environmental Impact Assessment Report (EIAR), shall be implemented.</p> <p>Details of a time schedule for implementation of mitigation measures and associated monitoring shall be submitted to the planning authority.</p> <p>In addition to the mitigation measures contained in the EIAR, the following shall apply:</p> <p>(a) With respect to shadow flicker, mitigation will not be in the form of blinds to neighbouring properties;</p>																				

	<p>(b) During operation of turbines, it is required that the Shadow Flicker Control Modules (SFCM) be implemented to eliminate shadow flicker effect upon surrounding properties;</p> <p>(c) Monitoring of access roads to the site during construction, with defects identified and repaired, in order to minimise dust.</p> <p>Reason: In the interest of environmental protection, residential amenities, public health and safety.</p>
4.	<p>The mitigation measures contained in the submitted Natura Impact Statement (NIS), shall be implemented.</p> <p>Details of a time schedule for implementation of mitigation measures and associated monitoring shall be submitted to the planning authority.</p> <p>Reason: To protect the integrity of European Sites.</p>
5.	<p>(a) The permission shall be for a period of 35 years from the date of the first commissioning of the windfarm. All structures, shall then be removed and the site reinstated unless, prior to the end of that period, planning permission shall have been granted for their retention for a further period.</p> <p>(b) Prior to the commencement of development, a detailed Site Restoration Plan providing for the removal of the turbines and all ancillary structures, and a timescale for its implementation, shall be submitted to and agreed in writing with the planning authority.</p> <p>(c) On full decommissioning or if the wind farm ceases operation for a period of more than one year, the windfarm, the turbines and all ancillary structures shall be dismantled and removed permanently from the site. The site shall be restored in accordance with the agreed Site Restoration Plan and all decommissioned structures shall be removed from the site within 6 months of decommissioning.</p> <p>Reason: To enable the planning authority to review the operation of the windfarm over the stated time period, having regard to the circumstances</p>

	then prevailing, and in the interest of landscape restoration upon cessation of the project.
6.	<p>Prior to the commencement of any works associated with the development hereby permitted, the developer shall submit a detailed final Construction Environmental Management Plan (CEMP) for the written agreement of the planning authority. The final CEMP shall reflect measures included in the EIAR and as accepted by the applicant in their response to submissions by prescribed bodies. A record of daily checks that the construction works are being undertaken in accordance with the CEMP shall be kept at the construction site office for inspection by the planning authority. The CEMP shall include details of the appointment of a Community Liaison Officer for all stages of the development who shall be the first point of contact for residents and be responsible for monitoring and reporting of complaints, maintaining complaints register, addressing complaints and for discharging information in relation to the development to residents. The agreed CEMP shall be implemented in full in the carrying out of the development.</p> <p>Reason: In the interest of environmental protection, residential amenities, public health and safety.</p>
7.	<p>Site development and building works shall be carried out between the hours of 07:00 to 19:00 Mondays to Fridays inclusive, between 08:00 to 14:00 on Saturdays and not at all on Sundays and public holidays. Deviation from these times shall only be allowed in exceptional circumstances where prior written agreement has been received from the planning authority. Blasting activities to be undertaken after 10:00 and before 16:00.</p> <p>Reason: To safeguard the amenity of property in the vicinity.</p>
8.	<p>Noise levels generated by the windfarm following commissioning, by itself or in combination with other existing or permitted wind energy development in the vicinity, when measured externally at existing noise sensitive locations, shall not exceed:</p>

	<ul style="list-style-type: none"> • For the daytime period 7am to 11pm, in quiet environments, where background noise is less than 30dB(A)L90 T10, a maximum noise level of 40dB(A)L90 T10, • For daytime periods, 7am to 11pm, where the background noise level exceeds 30dB(A)L90 T10, the greater of 45dB(A)L90 T10, or 5dB(A) above background levels, • For the nighttime period 11pm to 7am, for all noise environments, 43dB(A)L90 T10. <p>Prior to the commissioning of the windfarm, the developer shall submit and agree in writing with the planning authority a Noise Compliance Monitoring Programme (NCMP) for the operational windfarm. The NCMP shall include a detailed methodology for all sound measurements including Amplitude Modulation (AM) and tonal noises, including frequency of monitoring (initially six months, with confirmatory monitoring in the third year post commissioning) and recording of results, which shall be made publicly available.</p> <p>The results of the initial noise compliance monitoring to be submitted to and agreed in writing with the planning authority within 12 months of commissioning of the wind farm. The NCMP shall be fully implemented during the operation of the windfarm.</p> <p>Reason: In order to protect the amenities of existing noise sensitive properties in the vicinity of the development.</p>
9.	<p>Drainage arrangements including the attenuation and disposal of surface water, shall comply with the requirements of the relevant Section of the Council for such works and services. Prior to the commencement of development, the developer shall submit and obtain written agreement from the Planning Authority for a Stage 2 - Detailed Design Stage Storm Water Audit. Upon completion of the development a Stage 3 Completion Stormwater Audit to demonstrate Sustainable Urban Drainage System measures have been installed and are working as designed and that there has been no misconnections or damage to storm water drainage infrastructure during construction, shall be submitted to the planning authority for written agreement.</p>

	<p>Reason: In the interest of public health and surface water management.</p>
10.	<p>All mitigation measures in relation to archaeology and cultural heritage as set out in the EIAR for the application shall be implemented in full. The planning authority and the National Monuments Service shall be furnished with a final archaeological report describing the results of any archaeological investigative work/ excavation required, following the completion of all archaeological work on site and any necessary post-excavation specialist analysis. All resulting and associated archaeological costs shall be borne by the developer.</p> <p>Reason: To ensure the continued preservation [either in situ or by record] of places, caves, sites, features or other objects of archaeological interest.</p>
11.	<p>The developer shall engage a suitably qualified licence-eligible archaeologist (licensed under the National Monuments Acts) to carry out pre-development archaeological testing in areas of proposed ground disturbance and to submit an archaeological impact assessment report for the written agreement of the planning authority, following consultation with the planning authority and the National Monuments Service, in advance of any site preparation works or groundworks, including site investigation works/topsoil stripping/site clearance/dredging/underwater works and/or construction works.</p> <p>The report shall include an archaeological impact statement and mitigation strategy. Where archaeological material is shown to be present, avoidance, preservation in-situ, preservation by record and/or monitoring may be required.</p> <p>Exclusion zones shall be established around elements of vulnerable heritage within the site as identified in Chapter 11 of the EIAR or during subsequent site investigations. Exclusions zones shall be fenced and demarcated, with no groundworks of any kind permitted within the zone.</p>

	<p>Any further archaeological mitigation requirements specified by the planning authority, following consultation with the National Monuments Service, shall be complied with by the developer.</p> <p>No site preparation and/or construction works shall be carried out on site until the archaeologist's report has been submitted to and approval to proceed is agreed in writing with the planning authority.</p> <p>The planning authority and the National Monuments Service shall be furnished with a final archaeological report describing the results of any subsequent archaeological investigative works and/or monitoring following the completion of all archaeological work on site and the completion of any necessary post-excavation work. All resulting and associated archaeological costs shall be borne by the developer.</p> <p>Reason: To ensure the continued preservation [either in situ or by record] of places, caves, sites, features or other objects of archaeological interest.</p>
12.	<p>The developer shall commission a pre-construction Underwater Archaeological Impact Assessment (UAIA) report to include the following:</p> <ul style="list-style-type: none"> a. A desktop assessment that addresses the recorded and potential underwater cultural heritage (including archaeological, built, vernacular, riverine and industrial heritage) of the proposed development area. The assessment shall include a full inventory, mapping and survey (photographic, descriptive, photogrammetric, as appropriate) of recorded and potential underwater cultural heritage features and structures within and in the environs of all proposed river/stream and bridge crossings, as identified by fieldwork, cartographic analysis, historical research and prior archaeological investigations. b. The UAIA shall include a licenced dive/wade assessment, accompanied by a hand-held metal detection survey, centred on (but not confined to) the area(s) where works are proposed within or immediately proximal to the river/stream channels/banks. The

	<p>dive/wade assessment and metal detection survey shall be undertaken by a suitably licenced and experienced underwater archaeologist. All identified underwater cultural heritage shall be surveyed (photographic, descriptive, photogrammetric) in detail as part of the assessment. A Dive/Survey licence (Section 3 1987 National Monuments Act) will be required for the dive/wade survey and metal detection, respectively. Licenses should be applied for to the National Monuments Service and should be accompanied by a detailed method statement. Note a period of 3-4 weeks should be allowed to facilitate processing and approval of the licence applications and method statement. All archaeological wading/diving should comply with the Health and Safety Authority's Safety, Health and Welfare at Work (Diving) Regulations 2018-2019.</p> <p>The planning authority and the National Monuments Service shall be furnished with a final UAIA describing the results of any subsequent archaeological investigative works and/or monitoring following the completion of all archaeological work on site and the completion of any necessary post-excavation work. All resulting and associated archaeological costs shall be borne by the developer.</p> <p>Reason: To ensure the continued preservation [either in situ or by record] of features or other objects of archaeological interest.</p>
13.	<p>The developer shall engage a suitably qualified licence-eligible archaeologist (licensed under the National Monuments Acts) to advise on archaeological mitigation during decommissioning of the wind farm, to be informed by pre-construction archaeological site investigations and associated mitigation.</p> <p>Reason: To ensure the continued preservation [either in situ or by record] of places, caves, sites, features or other objects of archaeological interest.</p>

14.	<p>The delivery of large-scale turbine components for the construction of the wind farm shall be managed in accordance with a Construction Traffic Management Plan (CTMP), which shall be submitted to, and agreed in writing with the planning authority prior to commencement of development.</p> <p>The plan shall be prepared in consultation with PPP Companies, MMarC Contractors and road authorities to ascertain any operational requirements.</p> <p>The plan shall provide details of the road network to be used by construction traffic, including over-sized loads and abnormal weight loads.</p> <p>The plan shall include a pre-construction survey of haul routes; a survey of all structures forming part of the haul route (including the Rossetown Bridge) to confirm delivery weights can be accommodated; detailed proposals for 'Access Point' sightlines (including those to be retained after the construction phase); and detailed arrangements for the protection of bridges, culverts or other structures to be traversed, as may be required.</p> <p>The plan should also contain details of how the developer intends to engage with road operators and notify the local community in advance of the delivery of oversized loads.</p> <p>Temporary works to the N62/L8017 junction associated with turbine delivery, are to be removed and lands reinstated following completion of the construction phase. Any temporary access arrangements should be closed and lands reinstated following completion of the construction phase. Temporary safety barriers to be used over temporary accesses when not in use for turbine component delivery. Any damage to the pavement of the N62 due to the deliveries to the site, shall be rectified in accordance with TII Pavement Standards.</p> <p>Reason: In the interest of public safety and residential amenity.</p>
15.	<p>A Road Safety Audit to be submitted to the planning authority for approval in writing, prior to commencement of the development, with any recommendations arising being incorporated into the development as constructed. Detailed design for any temporary or permanent access onto</p>

	<p>the National Road shall be in accordance with Transport Infrastructure Ireland (TII) requirements.</p> <p>Reason: In the interest of the safe operation of the road network.</p>
16.	<p>Following consultation with road operators and utility providers, detail of the final route of cables for the grid connection to be submitted to the planning authority for approval in writing, prior to the commencement of works associated with the grid connection. Any deviation from the approved detailed design under this condition, will require subsequent approval from the planning authority following demonstration of agreement of road operators and impacted utility providers. Following the laying of cables in the public road, the exact location is to be recorded in the form of as constructed surveys of all infrastructure altered, added, removed or relocated, and the record lodged with the local authority, ESB Networks and any impacted utility provider, within 6 months of completing the grid connection.</p> <p>Reason: In the interest of clarity and to minimise impact on the public road.</p>
17.	<p>The developer shall comply with all appropriate standards and, inter alia the Guidelines for Managing Openings in Public Roads 2017. Works in or over the public road shall meet the requirements of the Department of Transport as outlined in their submission on the application and comply with TII Publications technical design standards for national roads.</p> <p>Reason: In the interest of orderly development and to minimise impact on the public road.</p>
18.	<p>Detailed drawings of sightlines to accesses for the site, informed by speed surveys of adjacent roads, to be submitted for approval in writing by the planning authority prior to commencement of the development.</p>

	<p>Reason: In the interest of the safe operation of the road network.</p>
19.	<p>(a) The developer shall engage with Tipperary County Council Road Design Office with respect to the Thurles Bypass Scheme as identified in section 12.5.1 of the Tipperary County Development Plan. Any impact upon this national road scheme will require resolution to the satisfaction of the road authority.</p> <p>(b) The developer shall engage with the relevant departments of Tipperary County Council with respect to any Greenway or Active Travel proposals in the vicinity of the proposed works.</p> <p>(c) The developer shall engage with the Roads Authority regarding unhindered access to its structures.</p> <p>Confirmation of this engagement (with respect to parts a. b. & c. above), and related outcomes, shall be submitted to the planning authority for approval prior to commencement of the development.</p> <p>Reason: In order to protect this Strategic Road Investment Project.</p>
20.	<p>(a) Prior to commencement of development and following consultation with the Department of Defence and Irish Aviation Authority, the developer shall submit for written agreement of the planning authority, details of an obstacle warning light scheme which can be visible to night vision equipment.</p> <p>(b) Prior to commissioning of the turbines, the developer shall inform the planning authority and the Irish Aviation Authority of the as-constructed tip heights and co-ordinates of the turbines and wind monitoring mast.</p> <p>(c) The developer shall notify the Irish Aviation Authority of the intention to commence crane operations at least 30 days prior to their erection.</p> <p>Reason: in the interest of aviation safety.</p>

21.	<p>In the event that the proposed development causes interference with telecommunications signals (including wireless internet), effective measures shall be introduced to minimise interference with telecommunications signals in the area. Details of these measures, which shall be at the developer's expense, shall be submitted to, and agreed in writing with, the planning authority prior to commissioning of the turbines and following consultation with the relevant authorities.</p> <p>Reason: In the interest of protecting telecommunications signals and of residential amenity.</p>
	<p>The developer shall comply with the requirements of Uisce Éireann with regard to diversion of infrastructure within the site and connections to the public network.</p> <p>Reason: In the interest of public health.</p>
22.	<p>Prior to commencement of the development, a detailed habitat compensation plan be submitted to the Local Authority and approved in writing. Details to include the setting out of hedgerow replanting locations (with no net loss as committed to in the EIAR) and the area and location of forestry replanting. In addition, details of suitable adaptive monitoring, and measures to be employed, should any deterioration in Molinia meadow habitat occur and how this will be remedied.</p> <p>Reason: To protect biodiversity.</p>
23.	<p>The pre-construction survey for mammals will identify any badger setts within the footprint of work areas required for turbines with particular focus on T4, T9 and T10. Where destruction of a sett (or its immediate surroundings) is unavoidable, this will be done in accordance with best practice with reference to the badger exclusion protocol set out in the</p>

	<p>'TII/NRA Guidelines for the Treatment of Badgers Prior to the Construction of National Road Schemes'.</p> <p>Reason: To protect biodiversity.</p>
24.	<p>Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the reinstatement of public roads which may be damaged by the transport of materials to the site, coupled with an agreement empowering the planning authority to apply such security or part thereof to the satisfactory reinstatement of the public road. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to An Coimisiún Pleanála for determination.</p> <p>Reason: In the interest of traffic safety and the proper planning and sustainable development of the area.</p>
25.	<p>Prior to commencement of development, the developer shall lodge with the planning authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the planning authority, to secure the satisfactory reinstatement of the site upon cessation of the project coupled with an agreement empowering the planning authority to apply such security or part thereof to such reinstatement. The form and amount of the security shall be as agreed between the planning authority and the developer or, in default of agreement, shall be referred to An Coimisiún Pleanála for determination.</p> <p>Reason: To ensure satisfactory reinstatement of the site.</p>
26.	<p>The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the</p>

	<p>Development Contribution Scheme made under section 48 of the Planning and Development Act 2000, as amended. The contribution shall be paid prior to commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to An Board Pleanála to determine the proper application of the terms of the Scheme.</p> <p>Reason: It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.</p>
27.	<p>The Community Benefit scheme shall be adhered to for the life of the wind farm. The scheme shall be administered in accordance with the RESS Community Benefit Fund Good Practice Principles, 2021, prepared by the Department of the Environment, Climate and Communications.</p> <p>Reason: To ensure that the community living in proximity to the wind farm, benefits from it.</p>

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.

Rachel Gleave O'Connor
Senior Planning Inspector

18th February 2026

17.0 Appendix 1: Summary of Third-Party Consultation Responses

A summary of the third party consultation responses is set out below, categorised under topic areas.

17.1. Principle of Development

- The efficiency and projected output of the proposal is questioned. Query the categorisation of the project as SID as the efficiency output of turbines is never 100% so actual output likely to be around 25MW to 30MW, below the required 50MW for SID. Wrong to categorise as SID as only qualifies above the 50MW threshold in a theoretical 100% output.
- Query the necessity of the proposed wind farm.
- The wind energy policy is lightly regulated and outdated.
- Application premature pending outcome of battery farm in Ballyragget, which Orsted applied to ABP on 12th December 2024, and that is at preliminary assessment and design stage.
- CAP targets are flawed, Ireland does not have capacity for 9GW onshore wind.
- Concern that the application will not provide sufficient energy, given wind wake turbulence from neighbouring turbines and mitigation measures for excessively high number of houses in the impact zone (requiring shut down).
- The site is on the periphery of an area open to consideration and adjacent to Thurles Town which is designated unsuitable for new wind energy development.
- Proposal does not comply with the County Development Plan which states that commercial wind energy development is not favoured in settlement centre locations, which includes the site due to proximity to Thurles. Contrary to policies RE2, 11.9, 11-16, TWIND 4.2 and TWIND 4.7.

- Location close to Thurles boundary (T10 1.67km from urban boundary) will inhibit the towns ability to grow.
- The 2019 Wind Energy Development are outdated.
- Grid infrastructure in the area is already overloaded and inadequate, Ballygammane substation is not adequate, concern that if the battery storage solution referenced in the application does not get approval, there will be nowhere for the energy to go, and turbines could be left ideal.
- No requirement for a wind farm as the electricity network is already at full capacity.
- No evidence of grid connection and require 7km of cabling to connect to the existing Thurles substation, no proof they will succeed having the Eirgrid OHL rerouted.
- Wind turbine infrastructure is unsustainable. Blades cannot be recycled. Production of cement is a major contributor to carbon emissions. Decommissioning is unsustainable. Whole Life Carbon assessment has not been included.

17.2. Amenity

- The noise and air pollution caused by the turbines outweigh the output.
- Noise will impact nearby houses, estimated to be 35-40 decibels, 10 decibels above the WHO recommendation for wind turbine noise levels of 35 decibels. Current plans by Orsted set decibels at 45 decibels.
- Adverse noise impact. Reference to adverse health outcomes as a result.
- Reference to Webster & Anor v Meenacloghspar (Wind) Ltd [2024] IEHC 136 and recognition of noise impact from AM a successful High Court case against nuisance and excessive noise from wind farms near dwellings.
- Concern regarding adverse impact from noise and shadow flicker upon people with a diagnosis of autism (and epilepsy). Specific reference to autism educational, and other, services nearby to the proposal.

- Adverse impact from shadow flicker. Reference medical conditions particularly vulnerable in this regard.
- Cables running adjacent to homes.
- Concern regarding proposed substation located 750m from homes and with potential for future expansion. 12 Lithium batteries will be stored at the substation. Poorly located leading to more than necessary cable works and associated disruption to connect to the main national grid substation.
- Mitigation in the form of blinds to residencies with respect to shadow flicker is an insult and could reduce exposure to vitamin D.
- Private well located at E41 V4K0, most residents along the L4120 use their own private wells. Concern regarding potential contamination, reference to the laying of cabling and potential for lithium leakage.
- Concern regarding noise from substation.
- Chemical in the blade of the wind turbine is chlorine chemistry which is harmful to health and highly reactive.
- Impact on daily routine life with road closures, delays in traffic, high amounts of heavy traffic, noise / dust, particularly upon people out exercising etc. Impact on people and animals from low frequency noise.
- The Wind Energy Guidelines 2006 are outdated by advancing technology, development size and improved knowledge. 2018 WHO standards (37 dB LA90) are used in the 2019 draft Wind Energy Guidelines and the National Environmental Health Service scoping documents.
- Failure to consider the NPF Objective 65 'promote the pro-active management of noise where it is likely to have significant adverse impacts on health and quality of life.'
- If OAM occurs frequently and for sustained periods, it has the potential to result in adverse impacts for wind farm neighbours.
- National Environmental Health Executive recommend the elimination of shadow flicker for many other wind energy developments. Draft Wind Energy Guidelines have not been followed with respect to shadow flicker.

- Concerned that the HSE Environmental Health did not receive a scoping request, despite project meeting threshold set out in planning regulations.
- HSE is a statutory consultee for all SIDs. Concern they were not included as a prescribed body for this project.
- Reference to HSE submissions on other wind farm applications.
- Noise assessment is inadequate.
- Request the manufacturers recommendations for turbine spacing to ensure the wind farm can efficiently produce electricity. Excessive turbulence and shadow causes noise and additional repairs.
- 2006 noise guidelines are no longer applicable (Minister for Climate 2016-2020 stated they are not fit for purpose), the 2019 guidelines quote international best practice and consistency with 2018 WHO standards (35 Leq equating to 33LA90). Reference to Ballyduff High Court Case.
- Will affect farming production and solo farm development on lands adjacent to the proposed wind farm.
- High number of houses in the proposed area that are affected. High instance of houses within 1km.
- Setback distances to houses are inadequate leading to visual effect.
- Noise assessment is not comprehensive and levels maybe higher.
- Noise impact upon local schools and support services, including facilities for people with autism and intellectual disabilities.
- Concern regarding cumulative noise of turbines alongside substation and battery plant.
- Risk of pollutions impacting private well supply in the area, of which there are more than 30 including a group scheme serving 30 houses. Risk to supply to these wells.
- Reference to WHO findings with respect to adverse effect of wind turbine noise upon health and wellbeing.

- Construction working hours does not take into account those working shift hours.
- The proposal does not conform with National Planning Framework Objective 65 promote the proactive management of noise where it is likely to have significant adverse impacts on health and quality of life.
- Noise from operation of the substation.
- Large underground cables carrying electricity from the substation pose a risk to ground currents that could impact health.

17.3. Ecology / Biodiversity

- Biodiversity impact, including upon protected bird species, freshwater mussels, otters and owls.
- Cabragh wetlands, SAC and Knox's wood should be protected.
- No consideration to adverse impact from shadow flicker upon livestock and wildlife.
- Concern regarding potential contamination of surface waters and impact upon biodiversity. Affect of silt on marine life in the river Suir.
- River Suir is used by whooper swan.
- Knox's Wood is known for its breeding pair of peregrine falcons. Orsted plan to destroy 4km of hedgerow along Knox's Wood and fell trees resulting in adverse effects on wildlife. Also, swallows, buzzard and fen foxes are present. Numerous bird species listed as being present in the area.
- The turbines will kill many species of birds in the locality.
- Legal non-compliance and deficient documentation for EIAR and AA. No assessment of Annex species (Bats, Whooper Swans, White-Fronted Geese, Otters, Curlew, Newts, Frogs, Hen harrier, Merlin, White clawed crayfish and Blanket bog). No consultation with locals to ascertain local knowledge of resident species. Whole host of wildlife excluded from surveys. Local knowledge of a much larger list of species.

- NIS relies of information in the EIAR and is not a stand-alone document. NIS is incomplete and the Board is therefore unable to carry out AA.
- Ireland has obligations under the Bern Convention, International Convention on the protection of Birds, RAMSAR convention. Lough Corrib SAC/SPA is a RAMSAR site.
- Insufficient cumulative impact assessment. EIAR and AA fail to consider farms and forestry and associated hydrology and chemical / biocide / herbicide impacts in the area on the NATURA 2000 Network and Water Framework Directive Waterbodies. Also fail to assess impact of quarries required to supply product to the development. Reference to legal case C-392/96 related to project splitting.
- NIS should consider cumulative effects before concluding effects on a standalone basis, and the conclusion that because no standalone effects there are no cumulative effects, is unsound.
- NIS fails to include waterbirds, in the A999 wetlands and waterbirds listing.
- No site surveys during frog breeding season to identify spawn locations and extent.
- Conclusions on risk of collision for hen harrier are not robust as this is an ex-situ site.
- No acknowledgement or identification of the use of PFAS (per- and poly-fluoroalkylated substances) or BPA (Bisphenol A) for turbine components, and related impact on supply chain environment or marine environment, waste disposal, mitigation and or compensation measures. Or risks associated with leak of oils and lubricants used for turbines.
- Query deference force requirements with respect to nighttime lighting and impact on landscape, bats, insects, birds and the community.
- Serious concern regarding 'design flexibility' and reliance by the applicant in the NIS and EIAR on theoretical infrastructure that might change.
- Turbines will kill many species of bird, they will be in the flight path of swans, lapwings, little egrets and other waders.

- Endangered bird species, meadow pit, Eurasian Oystercatcher and grey wagtail will be further endangered by the turbines.
- Impact upon bees due to hedgerow removal and tree felling.
- Turbine foundation edge is only 34m from Otter habitat, recommended distance is 50m. Trees to be felled in otter habitat.
- The ornithology report gives a buffer zone of 50 to 100m for kingfisher from the river. Turbine 1 base is 100m from the river but the tip of the turbine blade is only 25m from the edge of the river, is this contrary to the buffer zone?
- Short eared owl recorded near turbine 10 on a regular basis.
- Surveys underestimate the amount of wildlife. Swans are regularly spotted (resident photos available to demonstrate this).
- Bat survey Ireland state that wind turbines are a serious potential issue with regard to bat mortality, particularly Leisler bats which are high flying. Bats are a protected species but little or no mitigation included.
- A 2022 study carried out by USGS showed up to half of all native and migrant birds could suffer decline due to turbines.
- Reference to independent impact study carried out by Roger Goodwillie in September 2021 on Knox woodland which states there is excellent habitat for resident otters on the wooded river banks and they are likely to breed. Youtube 'Certified Irish Hereford Prime' July 2025, Dwayne Stanley (one of the consenting landowners to the project) talks of wildlife in Knox wood, including Peregrine falcons (protected) which nest at the castle and will fly into the turbines.
- Contrary to policy 11-4(a) due to removal of woodland and over 4km of hedgerow, which are noted in the development plan as being essential to the character of the Templemore Plains. Lack of detail of replanting. 46.93ha of habitat to be lost, including areas of protected habitat deemed of National Importance, including Wet Grasslands.
- Erroneously state turbines are 7.8km away from protected Cabragh Wetlands, when only 6.5km away.

- Impact upon curlew and badgers.
- Quality of water could be affected impacting marine life in the River Suir.
- Impact upon trout population.
- Impact on pollinator species.
- The local area is rich with wildlife and should be designated a SAC and SPA and reevaluated.
- The proposal is contrary to objectives in the development plan which seek to protect habitats, biodiversity and ecological connectivity, and achieve net gain in biodiversity enhancement and creation, and would be contrary to Article 4(4) of the Birds Directive (2009/147/EC). Only desk top studies undertaken.
- Impact of red flashing lights on health and wildlife.
- Contamination of land / water arising from battery storage.
- Use of Horizontal Directional Drilling (HDD) have potential to cause damage to groundwater resources.
- Query the survey timing in relation to species recordings.
- Question how the proposal can lead to improved WFD status of the river.

17.4. Visual Impact / Design / Heritage

- Reference to draft wind guidelines which states a preference for avoiding locating turbines where they can be seen one behind another.
- Visual stacking of turbines when viewed from Thurles.
- Close proximity to the Thurles Urban Area (1.67km from the urban area boundary) where such development is precluded. Scale of turbines will physically dominant the landscape.
- The proposed development is contrary to Policy Objective 11-16.
- The proposed wind turbines are too close to dwellings and will dominant those homes.

- Many houses on the L4120 will be detrimentally affected by the turbines, with houses within 750m of the turbines.
- Substation introduces visual, environmental, economic, safety concerns, harms property values affects farming, natural landscape. Should be located in industrial zones, existing energy hubs or areas with low residential and environmental impact.
- Concern regarding scale of the turbines proposed.
- No photomontages showing the impact of the turbines on the roads and homes closest to the wind farm. Photomontages do not give a clear indication of the visual impact.
- Viewpoint 15 is not taken from the N62.
- The site is located in the Templemore Plains Landscape Character Area, the compatibility of the use of land on the Templemore Plains for wind farms is low, the second lowest possible compatibility score. Figure 5.4 (Landscape Character Area Sensitivity Mapping) of the Landscape Character Assessment identifies particular areas of the overall landscape that are particularly sensitive. Exceptional circumstances should also be demonstrated under the Landscape Character Assessment as site is within 300m of the River Suir.
- The proposed turbines at c.180m do not comply with national wind energy guidance in relation to developments in flat farmland.
- The turbines will be visible from and have significant adverse visual impact on large parts of Thurles (Loughtagalla (and playground), Boharnamona Road, Sli na Siuire, Presentation Primary School, Ursuline Secondary School, Cluann Glas, Marlstone Manor, Brittas Road, Templemore Road) photomontages should have been included.
- At section 15.3 of the Landscape and Visual Impact Assessment, there is a failure to record the sensitivity of the site as noted in the Wind Strategy, therefore the findings are incorrect. Applicants own LVIA notes moderate significance adverse effect.

- The existing anemometer at 80m high demonstrates the harmful visual impact the proposed 180m high turbines will have.
- Significant visual impact on heritage sites, Brittas Castle, Brittas Castle Lodge and a detached three-bay single-storey house built c.1800 at Cassestown. Rossestown Bridge of significant cultural and historic value will experience significant adverse visual effect. Old Shyan Cemetery and Church will be significantly impacted.
- Reference to European Wind Energy Standard which state turbine height should be proportional to the surrounding landscape. Irish Landscape Guidelines (EPA 2016) emphasise that wind energy development should integrate with the landscape without overwhelming local character. Flat topography exacerbates visual impact.
- Adverse visual impact of substation and battery plant.
- The Rock of Cashel is not considered in the assessment as it is not included in the LVIA as it is outside of the 20km. The turbines will be visible from the Rock of Cashel.
- The Cathedral in Thurles will be dwarfed by the turbines.
- Archaeological Impact. Impact upon Brittas Castle, The Castle Bridge and Black Castle.
- Photomontages don't include the battery storage facility.

17.5. Transport

- Local roads are unsuitable to accommodate construction traffic, particularly L8107 which is narrow and dark. Traffic hazard. Number of HGV movements underestimated. Closure of the road will be disruptive to residents as it is used at numerous times.
- Location of turbine 8 is a potential safety hazard only 138m from the road, should the turbine collapse in a storm as happened in Storm Eowyn in Galway.

- Proposed 3 service entrances along the L8017 would represent a loss of amenity to pedestrians and cyclists who use the road.
- Plans to close the L4120 to lay underground cabling will disrupt residents.
- Travel to work will be seriously affected in cost and time.
- Road network to be relied upon during construction is inadequate in terms of capacity and structure.
- The HGV figures submitted for assessment do not bear even close resemblance to what would occur or consequent knock-on impact.
- The siting of turbines close to the public road is a public safety hazard. Development entrances sightlines do not adhere to development management standards. Rural non-national road with an operational speed limit of 80km, unobstructed sightlines of 160m in each direction required. Available sightlines marked on drawings indicate 3 of the 4 new entrances only have sight distance of 70m in each direction, with the 4th having 120m. Impact upon the 'Dark Road'.
- Reduced road access will impact emergency services.
- Concern over the structural integrity and durability of Rossetown Bridge to accommodate construction traffic.
- Missing documents with respect to roads: vertical sections or forward sight distances for sight distance triangles, no falling weight deflectometer assessment of structural capacity of roads to carry weights (and bridges & culverts). No road safety audit.

17.6. Construction

- Adverse impact during construction, traffic, noise, dust, damage to biodiversity, harm to pedestrians and cyclists.
- Impact from construction of the substation.
- Construction working hours does not consider impact upon those working shifts who sleep during the day. Reference to adverse health impact as a result of sleep disturbance.

- Bridge will need to be constructed over Rossestown River, elevating the top of the bridge by c.2m, but no detailed construction plans provided.
- Rossetown Bridge is 6m wide with a road surface width of 4.7m and cannot accommodate two way traffic as stated in the EIAR.
- Queries about use of cofferdams to manage groundwater, operation of pumps to manage water, and treatment of pumped water, during construction.
- Blasting during construction in the borrow pit could result in soil liquefaction and contribute to slope instability.

17.7. Lack of consultation by the Applicant

- No meaningful engagement with locals or credible consultation process. Many residents were unaware of the proposals or meetings regarding them. Application not advertised in the local paper the Tipperary Star.
- Non-compliance with community engagement requirements.

17.8. Flood Risk

- Concern regarding impact upon floodplains and resulting flooding of the River Suir. Displacement of groundwater by turbine foundations, access roads, hardstands etc. Historical flooding on the site (local knowledge of this and referred to in application ref.211815, location of T7).
- Indicative proposals for tracks, water crossings and drainage systems. Lack of exact design could have potential for significant impacts in terms of flooding and ecology.
- Concern regarding excess soil being displaced and relocated around the site, as well as the decommissioning and covering over of concrete basis, particularly in relation to alteration of the floodplain and if the course of the River Suir should alter over future Millenia as it has in the past.
- Levels at the base of turbines 1, 3 and 7 are 1.3m higher from ground than what is stated in the planning submission. Query if it is proposed to build up to these levels. Access roads to turbines 3, 4, 5 and 7 much higher than actual

ground level and will act as barrier to river water spreading out into the flood plain.

- The land for the proposal has a low water holding capacity and the proposal will displace surface runoff causing flooding. The proposal will discharge into the River Suir which is not allowed and will exacerbate flooding. Needs to be considered alongside a current drainage scheme of Templemore which is increasing water flow.
- No detailed plans of the construction of access points despite raising level by 1.8m in the floodplain.
- Photo submitted by Adrian Brennan shows the road under flood conditions (planning ref.211815).
- Turbines 2, 3, 5, 8 and 10 are located within existing land drains that flow directly into the River Suir, no information provided on how the drainage network will function.

17.9. Other Matters

- Orsted representatives have no local knowledge and mislead or intimidated residents.
- With reference to the Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement, the planning authority should take into account the performance of the applicant. There are unresolved noise complaints at wind farms owned by the applicant in Clare and Tipperary.
- Devaluation of property.
- The proposal will decrease property value in the area. Reference to a study carried out by Galway University 'Wind Turbines and House Prices Along the West of Ireland: A Hedonic Analysis' that found that properties within 1km of a wind turbine experienced an approximate 14.7% decrease in value.
Reference to a 2018 study by the RWI – Leibniz Institute for Economic Research in Germany that homes decrease by 7% when in 1km of a turbine.

Local auctioneer has advised that homes will decrease in value, however no financial compensation for this.

- If the proposed turbine model has not been chosen the assessments and impact modelling are inaccurate and incorrect.
- Data regarding weather and sunshine was collected at Kilkenny Weather Station which was closed in 2007, therefore data cannot be accurate. Sunshine averages have increased with reference to Story Maps ArcGIS.
- Levels taken onsite show starting height of the base of the wind turbine 1, 3 and 7 1.3m higher from ground than stated in the application.
- Concern regarding fire hazard from lithium battery storage at substation. Longterm effects of battery fire unknown.
- Spelling of placenames in the photomontage booklet is so poor and relays how little knowledge Orsted have of the area.
- Concern regarding disposal of wind turbines at the end of their life and the restoring of the area.
- Lack of Strategic Environmental Assessment for National Plans and Guidelines, including the National Renewable Energy Action Plan 2010 and subsequent plans, Project Ireland 2040 and the National Energy and Climate Plan 2021-2030. The Wind Energy Guidelines 2006 are unlawful with reference to Court of Justice case C-24/19 requiring SEA of windfarm circulars. The 2019 Wind Guidelines also have been made outside the SEA Directive.
- Non-compliance with Planning Regulations, with reference to Section 22(2)(g)(ii) of the Planning and Development Act(s) 2001 with regard to consent being required for works over or under a public road. The grid connection requires works to the public road.
- Letter from a solicitor with the application confirming consent of landowners is legally unsafe, the solicitor's authority to represent all landowners is uncertain and owners may have withdrawn consent.

- OPW consent required for concrete culvert mitigation measure. In the lack of a s50 consent under the Arterial Drainage Act 1945, mitigation cannot be relied upon and there are lacunae, legal deficiencies in the information.
- Lack of assessment of fire risk with respect to battery storage and turbine engines, risk of wildfire which requires assessment in EIA and AA.
- Orsted have challenges within its organisation that should be taken into account.
- Reference to €300,000 investment into community projects is disingenuous as payments to residents will be drawn from this fund reducing the total value.
- New guidelines to be introduced this year for wind developments.
- Impact upon agricultural activities on land adjacent to the turbines.
- Query the consultation undertaken in the designation of the area as 'Open for Consideration'.
- The proposed battery storage at Ballygammane will not have the capacity to store the amount of electricity generated by 10 turbines.
- Interference with mobile phones, calving cameras and computer usage.
- Electromagnetic interference of phone coverage, tv and internet coverage.
- Existing ground levels provided are incorrect by between +0.001 and +1.725.
Peadar O'Toole
- Generic foundation design lacking specific detail for each turbine base (drawing ref.22318MWP0000DRC5403).

Enclosures: Parliamentary Question 1944324 from HSE environmental noise could potentially be a health issue; HSE submission to Lackaregh Wind Farm; Les Huson submission to Seskin Wind Farm appeal; Roads sight lines issues; photos of local wildlife; photographs of local area; cycle, walking routes; OS mapping; screenshot from RTE newapp regarding inability to reuse blades; flood mapping; designated site maps; copy planning decision ref.2360748 (permission refused for 86no. residential units in February 2025); newspaper extracts;

Templemore flood relief tender; copy board order 318848-24; agri-climate rural environment scheme; health diagnosis; substation maps and drawings; community report.

17.10. Further consultation responses

17.10.1. Following the circulation of the Applicant's responses to submissions, further comments on the applicant's response were received from 8 third parties. These comments largely restate concerns highlighted in original submissions on the proposal as already summarised in section 6.3 and in this Appendix 1 above.

17.10.2. A summary of any additional matters raised of note is set out below:

17.10.3. Anthony Kelly:

- Response to issues raised by the Planning Authority is worrying, with reference to noise and shadow flicker.
- Several quarry applications for extensions have been refused in the past for impact on protected structures on private land (Ballybeg Quarry, impact on Ballybeg Abbey/Priory, despite not being open).
- No commitment to full width restoration of the road. The totality of what the applicant would like to agree post permission is beyond the Rule in Boland v ABP and matters are to be resolved open to full public consultation. Reference to proposed TII condition 4 safety audit and DAU comments on archaeology in this regard.

17.10.4. Conor and Peggy Eviston:

- Concerns regarding proximity of turbines to lands / overshadowing, not addressed.

17.10.5. Caroline and Michael Dwan:

- The Applicant response has left some concerns unaddressed, including light pollution from red lights on top of each turbine, with no mitigation proposed.
- Submitted documentation does not support that noise levels will remain within limits and applicants' language is that levels are 'not expected to exceed' limits.

- Further studies required to predict impact of construction on flooding and private drinking water supplies, which is not addressed in the response.

17.10.6. Eddie and Alison Laffan:

- EIAR contains conflicting statements with respect to public access to Clobanna Church and Graveyard. Therefore, rationale for excluding from the LVIA invalid. EIAR states there is no signage for the graveyard which is inaccurate as there is a sign at the entrance stating Shyane Graveyard. Object to the statement in the EIAR that there is no car park, as while no formal parking, there is ample space for cars to park on the roadside.
- The justification for the use of national average data from Met Éireann to supplement shadow flicker analysis is flawed. It is not substitute for local conditions and credibility of the worst-case scenario is unsupported. The assessment lacks real-world conditions as both the original and worst-case results are identical.
- Property / home was not included in the noise survey despite being the closest receptor at Clobanna, Thurles, E41 V4K0, no monitoring at the dwelling therefore mitigation cannot be relied upon.

17.10.7. Kate O’Keeffe and Denis Kenny; Michael and Kathryn McCarthy; and Noreen O’Sullivan:

- Application does not take account of existing flooding issue in Thurles town, particularly at Thomond Road, Friar Street, Emmet Street, Cathedral Street, Ursuline and Presentation Convents, Stradavoher. The OPW have designated Thurles Town as an Area for further assessment under its National Flood Risk Programme.

17.10.8. Peter Thomson Planning Solutions on behalf of the Brittas Wind Farm Action Group:

- The site of the proposed development is demarcated as being a sensitive one in Figure 5.4 and as such the receiving landscape cannot accommodate the proposed development without significant adverse impacts and this designation has not been accounted for in the applicant’s assessment. The Groups submission is neither misleading or incorrect in relation to this point, as asserted by the applicant.

- In relation to visual stacking when viewed from Thurles Town, the most sensitive potential viewpoints and receptors have not been included in the assessment / photomontages.
- With reference to the Landscape Character Assessment in the Development Plan, that wind farm developments within 300m of Major Rivers and Water bodies are only compatible in exceptional circumstances, the applicants have not demonstrated what the exceptional circumstances in the case of the current development are.
- Photos of the site taken by a drone in November 2025 showing extensive flooding. This could impact access and the underlying ground conditions to support the structures.
- It is not possible to establish or evaluate the full extent of adverse ecological impacts as the applicants have submitted insufficient detail, particularly with respect to the location of trees and hedgerows to be removed.
- Safety concerns persist. Required sightlines not achieved at site entrances. The applicant statement that a road safety audit will be conditioned, is misleading as it references works at the N62/L8018 junction and other minor works to the national road network, not the local road network.

18.0 Appendix 2: Stage 1 Screening for Appropriate Assessment

Screening for Appropriate Assessment Test for likely significant effects	
Step 1: Description of the project and local site characteristics	
Brief description of project	Proposed development of 10 Wind Turbines, 110kV Electrical Substation and ancillary development
Brief description of development site characteristics and potential impact mechanisms	The subject site is situated in a rural area approx. 3km north of Thurles Town, within the townlands of Brittas, Rossestown, Clobanna, Killeenleigh, Brownstown, and Kilkillahara, covering 331.98ha (approx.). Largely comprised of agricultural fields bounded by hedgerows and treelines, with a forestry area located to the southwest of the site. The site is traversed north to south by the River Suir and east to west by the L8017 local road. The proposed Grid Connection Route (GCR) is located within the public road between the windfarm site and the existing Thurles 110kv Substation. The proposed Turbine Delivery Route (TDR) runs from the Port of Foynes in County Limerick to the windfarm site via the road network. Existing habitats include Improved Grassland (GA1), Wet grassland (GS4), Marsh (GM1), Drainage ditches (FW4), Hedgerows (WL1), Depositing / lowland rivers (FW2), Poor fen and flush (PF2),

	Mixed broadleaved woodland (WD1), Buildings and Artificial Surfaces (BL3), Eutrophic Lakes (FL5), Reed and Large Sedge Swamp (FS1), Mixed Broadleaf / Conifer Woodland WD2, (Mixed) Conifer Woodland (WD3), Scattered Trees and Parkland (WD5), Scrub WS1. There is no Natura 2000 site recorded within the boundary of the site with the closest being the Lower River Suir SAC (Site Code: 002137) located c.5.5km terrestrially and c.7.8km hydrologically via the main channel of the River Suir.			
Screening report	Y			
Natura Impact Statement	Y			
Relevant submissions	Third party concerns are set out in Appendix 1, section 17.3 and are addressed as part of Stage 2 below.			
Step 2. Identification of relevant European sites using the Source-pathway-receptor model				
European Site (code)	Qualifying interests¹ Link to conservation objectives (NPWS, date)	Distance from proposed development (km approx.)	Ecological connections²	Consider further in screening³ Y/N
Lower River Suir SAC (002137)	Atlantic salt meadows (Glauco-Puccinellietalia maritima) [1330] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]	5.5km terrestrially and 7.8km hydrologically	Hydrological connection to the River Suir.	Y

	<p>Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]</p> <p>Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]</p> <p>Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]</p> <p>Taxus baccata woods of the British Isles [91J0]</p> <p>Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]</p> <p>Austropotamobius pallipes (White-clawed Crayfish) [1092]</p> <p>Petromyzon marinus (Sea Lamprey) [1095]</p> <p>Lampetra planeri (Brook Lamprey) [1096]</p> <p>Lampetra fluviatilis (River Lamprey) [1099]</p> <p>Alosa fallax fallax (Twaite Shad) [1103]</p> <p>Salmo salar (Salmon) [1106]</p> <p>Lutra lutra (Otter) [1355]</p>	via the River Suir		
Kilduff Devilsbit Mountain SAC (000934)	<p>European dry heaths [4030]</p> <p>Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230]</p>	c.11.5km	No hydrological or ecological connectivity. The SAC is, at its closest, c. 11.5km from the site and c. 9 km from the TDR, with residential housing, agricultural land, forestry land, watercourses and numerous other barriers to potential impacts. There is no downstream connectivity to this SAC.	N
Silvermines Mountains SPA (004165)	<p>Hen Harrier (Circus cyaneus) [A082]</p>	18km	No hydrological or ecological connectivity. Ornithological studies are included within the EIAR at Appendix 7. Based on SNH (2016), hen harrier has a core breeding season foraging range of 6 km, with a maximum of 10 km. This is slightly lower	N

			<p>than, but comparable with maximum breeding season foraging distances reported by Irwin et al., (2012) remote tracking of birds in Ireland, which is give 7.5 km (female) and 11.4 km (male). The Slievefelim to Silvermines Mountains SPA, is located between 18 km and 21 km from the site. Based on habitat availability it has been determined that the site and surrounding hinterland (out to 2 km) is not suitable for breeding hen harrier. NPWS (2022) provides a map showing the winter distribution and known hen harrier roosts within 10 km Irish national grid squares, based on Balmer et al. (2013) and roost monitoring undertaken by the Irish Winter Hen Harrier Survey. This map indicates that there are no known hen harrier roosts within the 10 km grid square [S16] encompassing the site. Therefore, the QIs in this SPA are determined to be outside the Zol for potential significant effects relating to the proposed project. There is also no downstream hydrological Connectivity.</p>	
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Step 3. Describe the likely effects of the project (if any, alone or in combination) on European Sites

During construction, operational and decommissioning phases, there is potential for emissions to surface water. In addition, works associated with the construction and decommissioning phases, have the potential to generate disturbance to species utilising the site and nearby area. There is also potential for introduction and / or spread of Invasive Alien Species (IAS).

Activities associated with construction and decommissioning works, or maintenance works during operation have the potential to generate emissions. The release of suspended solids into watercourses within and surrounding the site during the construction phase, through spillage of contaminant into watercourses, or siltation of watercourses through disturbance, vegetation clearance and/or drainage activities, may lead to direct negative effects, on aquatic species that require very high levels of water quality in order to complete their life cycles. Silt run-off may adversely affect local crayfish populations by reducing the availability of suitable refuges in-stream, while an influx of organic matter associated with this run-off may elevate nutrient levels, resulting in deterioration of water quality levels necessary for survival. Similarly, species like salmon, twaite shad, and lamprey may be adversely affected by deterioration in water quality, while suitable spawning gravels for salmon and lamprey, may be reduced on account of sedimentation. Juvenile lampreys could be affected by pollution events affecting silt deposits used at this stage of their life cycle. Any negative impacts that are experienced by fish or crayfish species associated with this SAC, can have negative indirect impacts on otter through a reduction in prey availability. The release of hydrocarbons has further potential to impact on aquatic species and aquatic habitats. Hydrocarbons can bioaccumulate in salmonid species (McCain et al. 1990), and Atlantic salmon are known to be physically affected by short-term exposure to such emissions, leading to loss of condition, and avoidance of areas containing hydrocarbons (Weber and Maynard 1981), resulting in effective short-term loss of habitat or migration routes. These impacts may affect the QI species directly through a loss of habitat / reduced suitability or indirectly through a reduction in prey availability

There is potential for construction and decommissioning activities to generate disturbance to QI species. For Otter, the disturbance distance is set at 150 m, as per the NRA (2009). Blasting activity proposed for the borrow pit will occur ca. 160 m from the closest water course (River Suir), outside the disturbance zone for otter, however turbine locations lie within the 150 m disturbance distance, for which ground works will be required. Otter surveys have confirmed the presence of otter on the site and therefore, there is potential for otter to be disturbed by the ground works at turbines, potentially by blasting activities, and noise / maintenance activities during the operational and decommissioning phases. Fish species could also be affected by disturbance impacts occurring on the site. Species such as lamprey, of which lamprey ammocoetes have been recorded on the site and associated with the SAC, can be negatively impacted by noise or artificial lighting at night. Salmon, twaite shad or white-clawed crayfish, while unlikely to be present within the site, could also be negatively impacted by disturbance. This could lead to displacement impacts whereby these species leave the area to utilise other habitats free from disturbance, such as downstream towards the SAC.

With respect to Invasive Alien Species (IAS), terrestrial and aquatic habitats can be affected, resulting in negative impacts on species of conservation interest and overall conservation objectives. There is potential for the introduction of terrestrial and aquatic IAS and disease during the proposed works via mechanical / plant movement. No third schedule invasive species were recorded during surveys of the site, however, IAS could be introduced to the site through vectors such as machinery. IAS (flora and fauna) have

potential to cause effects on the QIs of the Lower River Suir SAC through deterioration of water quality (including reduction of light availability), out-competing native species and mortality of species.

AA Screening matrix

Site name Qualifying interests	Possibility of significant effects (alone) in view of the conservation objectives of the site*	
	Impacts	Effects
<p>Site 1: Lower River Suir SAC (002137)</p> <p>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche Batrachion vegetation [3260]</p> <p>Austropotamobius pallipes (White-clawed Crayfish) [1092]</p> <p>Petromyzon marinus (Sea Lamprey) [1095]</p> <p>Lampetra planeri (Brook Lamprey) [1096]</p> <p>Lampetra fluviatilis (River Lamprey) [1099]</p> <p>Salmo salar (Salmon) [1106]</p> <p>Alosa fallax fallax (Twaited Shad) [1103]</p> <p>Lutra lutra (Otter) [1355]</p>	<p>Direct: During construction and decommissioning phases, there is potential for introduction and / or spread of Invasive Alien Species (IAS) and potential to generate disturbance to species utilising the site and nearby area. There is also potential for emissions to surface water during all phases, adversely impacting water quality. Disturbance could also result from construction and decommissioning activities on the site.</p> <p>Indirect: Emissions to surface water during construction, operation and decommissioning phases.</p>	<p>Crayfish can be adversely affected by siltation of suitable habitat and deterioration in water quality (e.g. reduction in dissolved oxygen). Disease is identified as a major threat and crayfish plague has occurred in Ireland and can, in some circumstances, be introduced through contaminated equipment and water in the absence of vector species. Crayfish plague is also known to occur in the River Suir downstream of Clonmel.</p> <p>Sea Lamprey, River Lamprey and Salmon could be affected by IAS, should they be introduced, as they can spread into the aquatic habitats on Site may have negative impacts on spawning habitat suitability. Emissions to surface water could also negatively affect silt deposits used by juvenile lampreys at this stage of their life cycle, as well as potential spawning habitat in the Rossestown River and the main channel of the River Suir downstream.</p>

		<p>There is potential for otter to be disturbed by the ground works at turbines, potentially by blasting activities, and noise / maintenance activities during the operational and decommissioning phases. Salmon, twaite shad or white-clawed crayfish, while unlikely to be present within the Site, could also be negatively impacted by disturbance. This could lead to displacement impacts whereby these species leave the area to utilise other habitats free from disturbance, such as downstream towards the SAC.</p> <p>Emissions to water could also indirectly QI species through a reduction in prey availability. Otters may be indirectly affected by a reduction in prey availability (i.e. fish, crayfish) in the event of deterioration in water quality.</p>
	Likelihood of significant effects from proposed development (alone): Y	
	Possibility of significant effects (alone) in view of the conservation objectives of the site	
<p>The specific conservation objectives and special conservation interests for the potentially effected European site relate to various attributes, including population trends, distribution, range and habitat characteristics. Potential effects arising from emissions associated with the construction and operation of the proposed development have been highlighted above, which have the potential to affect the conservation objectives supporting qualifying interests of the Lower River Suir SAC. As such, likely effects on Lower River Suir SAC cannot be ruled out, having regard to the sites' conservation objectives, and a Stage 2 Appropriate Assessment is required. The potential impacts are expanded upon in further detail as part of a Stage 2 Appropriate Assessment below.</p>		
<p>Step 4 Conclude if the proposed development could result in likely significant effects on a European site</p>		

It is not possible to exclude the possibility that proposed development alone would result in significant effects on the Lower River Suir SAC from effects associated with the potential for, emissions impacting water quality, spread or introduction of invasive alien species or disturbance of species, directly or indirectly QI species or the habitats they rely upon.

An appropriate assessment is required on the basis of the possible effects of the project 'alone'. Further assessment in-combination with other plans and projects is not required at screening stage.

Proceed to AA.

Screening Determination

Significant effects cannot be excluded

In accordance with Section 177U of the Planning and Development Act 2000 (as amended) and on the basis of the information considered in this AA screening, I conclude that it is not possible to exclude that the proposed development, alone or in combination with other plans and projects will give rise to significant effects on the Lower River Suir SAC European Site in view of the site's conservation objectives. Appropriate Assessment is required.

This determination is based on:

- Potential for emissions to water (silt, hydrocarbons / oils and concrete waste) from ground works, which could be carried to surface waters by rainfall and wind, potentially affecting mobile QIs of the Lower River Suir SAC. There is potential for run-off at locations of works close to watercourses within the Site. Run-off could contain silt, hydrocarbons or oils from machinery, and concrete waste. Silt-laden run-off can alter the physico-chemical conditions of receiving water bodies.
- Potential for disturbance to affect mobile QIs of the Lower River Suir SAC as a result of activities generated by the proposed works (i.e. increased human presence and associated activities during construction and decommissioning). Otter can experience disturbance if present within c. 150 m of works (NRA, 2008). Fish species present in watercourses on the Site could also be affected by noise and lighting.

- IAS have potential to be introduced by machinery during ground works and can be carried to surface waters by rainfall and wind, potentially affecting QIs of the Lower River Suir SAC.

19.0 Appendix 3: Stage 2 Appropriate Assessment

Appropriate Assessment

The requirements of Article 6(3) as related to appropriate assessment of a project under part XAB, sections 177V of the Planning and Development Act 2000 (as amended) are considered fully in this section.

Taking account of the preceding screening determination, the following is an appropriate assessment of the implications of the proposed development of 10 Wind Turbines, 110kV Electrical Substation and ancillary development, in view of the relevant conservation objectives of the Lower River Suir SAC based on scientific information provided by the applicant and considering observations on nature conservation.

The information relied upon includes the following:

- Appropriate Assessment Screening Report and Natura Impact Statement.
- EIAR with particular focus on Chapter 6 Biodiversity and Chapter 7 Ornithology, with associated appendices
- Other relevant EIAR Chapters 8 Land and Soils, 9 Hydrogeology and Water, and 17 Interactions of Effects,
- Construction and environmental management plan (CEMP)
- Applicants' response documents to submissions

I am satisfied that the information provided is adequate to allow for Appropriate Assessment. I am satisfied that all aspects of the project which could result in significant effects are considered and assessed in the NIS and mitigation measures designed to avoid or reduce any adverse effects on site integrity are included and assessed for effectiveness.

Submissions/observations

Third party concerns are set out in Appendix 1, section 17.3 and are addressed here. There were no relevant concerns raised by prescribed bodies. The main issues raised by third parties concern the adequacy of the findings and evidence base presented in the NIS, concern regarding impact upon QI species, water quality / groundwater impact and the assessment of potential cumulative effects.

In relation to the surveys undertaken to inform the findings of the submitted NIS (and EIAR), I note that the Commission's specialist Ecologist report (at Appendix 4) states that the submitted ecological surveys have been undertaken in line with published good practice methods and at the optimum seasonal periods (over multi-annual period), and that limitations have been addressed by the applicant. In my view, the surveys are acceptable and can be relied upon for the assessment set out in this AA.

I note submission stating that the NIS relies upon information in the EIAR. The Commission's Ecologist confirms in her report (Appendix 4) that the NIS in general provides adequate information in respect of baseline conditions, considers risks of emissions to water, disturbance of species and Invasive alien species in view of the attributes and targets set for the conservation objectives for the QI features in line with the standard requirements to inform AA and mitigation measures have been designed around these risks. It is noted that with respect to water quality, parameters for monitoring are not specified in the NIS, but is included in section 9.5.1.8 of Chapter 9 of the EIAR, and it would have been preferable to include this in the NIS too to demonstrate greater consistency with the EIAR, however this is an acceptable approach overall. The Commission's Ecologist states that she is satisfied that it is acceptable to agree a final plan prior to construction and I concur with this approach. In relation to otter, measures are included to prevent

disturbance of otter including pre-construction survey and methods to reduce noise and vibration. If an otter holt is recorded, no works will proceed until an ecologist has advised on appropriate mitigation, however the form of this mitigation is not described in detail. The Commission's Ecologist highlights that while the mitigation presented in the NIS is lacking in detail and consistency with Chapter 6 of the EIAR which includes more comprehensive mitigation (including in relation to HDD), the mitigation in the NIS is adequate to prevent adverse effects in view of the conservation objectives of the Lower River Suir SAC (section 2.4.8 Appendix 4), including with respect to otter.

I am satisfied that the mitigation presented in the NIS focuses on the prevention of potential effect upon the Lower River Suir SAC, while the mitigation in the EIAR is aimed at preventing adverse water quality effect in the immediate surroundings, which includes hydrological connections to the River Suir and therefore will also mitigate negative effects further downstream for the SAC. The Commission can rely upon the mitigation set out in both the NIS and EIAR, which will effectively protect the Lower River Suir SAC.

I note a submission that suggests that the NIS has not considered the full range of species and habitats present on the site, however only those listed for the relevant European site should be considered in the NIS, and there is no deficiency in this regard. Any other protected species of relevance that is not listed for the European site, are addressed in the EIAR.

In relation to concern regarding the assessment of design flexibility in the NIS (and EIAR), as well as potential impact arising from the battery storage facility, the NIS confirms on page 2 the parameters of the proposed development that have informed the assessment findings, which include the turbine size range described in this report and the battery energy storage facility (albeit noting that the BESS does not form part of the application). I am satisfied that the NIS is accurate and appropriate in this regard.

In relation to the potential effect upon QI species, this table describes in detail the potential effects that could arise from the proposed development and associated mitigation measures to reduce or eliminate these effects. The proposed project is not situated within, directly connected to, or necessary for the management of, any European site. While third parties content that the site characteristics

should make it a designated site, that is not a question for this application assessment, and the site is not a European site itself. In relation to potential impact upon Hen Harrier, as identified in this report and specialist Ecology report in Appendix 4, the applicant conclusions in this regard are accepted, and given the distance of the site from the nearest SPA for Hen Harrier which is outside of the range for this species, combined with data presented, the proposed development would not effect this QI species. In relation to other birds, the biodiversity section 13.10 of my EIA above addresses ornithological impacts in detail. The site does not have any connection to a SPA where QI species would include birds. Potential for cumulative effect is considered further below.

Lower River Suir SAC (002137):

Summary of Key issues that could give rise to adverse effects (from screening stage):

- (i) Potential for emissions to water (silt, hydrocarbons / oils and concrete waste) from ground works, which could be carried to surface waters by rainfall and wind, potentially affecting mobile QIs of the Lower River Suir SAC. There is potential for run-off at locations of works close to watercourses within the Site. Run-off could contain silt, hydrocarbons or oils from machinery, and concrete waste. Silt-laden run-off can alter the physico-chemical conditions of receiving water bodies.
- (ii) Potential for disturbance to affect mobile QIs of the Lower River Suir SAC as a result of activities generated by the proposed works (i.e. increased human presence and associated activities during construction and decommissioning). Otter can experience disturbance if present within c. 150 m of works (NRA, 2008). Fish species present in watercourses on the Site could also be affected by noise and lighting.
- (iii) Invasive Alien Species (IAS) have potential to be introduced by machinery during ground works and can be carried to surface waters by rainfall and wind, potentially affecting QIs of the Lower River Suir SAC.

Qualifying Interest features likely to be affected	Conservation Objectives Targets and attributes	Potential adverse effects	Mitigation measures (summary)
<p>Water courses of plain to montane levels with the Ranunculion fluitantis and Callitriche-Batrachion vegetation [3260]</p>	<p>Habitat area stable or increasing subject to natural processes; Habitat distribution, no decline subject to natural processes; Hydrological regime: river flow, groundwater discharge, tidal influence – to maintain; Substratum composition: particle size range, quantity and quality – to maintain; water quality; Typical species, to be maintained in good condition including appropriate distribution and abundance; Floodplain connectivity, to maintain connectivity necessary to support the typical species and vegetation composition of the habitat; Fringing habitats, to maintain these that support the typical species and vegetation composition of the habitat.</p>	<p>Negative impact resulting from emissions to water, affecting the conservation objectives attributes ‘particle size range’, ‘water quality’, ‘typical species’ and ‘fringing habitats’. Emissions to water involving sediments is likely to alter particle size ranges and consequently the substratum required to support this habitat. Contaminated surface water reaching the SAC downstream could alter the water quality, noted in the conservation objectives as required to support the natural structure and functioning of this habitat type. If altered sediments and substratum, as well as contaminated surface water, reach the SAC this could change the typical species present and the fringing habitat types required to sustain the extent of this habitat in the SAC.</p> <p>Invasive alien species could effect conservation attributes: ‘Habitat area’, ‘Habitat distribution’,</p>	<p>Avoidance by design, including minimising any risk in terms of poor ground conditions, negative influences on the existing drainage, avoidance of sensitive ecological habitats and high flood risk areas, and any known archaeological features. The GCR and TDR have been designed to use the existing road network therefore using existing infrastructure and avoiding sensitive habitat types and avoiding unnecessary impacts on watercourses. Turbine locations and associated infrastructure will be placed at a minimum set-back distance of 50m from the watercourses, except at river crossings.</p> <p>During construction and decommissioning, the following general mitigation to be applied: appointment of an Environmental Manager with responsibility for overseeing the implementation of environmental protective</p>

		<p>‘Substratum composition: particle size range’, ‘Water quality’, ‘Typical species’, and ‘Fringing habitats’. Invasive alien species can out compete native species, especially aquatic plant species. There is potential for invasive species to be introduced to the Site via machinery, humans or tools. Seeds or vegetated material can be brought onto Site from elsewhere and colonise the Site itself or result in this plant material flowing downstream via the watercourses on the Site. Seeds and roots can be transported via watercourses and colonise riparian banks, which can in turn affect river habitats, resulting in increased sedimentation once invasive species have died back during winter, or affecting levels of shade and thus affecting aquatic flora.</p>	<p>measures and mitigation measures. Appointment of an Ecological Clerk of Works to oversee all aspects of work. A Construction and Environmental Management Plan (CEMP) to ensure implementation of environmental protective measures. Adherence to good work practices such as those set out in Guidelines on Protection of Fisheries During Construction Works In and Adjacent to Waters (IFI, 2016), Environmental Good Practice on Site Guide (CIRIA, 2015).</p> <p>Mitigation specific to ‘Deterioration of Water Quality’: During construction and decommissioning: A Surface Water Management Plan (SWMP). Avoidance of hydrological features (except for water crossings). Fuels, oils and construction fluids to be stored within compounds in bunds. Spill kit to be available. No refuelling on site. No in-stream works and no works in high rainfall. No concrete batching on site. Use of</p>	
<p>Austropotamobius pallipes (White clawed crayfish) [1092]</p>	<p>Distribution – no reduction from baseline; Population structure: recruitment – juveniles and/or females with eggs in all occupied tributaries;</p>	<p>Emissions to water could affect the conservation objectives attributes for this species: ‘water quality’ and ‘habitat quality: heterogeneity’. Contaminated surface water entering the Suir at the site could</p>	<p>measures and mitigation measures. Appointment of an Ecological Clerk of Works to oversee all aspects of work. A Construction and Environmental Management Plan (CEMP) to ensure implementation of environmental protective measures. Adherence to good work practices such as those set out in Guidelines on Protection of Fisheries During Construction Works In and Adjacent to Waters (IFI, 2016), Environmental Good Practice on Site Guide (CIRIA, 2015).</p> <p>Mitigation specific to ‘Deterioration of Water Quality’: During construction and decommissioning: A Surface Water Management Plan (SWMP). Avoidance of hydrological features (except for water crossings). Fuels, oils and construction fluids to be stored within compounds in bunds. Spill kit to be available. No refuelling on site. No in-stream works and no works in high rainfall. No concrete batching on site. Use of</p>	

	<p>Negative indicator species – no alien crayfish species; Disease – no instances; Water quality – at least Q3-4 at all sites sampled by EPA; Habitat quality: heterogeneity – no reduction in habitat heterogeneity or quality.</p>	<p>potentially flow downstream, negatively affecting water quality, a rating of at least Q3-4 at all sites sampled by the EPA is required to support White-clawed crayfish in this SAC. Habitat quality and heterogeneity could also be reduced by either sediment run-off or contaminated surface water from the site.</p> <p>Invasive alien species could effect conservation attributes: ‘Water, and ‘Habitat quality: heterogeneity’. Invasive alien species can out compete native species, especially aquatic plant species. There is potential for invasive species to be introduced to the Site via machinery, humans or tools. Seeds or vegetated material can be brought onto Site from elsewhere and colonise the Site itself or result in this plant material flowing downstream via the watercourses on the Site. Seeds and roots can be transported via watercourses and colonise riparian</p>	<p>sediment barriers. During operation: No use of herbicide / weed killer that could adversely affect surface water. Use of buffer zones to watercourses in the even of maintenance. No storage of fuels, oils or construction fluids on the site unless in a designated area of bunds. No plant maintenance carried out on site.</p> <p>Mitigation specific to ‘Disturbance’: During construction and decommissioning phase, checks of evidence of otter by experienced ecologist, with no works proximate to identified holts. Measures to minimise disturbance to aquatic species including, methods to reduce noise and vibration, soft-start techniques, no use of machinery early or late in the day. Works within 50m of watercourses, including the watercourse crossings required, will be carried out over summer if possible, as juveniles fish species may be present at any time of year. Measures will also be implemented with respect to the running of construction vehicles</p>	
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		banks, which can in turn affect river habitats, resulting in increased sedimentation once invasive species have died back during winter, or affecting levels of shade and thus affecting aquatic flora.	and equipment to reduce disturbance. During operation, artificial lighting to be kept to a minimum and light spill minimised and use of directional lighting near watercourses. Mitigation specific to 'Invasive Alien Species': During construction and decommissioning, the Environmental Manager and Ecological Clerk of Works to be responsible for monitoring potential introduction of IAS to the site. If IAS are identified, the areas of IAS will be screened (fenced) off, including an appropriate buffer and no personnel or machinery will enter this area. Should the IAS be within or adjacent to the proposed construction areas or corridors, they will be managed and removed by a contractor with appropriate experience in dealing with IAS and disposed of appropriately. The 'check, clean dry' method from the Northern Ireland Environment Agency and the 'Inspect, Remove, Dispose, Clean and Disinfect' method from
Petromyzon marinus (Sea Lamprey) [1095]	Distribution: extent of anadromy – greater than 75% of main stem length of rivers accessible from estuary; Population structure of juveniles – at least three age/size groups present; Juvenile density in fine sediment – density at least 1/m ² ; Extent and distribution of spawning habitat – no decline in extent and distribution of spawning beds; Availability of spawning habitat – more than 50% of sample sites positive.	Sea lamprey are unlikely to be present at the Site due to barriers to migration but are likely to be present further downstream. Brook / River lamprey are likely to be present at the site. Emissions to water could affect attributes: 'extent and distribution of spawning habitat' and 'availability of juvenile habitat'. If sediment run-off from the site enters watercourses used by these species, there is potential that spawning habitat could be covered by sediment and this habitat extent could be lost, or its quality or distribution reduced. The same impact could also effect the availability of juvenile habitat, as juveniles require silt deposits along the channel as this is the habitat	
Lampetra planeri (Brook Lamprey) [1096] Lampetra fluviatilis (River Lamprey) [1099]	Distribution – access to water course down to first order streams; Population structure of juveniles – at least three		

	<p>age/size groups of brook/river lamprey present; Juvenile density in fine sediment – mean catchment density at least 2/m²; Extent and distribution of spawning habitat – no decline; Availability of juvenile habitat – more than 50% of sample sites positive.</p>	<p>they utilise at this life stage. Emissions to water such as contaminated surface water can also result in the degradation of these habitat types.</p> <p>Disturbance impacts could negatively affect conservation objectives: ‘Extent an distribution of spawning habitat’ and ‘Availability of juvenile habitat’. Disturbance could arise through artificial lighting on the surface of watercourses. Artificial lighting can disrupt the natural rhythm of spawning processes, and the process for migratory species which may utilise darkness to indicate appropriate timings for migration. Human disturbance could also affect spawning activities.</p> <p>Invasive alien species could effect conservation attributes: ‘Extent an distribution of spawning habitat’ and ‘Availability of juvenile habitat’. Invasive alien species can out</p>	<p>the IFI will be employed as general biosecurity measures on site for any works required within the 50m watercourse buffer, including any watercourse crossings and HDD. During operation, any maintenance works required during the operational phase will follow mitigation measures outlined above for the construction phase.</p>	
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		<p>compete native species, especially aquatic plant species. There is potential for invasive species to be introduced to the Site via machinery, humans or tools. Seeds or vegetated material can be brought onto Site from elsewhere and colonise the Site itself or result in this plant material flowing downstream via the watercourses on the Site. Seeds and roots can be transported via watercourses and colonise riparian banks, which can in turn affect river habitats, resulting in increased sedimentation once invasive species have died back during winter, or affecting levels of shade and thus affecting aquatic flora.</p>		
<p>Salmo salar (Salmon) [1106]</p>	<p>Distribution: extent of anadromy – 100% of river channels down to second order accessible from estuary; Adult spawning fish – conservation limit for each system consistently exceeded;</p>	<p>Emissions to water could affect the attributes: ‘adult spawning fish’, ‘salmon fry abundance’, ‘number and distribution of redds’, ‘water quality’ for Salmon, ‘extent and distribution of spawning habitat’, ‘water quality: oxygen levels’ and ‘spawning habitat quality:</p>		

	<p>Salmon fry abundance – maintain or exceed 0+ fry mean catchment-wide abundance threshold value, currently set at 17 salmon fry/5 mins sampling; Out-migrating smolt abundance – no significant decline; Number and distribution of redds – no decline due to anthropogenic causes; Water quality – at least Q4 at all sites sampled by EPA.</p>	<p>filamentous algae, macrophytes; sediment’ for Twaite Shad. Sediment run-off from the site could travel downstream and cover redds and affect spawning habitat quality, resulting in a reduction in these required habitat types for these species. Contaminated surface water is likely to reduce water quality and affect oxygen levels, which are also required for these species’ survival and for these species to meet their conservation objectives.</p>		
<p><i>Alosa fallax fallax</i> (Twaite Shad) [1103]</p>	<p>Distribution: extent of anadromy – greater than 75% of main steam length of rivers accessible from estuary; Population structure: age classes – more than one age class present; Extent and distribution of spawning habitat – no decline; Water quality: oxygen levels – no lower than 5mg/l; Spawning habitat quality: Filamentous algae, macrophytes, sediment – maintain stable gravel substrate with very little fine material, free from filamentous algal</p>	<p>Disturbance impacts could negatively affect conservation objectives: ‘Number and distribution of redds’ for Salmon, and ‘Extent an distribution of spawning habitat’ for Twaite Shad. Disturbance could arise through artificial lighting on the surface of watercourses. Artificial lighting can disrupt the natural rhythm of spawning processes, and the process for migratory species which may utilise darkness to indicate appropriate timings for migration. Human disturbance</p>		

	<p>(macroalgae) growth and macrophyte (rooted higher plants) growth.</p>	<p>could also affect spawning activities.</p> <p>Invasive alien species could effect conservation attributes: 'Number and distribution of redds' and 'Water quality' for Salmon, and 'Extent and distribution of spawning habitat', 'Water quality: oxygen levels', and 'Spawning habitat quality: filamentous algae, macrophytes, sediment' for Twaite Shad. Invasive alien species can out compete native species, especially aquatic plant species. There is potential for invasive species to be introduced to the Site via machinery, humans or tools. Seeds or vegetated material can be brought onto Site from elsewhere and colonise the Site itself or result in this plant material flowing downstream via the watercourses on the Site. Seeds and roots can be transported via watercourses and colonise riparian banks, which can in turn affect river habitats, resulting in</p>		
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		increased sedimentation once invasive species have died back during winter, or affecting levels of shade and thus affecting aquatic flora.	
Lutra lutra (Otter) [1355]	<p>Distribution – no significant decline;</p> <p>Extent of terrestrial habitat – no significant decline;</p> <p>Extent of marine habitat – no significant decline;</p> <p>Extent of freshwater (river) habitat – no significant decline;</p> <p>Couching site and holts – no significant decline;</p> <p>Fish biomass available – no significant decline;</p> <p>Barriers to connectivity – no significant increase.</p>	<p>Emissions to water could negatively affect conservation objectives for otter: ‘extent of freshwater (river) habitat’ and ‘fish biomass available’. While the extent of freshwater habitat would not change as a result of the proposed project, the quality of this habitat could be reduced through the release of sediment run-off or contaminated surface water arising from the activities at the site, and render this habitat unsuitable for use by otter. Contaminated surface water run-off, as noted above, would negatively impact fish habitat including spawning beds, required water quality status, which could in turn indirectly affect otters by reducing prey availability and thus the volume of fish biomass available for otter in the SAC.</p>	

		<p>Disturbance impacts could negatively affect conservation objectives: 'Distribution' and 'extent of freshwater (river) habitat'. Otter are not considered to be sensitive to disturbance effects outside of 150m from the proposed works where they include blasting and piling. However, as couches and slides have been recorded on the site, the effects of disturbance could result in displacement of otter from these locations. As the Suir main channel is present within the Site, otters recorded here may be the same population as the SAC, and therefore are considered as such.</p> <p>Invasive alien species could effect conservation attributes: 'Distribution', 'Extent of terrestrial habitat', 'Extent of freshwater (river) habitat', 'Couching sites and holts' and 'Fish biomass available'. Invasive alien species can out compete native species, especially</p>		
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		<p>aquatic plant species. There is potential for invasive species to be introduced to the Site via machinery, humans or tools. Seeds or vegetated material can be brought onto Site from elsewhere and colonise the Site itself or result in this plant material flowing downstream via the watercourses on the Site. Seeds and roots can be transported via watercourses and colonise riparian banks, which can in turn affect river habitats, resulting in increased sedimentation once invasive species have died back during winter, or affecting levels of shade and thus affecting aquatic flora.</p>		
<p>The above table is based on the documentation and information provided on the file and I am satisfied that the submitted NIS has identified the relevant attributes and targets of the Qualifying Interests.</p>				
<p>Assessment of issues that could give rise to adverse effects view of conservation objectives The submitted NIS identifies the potential for adverse effects to water quality, the generation of disturbance and potential for the spread of invasive alien species as a consequence of the proposed development, that as a result of the hydrological connection to the Lower River Suir SAC, would give rise to significant adverse effects upon QIs for that European site, in the event that such</p>				

impact occurs. These impacts could either impact QI species directly, such as from noise and lighting during construction phase causing disturbance, or emissions released causing increased sedimentation to the River Suir adversely affecting aquatic species, or indirectly, such as through contamination of the watercourse impacting prey species and reducing available food sources. The potential for vehicles or machinery associated with construction or maintenance works for the site also has the potential to introduce IAS which could have either direct or indirect effects upon QI species. With specific reference to otter, due to the known range of this species, individuals utilising drains and the river channel at the subject site, may potentially be part of the SAC population and a potential otter holt has been recorded near one of the proposed stream crossings for the grid cable. A pre-construction survey will be required to determine if this holt is active and this is accounted for in proposed mitigation measures. I note that the proposed crossing method is via HDD, but that the NIS gives little detail of how this will take place, although Chapter 6 of the EIAR (section 6.5.1.1) presents more detail on potential water crossings during construction, indicating that where a bridge deck can be used, HDD may not be required. This greater level of detail in the EIAR can also be relied upon by the Commission, however I am satisfied that adequate mitigation is presented in the NIS to prevent adverse effect upon the SAC.

The QI conservation attributes for the SAC that have the potential to be adversely affected have been identified in the table above. If these identified potential adverse effects occurred, it could reduce the ability of this SAC to meet its conservation objectives for QI species, consequently adversely affecting the integrity of the SAC. Mitigation measures are proposed to minimise the potential for these effects and is set out in detail in section 5.4.3 of the NIS, as well as summarised in this table above. With the implementation of mitigation, including supervision of works by an Environmental Manager and Ecological Clerk of Works, and implementation of measures through a Construction Environmental Management Plan, (alongside specific mitigation measures with respect to identified effects), it can be reasonably concluded that no adverse effect upon the integrity of the SAC will result.

In-combination effects

I am satisfied that in-combination effects has been assessed adequately in the NIS. Section 4.4.1 of the NIS identifies plans and projects with potential for cumulative effects alongside the proposed development. Table 6 of the NIS lists developments currently permitted, under construction or planned sufficiently proximate to the site or within the Suir Catchment to warrant consideration. Of particular note is the Thurles wastewater treatment plant (WWTP) which discharges into the River Suir, in the same catchment as the proposed project, and connected to the Lower River Suir SAC. This WWTP will serve permitted residential development as identified in the NIS. The NIS quotes the Annual Environmental Report (AER) for the WWTP from 2023 which states that the Thurles plant is compliant with the conditions of the discharge licence emission limit values (ELVs) (EPA, 2023). With reference to the 2024 AER for Thurles WWTP, this continues to conclude that the plant is compliant with the conditions of the discharge licence ELVs (EPA, 2024). The AER also highlights that discharge from the WWTP is not having an observable negative impact on the Water Framework Directive status. The NIS concludes that there are no likely in-combination cumulative effects and I concur with this conclusion. While I note concern in submissions that the consideration of cumulative effects does not consider

farms, forestry and quarries in the area, these operational activities in the area are considered in how they contribute to the baseline condition which is informed by surveys of the area, including with respect to records of water quality. I am satisfied that the assessment of cumulative effects in the NIS is acceptable.

Findings and conclusions

The applicant concluded that the construction and operation of the proposed development alone, **or in combination with other plans and projects**, will not adversely affect the integrity of this European site.

Based on the information provided, I am satisfied that adverse effects arising from the proposed development can be excluded for the European site considered in the Appropriate Assessment.

Reasonable scientific doubt

I am satisfied that no reasonable scientific doubt remains as to the absence of adverse effects.

Site Integrity

The proposed development will not affect the attainment of the Conservation objectives of The Lower Suir SAC. Adverse effects on site integrity can be excluded and no reasonable scientific doubt remains as to the absence of such effects.

Appropriate Assessment Conclusion: Integrity Test

In screening the need for Appropriate Assessment, it was determined that the proposed development could result in significant effects on the Lower Suir SAC in view of the conservation objectives of the site and that Appropriate Assessment was required.

Following an examination, analysis and evaluation of the NIS all associated material submitted, and taking into account observations, I consider that adverse effects on site integrity of the Lower Suir SAC can be excluded in view of the conservation objectives of that site and that no reasonable scientific doubt remains as to the absence of such effects.

My conclusion is based on the following:

The application of general mitigation measures to minimise effects during all phases of the development, alongside specific mitigation with respect to the potential for effects upon water quality, the generation of disturbance and introduction/spread of invasive alien species, which will prevent potential for, the occurrence of / or adverse impact resulting from, the construction, operation or decommissioning of the proposed development.