Inspector's Report ABP-312728-22

Development	Wind Farm
Location	Townlands of Glendine North, Fahanlunaghta More, Curraghodea, Letterkelly, Cloghaun More, Tooreen, Silverhill, Doonsallagh East, and Knockalassa, County Clare
Planning Authority	Clare County Council
Planning Authority Reg. Ref.	21/1226
Applicant(s)	Slieveacurry Limited
Type of Application	Permission
Planning Authority Decision	Refuse
Type of Appeal	First & Third Party
Appellant(s)	Slieveacurry Limited Cathal Mac Mahon & Lisa Carkill
Observer(s)	Susan Crawford

	Milltown Malbay Wind Farm Opposition Group
	Fergal MacMahon
	Patrick Lafferty & Others
Date of Site Inspection	23rd & 24th January, 2023
Inspector	Kevin Moore

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1.0 Site Location and Description

1.1. The 106.4 hectare site of the proposed wind farm development is located approximately 6.5km east of Milltown Malbay in County Clare. It is accessed from a forestry track linked to a local road to the north-west of the site. The land uses on the site include coniferous forestry, agriculture and turf cutting. The site has elevations ranging from 90m AOD at the site boundary to a central plateau of 250m AOD. A ridge of elevated land extends across the site from south-west to north-east

1.2. The proposed grid connection route linking the proposed on-site substation to the existing Slievecallan 110kV substation at Knocklassa substation (which is located approximately 6.5km to the south of the site) would be on existing public roads, tracks and forestry/agricultural lands.

1.3. Land uses in the wider area comprise agriculture, wind farms, commercial forestry and low density housing.

1.4. The applicant's EIAR states that there are 67 occupied dwellings within 1.5km of the proposed development. The closest occupied third party dwelling is approximately 700m from the nearest proposed turbine (Turbine 3). Slieve Callan Wind Farm (with 29 turbines) is located to the south-east of the site.

2.0 Proposed Development

2.1. The proposed development would comprise:

- 8 no. turbines with an overall ground to blade tip height in the range of 175m maximum to 173m minimum, a blade length in the range of 75m maximum to 66.6m minimum, and hub height in the range of 108.5m maximum 100m minimum;
- A meteorological mast with a maximum height of 30m;
- Underground cabling (33kV) connecting the proposed turbines via a Ring Main Unit (RMU) to the 110kV substation in the townland of Knockalassa;
- Permanent extension to the 110kV substation at Knockalassa comprising an extension to the existing substation compound, provision of a new control

building with welfare facilities and all associated electrical plant and equipment for an additional 110kV bay and security fencing;

- Upgrade of access junctions;
- Upgrading of existing tracks/roads and provision of new site access roads and hardstand areas;
- 2 no. borrow pits;
- 2 no. temporary construction compounds;
- Site drainage;
- Forestry felling (minimum 26.59ha / maximum 58.49 ha);
- Operational stage site signage; and
- All associated site development ancillary works and apparatus.

2.2. The application seeks a ten-year permission and 30-year operational life from the date of commissioning. It is proposed that the export capacity would range between 30 to 40MW.

2.3. Details submitted with the application include an Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement (NIS).

2.4. The application includes letters from property owners giving consent to the making of the application.

3.0 Planning Authority Decision

3.1. Decision

By Order dated 20th January 2022, Clare County Council decided to refuse permission for the proposed development for four reasons relating to injury to the visual amenities of the area, adverse impact on residential amenity by way of noise, disturbance and visual overbearance, adverse ecological impact on the habitat of a number of bird species, and adverse impact on ground stability or hydrology from management of peat.

3.2. **Planning Authority Reports**

3.2.1. Planning Reports

The Planner referred to national and local planning policy, the site's planning history, the reports received, and third party submissions made. It was noted that the proposal is similar to an application previously refused by the planning authority. An EIA was undertaken. Particular concerns were raised in relation to shadow flicker, ornithology, impact on peat, noise, and visual impact. It was considered that the proposal, individually or in combination with other plans or projects, would not adversely affect the integrity of any European site. The planning assessment undertaken concluded that there had not been significant changes since the previous decision, there were noise and visual impact concerns, and the cumulative impact with the existing wind farm at this location was referenced. The concerns of DAU were reiterated in relation to ornithology and peat. Third party submissions on procedural issues were addressed. A refusal of permission for four reasons was recommended. The report included an appendix which set out the planning history of wind farm developments in the wider area.

3.2.2. Other Technical Reports

The Fire Authority had no objection to the proposal provided it complied with the Building Regulations.

The West Clare Municipal District Engineer noted haul routes, set out the bond contribution required, requested the developer not lay grid connection cable along the R460, with an alternative route available within the development boundary. A further information request relating to this and a schedule of conditions were set out.

The Road Design Office Engineer set out roads requirements relating to the construction stage of the development, the proposed entrance, road layout and specification, road drainage provisions, and management of construction waste.

3.3. **Prescribed Bodies**

Irish Aviation Authority

IAA requested that, in the event of a grant of planning consent, the applicant should be conditioned to contact the IAA to agree an aeronautical obstacle light warning scheme, provide coordinates, and notify it of the intention to commence crane operations with 30 days prior notification.

Health Service Executive

The HSE noted proposed waste provisions, water supply and wastewater provisions. Reference was made to inadequate public consultation. Regarding the consideration of alternatives, it was requested that further information be sought as to how the applicant's conclusion was reached that wind energy is considered the most suitable renewable energy option for the site. Shadow flicker mitigation measures were requested to be adhered to, as were measures set out in the Geotechnical and Peat Stability Assessment Report, Chapter 8 and Chapter 9 of the EIAR. It was also requested that the applicant assess the impact on private wells in the area that were not included in the EIAR assessment. Noting that an accurate assessment of the potential impacts of foundations on water quality and peat stability cannot be undertaken without information on the depth and volume of concrete proposed to be used in foundations, it was requested that this be sought. Reference was made to the need for monitoring of roads and the need for repairs to reduce noise and dust from vehicles at the construction stage. Requirements relating to rock blasting and workdays at the construction stage were set out. Adverse noise impacts from turbines on residents and the inadequacy of existing guidance was referred to and imposing a limit of absolute exposure of 35dB for low background levels was referenced. Requirements relating to noise at the construction stage were set out. The opportunity to provide marked walks or cycle paths was noted. It was requested that the future use of the site should be conditioned in the event of a grant of permission. Regarding cumulative impacts, it was stated that the HSE had received complaints regarding noise from the nearby Slievecallan Wind Farm. The HSE was not satisfied that all potential cumulative noise impacts had been assessed and requested that the Council considered the assessment of cumulative noise impacts

based on the specific turbines proposed to be used. The report concluded by setting out a schedule of the specified requirements.

Shannon Airport Authority

It was submitted that the proposed development would not have any effect on Shannon Airport obstacle limitation surfaces. The Authority requested the applicant to engage with the Irish Aviation Authority to assess impact on flights procedures and communication, navigation and surveillance equipment.

The Development Applications Unit of the Department of Housing, Local Government and Heritage

With regard to archaeology, it was noted that a Recorded Monument (a stone circle) is located within the site and is subject to statutory protection. It was also noted that a derelict national school in the Record of Protected Structures and two structures of local heritage merit (a bridge and a derelict stone house) were also on the site. Reference was also made to historical records of the burial of British soldiers killed during the War of Independence in bogland in the general vicinity of the site. A condition was recommended which set out archaeological requirements.

With regard to nature conservation, it was first noted that the Climate Change Advisory Council (CCAC) has said in its technical report accompanying the proposed carbon budgets to Government that "*Renewable energy infrastructure and forestry plantations must not be at the expense of biodiversity, already in a crisis of its own*." It was noted that the proposed development would result in the direct loss and degradation of two Annex I habitats, namely *Erica tetralix* and blanket bog. It was further noted that other peatland-associated annexed habitats occur on the site and other potential annexed habitat. It was submitted also that Annex II otter and Marsh Fritillary, which occur on the site, are potentially negatively impacted and that at least five Annex IV species in need of strict protection occur within the development site and could be potentially impacted. It was further submitted that four Annex I bird

species occur at the site, namely Golden Plover, Hen Harrier, Merlin and Peregrine Falcon, with Osprey passing through the site along proposed turbine locations.

The following is noted:

Hen Harrier

It was acknowledged that the site is used for foraging, winter and breeding season, with possible breeding also recorded. It was stated that the West Clare area is nationally important and wind farms are known to have significant negative effects on foraging for the species. It was also stated that the site is part of the West Clare Uplands Important Bird Areas (IBA) Hen Harrier population and that it overlaps with an identified NPWS Hen Harrier Higher Likelihood Nesting Area (HLNA) zone within the IBA. It was also acknowledged that two further HLNAs occur within 2km of the site, a fourth is within 5km and eight more occur between 5km and 8km. It was stated that the population of the area is becoming more important due to the declining Harrier numbers within the current SPA network. Reference was made to displacement effects from upland wind farms and to studies, with a predicted 53% reduction of flight activity within 500m of turbines. It was noted that the vast majority of the site is comprised of potentially suitable foraging habitat and the displacement effects will result in the loss of a large foraging resource. It was submitted that there was no full assessment of in-combination effects and cumulative impacts regarding the overall wind farm/turbine/grid effects for the West Clare Harrier population. It was submitted that the proposal could lead to a reduction in food supply and the avoidance of foraging habitats could have effects on breeding success or productivity, which may lead to gradual population decline. It was also noted that habitat connectivity would be likely to be an important consideration in wind energy development management and spatial planning for Hen Harrier and that habitat fragmentation could also occur, manifested by the barrier effect of turbines. The importance of the site for wintering Hen Harrier was also highlighted and it was submitted that the species winter foraging resource could be negatively affected by

the proposal. It was submitted that the abundance of prey species (such as thrush species including Redwing within the site) would be a valuable resource which may be impacted. The avoidance of, or barrier effect response to, the turbines were seen to potentially compromise winter survival, with continued usage of the site outside the breeding season having consequences in terms of overall collision risk. Concerns were also expressed about potential negative effects on breeding during the summer months arising from suitable foraging habitat and cumulative impacts. The inadequacies of the applicant's cumulative impact assessment were identified. Collision risk and reference to accounts of same were noted. It was submitted that the applicant's Enhancement Plan would not be acceptable compensation nor mitigation for the habitat loss, with the Department stating that this is the fundamental issue and submitting that there is reasonable scientific doubt as to the efficacy of the measure. The limitations of the provisions are identified and it is noted that the plans are not prepared or assessed. The enforceability of conditions affecting third parties was considered a potential issue, concerns about privately funded schemes being in conflict with State and EU nature conservation-related farm schemes were referenced, and the NPWS not being a position to discuss individual plans were highlighted.

Peatland and Annexed Habitats

The effects on these habitats by the proposed development were highlighted and it was submitted that the current assessments did not address the issues properly. It was noted that mitigation or compensatory habitat for annexed blanket bog and wet heath loss is difficult to provide. Noting peatland habitats are to be protected in the County Development Plan, it was submitted that the proposed works appear to be in contravention of this. Reference was made to regulations applicable to assessing and addressing damaged habitat.

Curlew

It was submitted that NPWS has two pre-2015 records of Red-listed breeding Curlew in the area, a species subject to dramatic decline - one within 1-3km of the

development area and the other 3-5km away. The site is seen as a potential breeding site in terms of habitat but the direct and indirect effects from the project could eliminate this suitability. The effect in terms of displacement was also noted, with effect of up to 800m indicating particular vulnerability. The amount of turbines in heath and bog in the West Clare area was also seen as relevant.

Marsh Fritillary

It was noted that a breeding colony of this Annex II species occurs on the site, with some of the proposed infrastructure being adjacent to suitable habitat and mapped colonies of the species, including the site access road south of turbine T2. It was considered that providing suitable habitat for compensation/mitigation would be a challenge.

Golden Plover

It was noted that this species occurs and forages on the site, with 11 observations less than 200m from proposed turbines. The collision risk for the species was acknowledged. The importance of the flock in this area beyond the Shannon and Fergus Estuary was highlighted and it was submitted that the loss of at least 6.5% of the flock per annum does not appear to be acknowledged. It was noted that, as well as direct habitat loss, there is a far larger habitat loss through displacement. It was noted that no compensation habitat is mentioned and there is no calculation of the area lost through displacement. The same concerns for Hen Harrier arise with cumulative impacts, including habitat displacement and loss. It was submitted that there may be disturbance effects also. It was noted that, as well as being an Annex I species, it is a Red-listed species in Ireland due to large declines in breeding population and breeding range and declines in wintering populations.

Red Grouse

The Red-listed status of the species was noted, as was the 50% decline in range in the last 40 years. It was acknowledged that the species occurs within the site,

holding a resident breeding population, and the suitable habitat was referenced. The species' sedentary nature and susceptibility to habitat loss and fragmentation and changes in habitat quality were referred to. The presence of other wind farms was also seen to be relevant. Collision mortality at other similar sites have been recorded by NPWS.

Kestrel

It is noted that this Red-listed species were recorded foraging on the site during breeding and winter seasons and that there is possible nesting at the site. Its susceptibility to collision and the applicant's predicted collision rate were referenced. It was acknowledged that no cumulative impacts were provided on potential collision effects and no information is given on the area and whether other kestrel nesting pairs already utilise the foraging habitat in the wider area.

Common Snipe

It was noted that this Red-listed species was recorded regularly during site surveys and that the proposal would result in the loss of breeding and foraging habitat directly and by displacement. Noting the majority of open habitat on the site is located within 500m of turbines, it was submitted that there would be significant effects on the site's population. No data on the area or information on whether any other separate snipe nesting pairs already utilise suitable habitat in the area was alluded to. The same issues on cumulative impacts on Hen Harrier, Golden Plover, etc. are seen to apply to this species, including on displacement, habitat loss, amount of similar habitat affected, etc.

Merlin and Peregrine Falcon

It was noted that these Annex I species were recorded within the site and within the collision risk zone. The abundance of suitable habitat within the area and the lack of

assessment of same were acknowledged. Direct habitat loss and/or degradation and disturbance effects for Merlin in particular were noted, as were indirect effects such as reduced density of prey species resulting from wind farm development.

Woodcock

Noting a breeding population was recorded on the site, reference was made to the barrier effect and acoustic effect interfering with display flights and mating on this Red-listed species, with potential displacement resulting.

Bats

Noting at least five bats species occur on the site, the significant effects by way of collision mortality, loss/damage to commuting and foraging habitat, and lighting issues were referenced.

SAC, Water Quality and Aquatic Species

The potential impacts on water quality and effects on European sites and annexed species such as Otter, Salmon or Lamprey arising from construction activity were noted, with particular concern raised relating to peat and landslides. It was requested that the Council consult with Inland Fisheries Ireland. The need for siting of development away from watercourses to address effects on otter was specified and it was noted that there was a need for clarification on buffer zones for watercourses.

Bird Nesting Season

It was acknowledged that the works would continue during the bird nesting season. It was submitted that NPWS recommend that hedgerows, trees, scrub and uncultivated vegetation (including peatland habitats) should not be removed during the nesting season.

Net Biodiversity Loss

It was submitted that the application should have clarified how much earthen embankment with willow would be lost, if habitat would be lost along the haul route,

and what amount of hedgerow would be temporarily lost, as well as the quantity of wet grassland loss. The damaging impacts of the applicant's proposed drainage measures on habitats and species were acknowledged. The key objectives of the National Biodiversity Action Plan 2017-2021 were noted.

Irish Water

Irish Water had no objection and set out a schedule of recommended conditions.

3.4. Third Party Observations

104 third party submissions were received by the planning authority. The Planner's report accurately sets out the wide range of issues raised in these submissions. Many of the principal issues are raised in the third party and observer submissions to the Board.

4.0 Planning History

P.A. Ref. 20/806

An application for permission for a development similar to the proposed development the subject of this appeal was made to Clare County Council. This application was withdrawn.

P.A. Ref. 21/370

Permission was refused by Clare County Council for four reasons for the construction of a renewable energy development comprising up to 8 no. wind turbines, a meteorological mast, underground cabling connecting the proposed turbines to an existing 110kv substation. This application was subject to a first party appeal (ABP-Ref-310707-21) which was subsequently withdrawn.

5.0 Local Planning Policy Context

5.1. Clare County Development Plan 2017-2023

Renewable Energy

The objective is as follows:

CDP8.40 Development Plan Objective: Renewable Energy

It is an objective of the Development Plan:

A To encourage and to favourably consider proposals for renewable energy developments and ancillary facilities in order to meet national, regional and County renewable energy targets, and to facilitate a reduction in CO_2 emissions and the promotion of a low carbon economy;

B To assess future renewable energy-related development proposals having regard to the Clare Renewable Energy Strategy 2017-2023;

C To assess proposals for wind energy development and associated infrastructure having regard to the Clare Wind Energy Strategy and the associated SEA and AA, or any subsequent updated adopted strategy;

D To prepare an updated Wind Energy Strategy for County Clare during the lifetime of this Development Plan;

E To strike an appropriate balance between facilitating renewable and wind energy-related development and protecting the residential amenities of neighbouring properties;

F To support and facilitate the development of new alternatives and technological advances in relation to renewable energy production and storage, that may emerge over the lifetime of this Plan;

G To ensure that all proposals for renewable energy developments and ancillary facilities in the County are in full compliance with the requirements of the SEA and Habitats Directives and Objective CDP2.1;

H To promote and market the County as a leader of renewable energy provision;

I To support the implementation of 'Ireland's Transition to a Low Carbon Energy Economy 2015-2030'

Rural Development and Natural Resources

Objectives include:

CDP 10.11 Development Plan Objective: Renewable Energy Development

It is an objective of the Development Plan to facilitate the development of renewable energy developments in rural areas in accordance with the adopted Clare Wind Energy Strategy and Renewable Energy Strategy and the associated SEA and NIR (and any subsequent strategies)

Climate Change Adaptation

Objectives include:

CDP18.1 Development Plan Objective: Climate Change

It is an objective of Clare County Council:

A To support the implementation of the Limerick Clare Climate Change Strategy 2006, and any subsequent versions of the Strategy;

B To facilitate measures which seek to reduce emissions of greenhouse gases;

C To adopt sustainable planning strategies through integrating land use and transportation and by facilitating mixed use developments as a means of reducing greenhouse emissions;

D To raise awareness and understanding of the impacts of climate change on both the local economy and communities in the County

Water Resources

The objective is as follows:

CDP8.21 Development Plan Objective: Water Framework Directive

It is an objective of Clare County Council:

A To facilitate the implementation of the Shannon River Basin Management Plan and the Western River Basin Management Plan (together with any subsequent National River Basin Management Plan) for groundwaters and surface waters in the Plan area as part of the implementation of the EU Water Framework Directive;

B To protect groundwater resources in accordance with the statutory requirements and specific measures as set out in the relevant River Basin Management Plan;

C To consider proposals for development where it can be clearly demonstrated that the development will meet the requirements of the relevant River Basin Management Plan

CDP8.22 Development Plan Objective: Protection of Water Resources

It is an objective of the Development Plan:

A To protect the water resources of County Clare having regard to the requirements of the relevant EU Directives;

B To ensure that developments that would have an unacceptable impact on water resources, including surface water and groundwater quality and quantity, designated sources protection areas, coastal and transitional waters, river corridors and associated wetlands are not permitted;

C In areas of potable groundwater resources or over vulnerable aquifer areas, development proposals will only be considered if the applicant can clearly demonstrate that the proposed development will not pose a risk to the quality of the underlying groundwater;

D To protect groundwater resources, in accordance with statutory requirements and specific measures as set out in the Shannon and Western River Basin Management Plans;

E To ensure that proposals for development which infringe on a river boundary, or an associated habitat, including their connection by groundwater, will only be considered where it can be clearly demonstrated that:

- The character of the area will be conserved;

- An acceptable physical riparian zone will be maintained with all natural vegetation preserved;
- There will be no impact on the ecological, aquatic or fishing potential of the waters or associated waters;
- All proposals are in compliance with the requirements of the Habitats Directive, where appropriate

Biodiversity

Objectives include:

CDP14.1 Development Plan Objective: Biodiversity

It is an objective of Clare County Council:

A To implement the County Clare Heritage Plan 2011-2017 and the Clare Biodiversity Action Plan 2014-2017, or any subsequent plans, in partnership with all relevant stakeholders;

B To review the Clare County Heritage Plan 2011-2017 and to prepare a new Plan, which will be set within the context of the National Heritage Plan, upon the expiry of the existing adopted Plan;

C To support National Biodiversity Week and events such as Bioblitz in order to increase awareness of biodiversity and its benefits to the community;

D To ensure that features of importance to local biodiversity are retained as part of developments and projects being undertaken in the County;

E To identify ecological buffer spaces/zones, where appropriate, in the Plan area.

CDP14.2 Development Plan Objective: European Sites

It is an objective of the Development Plan:

A To afford the highest level of protection to all designated European sites in accordance with the relevant Directives and legislation on such matters;

B To require all planning applications for development that may have (or cannot rule out) likely significant effects on European sites in view of the site's Conservation Objectives, either in isolation or in combination with other plans

or projects, to submit a Natura Impact Statement in accordance with the requirements of the EU Habitats Directive and the Planning and Development Act, 2000 (as amended);

C To recognise and afford appropriate protection to any new or modified SPAs or SACs that are identified during the lifetime of this Plan, having regard to the fact that proposals for development outside of a European site may also have an indirect effect

CDP14.7 Development Plan Objective: Non-Designated Sites

It is an objective of Clare County Council:

A To ensure the protection and conservation of areas, sites, species and ecological networks/ corridors of biodiversity value outside of designated sites throughout the County and to require an ecological assessment to accompany development proposals likely to impact on such areas or species;

B To ensure that available habitat mapping is taken into consideration in any ecological assessment undertaken;

C To complete the Habitat Mapping of the County (in accordance with A Guide to Habitats in Ireland – The Heritage Council 2000) in order to identify and record the natural habitats of the County at a detailed level and afford appropriate protection to areas of importance, as required

CDP14.11 Development Plan Objective: Habitat Protection

It is an objective of the Development Plan:

A To protect and promote the sustainable management of the natural heritage, flora and fauna of the County through the promotion of biodiversity, the conservation of natural habitats and the enhancement of new and existing habitats;

B To promote the conservation of biodiversity through the protection of sites of biodiversity importance and wildlife corridors, both within and between the designated sites and the wider Plan area;

C To ensure that there is no net loss of potential Lesser Horseshoe Bat feeding habitats, treelines and hedgerows within 3km of known roosts.

Landscape

The site is located within a wider area defined as a “Settled Landscape”.

The following objective applies:

CDP13.2 Development Plan Objective: Settled Landscapes

It is an objective of the Development Plan:

To permit development in areas designated as ‘settled landscapes’ that sustain and enhance quality of life and residential amenity and promote economic activity subject to:

- Conformity with all other relevant provisions of the Plan and the availability and protection of resources;
- Selection of appropriate sites in the first instance within this landscape, together with consideration of the details of siting and design which are directed towards minimising visual impacts;
- Regard being given to avoiding intrusions on scenic routes and on ridges or shorelines.

Developments in these areas will be required to demonstrate:

- The site has been selected to avoid visually prominent locations;
- The site layouts avail of existing topography and vegetation to reduce visibility from scenic routes, walking trails, water bodies, public amenities and roads;
- Design for buildings and structures reduce visual impact through careful choice of forms, finishes and colours, and that any site works seek to reduce visual impact.

There are several designated Scenic Routes in the vicinity of the site of the proposed development. The following Objective relates to these:

CDP13.7 Development Plan Objective: Scenic Routes

It is an objective of Clare County Council:

A To protect sensitive areas from inappropriate development while providing for development and change that will benefit the rural community;

B To ensure that proposed developments take into consideration their effects on views from the public road towards scenic features or areas and are designed and located to minimise their impact;

C To ensure that appropriate standards of location, siting, design, finishing and landscaping are achieved

Clare Wind Energy Strategy (Volume 5)

The objectives of the Strategy are as follows:

- To reflect and plan for technological advances in wind farms over the next number of years.
- To develop a Wind Energy Strategy having regard to the Wind Energy Development Guidelines, Guidelines for Planning Authorities (DoEHLG, 2006) (the Planning Guidelines issued by the Department of Environment, Heritage, and Local Government).
- To more closely align the County's wind generation policy to the existing wind energy resources.
- To support a planned approach to wind energy development in County Clare predicated on the optimal harnessing of the County's wind energy resource, and at a minimum, requiring that 40% of the County's electricity needs can be met from wind farms.
- To identify strategic areas for wind energy development of Regional and National importance.
- To recommend that a working target of 550 MW of wind energy is harnessed in County Clare, to enable the County to make the initial steps toward a low carbon economy by 2020.
- To support County Clare in reducing the CO_2 emissions associated with energy production, as identified in the Limerick Clare Climate Change

Strategy (Limerick Clare Energy Agency 2006) and subsequent Mid West Regional Climate Change Strategy (2008).

- To promote economic development through wind energy and other renewables in the County, underpinning the need for energy security, the promotion and establishment of a low carbon economy and the development of green business within the County.
- To ensure full compliance with the requirements of Directive 2001/42/EC and Statutory Instrument 436 /2004 on the assessment of the effects of certain plans and programmes on the Environment, the SEA Directive, and the associated Planning and Development (Strategic Environmental Assessment) Regulations 2004.
- To ensure full compliance with the requirements of the Habitats Directive Assessment in line with Statutory Instrument 94/1997.
- To ensure the production of wind energy is consistent with and takes account of nature conservation and environmental legislation and targets, including the conservation and protection of the Designated Natura 2000 sites in the County.

The proposed turbines and ancillary on-site infrastructure would be located within an area designated a “Strategic Area”. Part of the proposed grid connection route would be located in an area designated “Acceptable in Principle”.

‘Strategic Areas’ are considered to be eminently suitable for wind farm development and are of strategic importance because of:

- Good / excellent wind resources
- Access to grid
- Distance from properties and
- Outside any Natura 2000 sites

Projects within these areas must:

- Demonstrate conformity with existing and approved wind farms to avoid visual clutter.

- Be designed and developed in line with the Wind Energy Development Guidelines, Guidelines for Planning Authorities (DoEHLG, 2006) in terms of siting, layout and environmental studies.
- Provide a Habitats Directive Assessment under Article 6 of the Habitat Regulations if the site is located in close proximity to a Special Area of Conservation or Special Protection Area.
- Be developed in a comprehensive manner avoiding the piecemeal development of the areas designated as 'strategic'.

Target wind energy generation from strategic areas is 400 MW

Areas acceptable in principle are considered suitable for wind farm development because of:

- Sufficient wind speeds,
- Access to grid network, and
- Established patterns of inquiries.

Projects within these areas must:

- Demonstrate conformity with existing and approved wind farms to avoid visual clutter.
- Be designed and developed in line with the Planning Guidelines in terms of siting, layout and environmental studies.
- Provide a Habitats Directive Assessment under Article 6 of the Habitat Regulations if situated in proximity to a Special Area of Conservation or Special Protection Area.

Target wind energy generation from Acceptable in Principle areas is 150 MW.

6.0 The Appeals

6.1. Grounds of First Party Appeal

The grounds of the appeal may be synopsised as follows:

Reason No. 1 – Visual Impact

Introduction

- The Board's attention is drawn to Section 12.9 of the applicant's EIAR – *Additional LVIA Commentary Regarding Clare County Council Decision on Pl. Ref. 21/370*. These additional assessments are relevant and applicable to the refusal reason.

Height, Scale and Siting of Turbines

- The proposed development is plan-led, with all turbines being with a 'Strategic Area'. Given the designation, it is envisaged that wind turbines would be seen in this landscape. As tall vertical features, it is accepted that turbines are seen as prominent features within views. The outcome of the applicant's considerations on height, scale, layout and siting is a balanced cluster of turbines that read coherently within the landscape, with limited visual stacking or visual clutter from key visual receptors.
- The proposed maximum tip height of 175m was the preferred option chosen as it was capable of being accommodated within the landscape without significant adverse landscape and visual effects while also allowing the most efficient use to be made of the wind resource at the site, as well as the existing grid connection infrastructure at Slievecallan.
- The visuals in Appendix 12-5 of the EIAR illustrate the negligible difference that a turbines of a lower tip height (156.5m) would have on the determination of visual effects within slightly longer ranging views from key visual receptors with open visibility of the proposed turbines.
- Slieve Callan provides significant topographical screening from most areas to the south and east. The exposed and simple landform of the elevated and remote upland landscape enables the proposed development to be seen as a neat and coherent cluster, separate from other complex landscape features surrounding the site such as farmland and settlements. Siting the turbines on an elevated ridge ensures they are predominantly viewed above the horizon, reducing the capacity for visual clutter and confusion as there is minimal overlapping with other landscape elements.

- A majority of the visual and residential receptors with likely visibility are at lower elevations where setback distances are greater and where screening is provided which reduces visibility.
- There is a substantial absence of visual stacking from the most sensitive visual receptors located within 10km of the development as well as residential receptors within 1.5km.

Proliferation of Turbines

- The relationship with Slievecallan Wind Farm is comprehensively addressed in the Landscape and Visual Chapter of the EIAR. Section 12.9.1.1.3 of the EIAR gives a specific and comprehensive response to this refusal reason, demonstrating the proposal is visually separate from most areas where open visibility occurs. The two developments are on separate landforms and are not seen as a continuous array of turbines. The proposal is distinguishable as an independent development on lands specifically identified as suitable for wind energy development. The difference in tip height of turbines is acknowledged but the elevation of Slievecallan is greater, offsetting potential visual impacts of tip height differences.
- For the Planning Officer to label the proposal as an excessive proliferation of turbines is at variance with the provisions, policies, spirit and intention of the Clare Wind Energy Strategy.
- The Draft County Development Plan intends to retain the 'Strategic' designation of the site and it appears that the reason for refusal represents a direct contravention of current and future planning policy.

Visual Amenities and Objective CDP 13.2

- The proposed development will not obstruct of significantly injure the visual amenities and character of the sensitive Heritage landscapes such as the Cliffs of Moher, the Burren or elsewhere along the coastal corridor.
- Objective CDP 13.2 is a general policy relating to sustainable development in the county's settled, living landscape, which comprises 51.6% of the county.
- Objective CDP 8.40 of the Plan seeks to assess future renewable energy-related development proposals with regard to the Clare Renewable Energy

Strategy. The Wind Energy Strategy only designates approximately 2.6% of the county as 'Strategic Areas'. Considering the trade-off in a spatial context, the limited viable areas reserved as 'Strategic' must take precedence over policy designations for settled landscapes. The proper planning and development of the area should align with the objectives of the Wind Energy Strategy.

Reason No. 2 – Injury to Residential Amenities

- Matters relating to turbine height, location and suitability were addressed earlier in the appeal.
- Considering Objective CDP 8.40 as a whole, the planning authority appears to have focused on, and given more weighting to, Item E of the ten points in the objective to rationalise the grounds for refusal.
- A thorough assessment of the likely visual impacts on residential visual amenity is presented in Section 12.8.3.3.6 of the EIAR. The low density housing in the area, in conjunction with the site being designated a Strategic Area, supports the selection of the site as an appropriate location.
- The proposal accords with the Wind Energy Development Guidelines on setback and with that set out in the Draft Guidelines, with the closest third party occupied dwelling to a turbine being 700m from turbine 3.
- It is contentious for the planning authority to cite Objective CDP 8.40 when it is in direct contravention of Item B relating to strategic designations. It could be asserted that the reason for refusal is in fact contrary to the objective.
- Regarding noise, the applicant's noise and vibration assessment is noted, as well as compliance with relevant noise guidance. A cumulative noise assessment was undertaken. Predicted, cumulative, worst-case noise levels are within the criteria limits. The proposal can operate without significant effects on the amenity of any sensitive receptors.
- The issue of property devaluation is addressed in Chapter 5, Section 5.6 of the EIAR. The conclusions from available international literature indicate that property values are not impacted.

Reason No. 3 – Impact on Hen Harrier

Habitat Loss

- The site is located to the north of the North and West Clare regionally important area for hen harrier. The cable route is within this hen harrier stronghold but the works will be carried out along existing roads and tracks. It is proposed to undertake cable route construction works outside of the breeding season.
- It is proposed to create enhanced habitat for hen harrier, namely to actively manage 124ha of upland grassland, peatland and forestry for the benefit of hen harrier (see Appendix 7-7 of EIAR).
- Hen harrier were only occasionally recorded foraging on the site, less than one record a month from 36 months of vantage point surveys.
- The results of further surveys undertaken from October 2021 to January 2022 were not significantly different from the results of surveys undertaken between April 2016 and September 2021.

Disturbance, Displacement and Barrier Effect

- The results of all surveying over a period in excess of 3 years conclude that the site is infrequently visited by hen harrier. These corroborate the finding that there is no potential for significant displacement or barrier effects given that hen harrier are not dependent on the habitats of the site for roosting or breeding.
- Notwithstanding this, enhancement measures are proposed in acknowledgement of the significance of the surrounding uplands to hen harrier. This will create, safeguard and improve foraging habitat close to the nearest known hen harrier nest. This will focus on habitats that support prey species.

Enhancement Plan

- An impact assessment of hen harrier displacement is provided in Section 7.8.2.1 of the EIAR which identified no significant displacement effect. As a

result, no compensation or mitigation was proposed. Enhancement measures are proposed in acknowledgement of the significance of the surrounding uplands to hen harrier and to the decline in the local population.

- The aim is to safeguard and improve existing hen harrier habitat and promote the creation of new supporting habitat by actively managing 124ha of upland grassland, peatland and forestry. The lands are outside a 500m radius of proposed and existing turbines and are additional to similarly managed lands within Slievecallan Wind Farm. The programme will broadly follow the approach taken by the Hen Harrier Project. It is noted that there is an active hen harrier nest within Slievecallan Wind Farm.
- 100% avoidance of a 250m radius of turbines was presumed. The methodology used in this application for calculating the theoretical area of displacement is reasonable and has precedence – e.g. Buttevant, County Cork (P.A. Ref. 13/05885), Esk Wind Farm, County Cork (P.A. Ref. 14/05602), and Meenbog Wind Farm, County Donegal (ABP Ref. PL 05E.300460).
- The applicant has secured agreement in principle with the relevant landowners for the implementation of the enhancement plan. The consent letters are included in the grounds of appeal. The relevant landowners are involved in the project.
- The applicant has no objection to the imposition of a condition requiring that a Section 47 agreement be provided. A similar approach was taken by the Board in its decision to grant permission for Slievecallan Wind Farm. There are no obstacles to the implementation of the enhancement plan.

Cumulative Effects

- The proposed development is not predicted to result in significant effects on hen harrier in itself. Notwithstanding this, it is proposed to create enhanced habitat.
- There is a full assessment of cumulative effects in Section 7.13 of the EIAR. No significant cumulative effects were predicted for hen harrier. Regard was given to the available information related to relevant development on the

planning register for Clare County Council. Bird monitoring information was available for Glenmore and Letteragh Wind Farms.

- The applicant's agent has a good working knowledge of the distribution and abundance of hen harrier in the surrounding uplands having been involved in the pre-planning and operational monitoring of several proposed and existing wind farms listed in Section 7.13 of the EIAR, including Slievecallan, Booltiagh and Glenmore Wind Farms. This knowledge has been taken into consideration in the assessment of cumulative effects.
- As the population of hen harrier within the surrounding uplands is so low, measures to benefit a single pair at Slievecallan can have positive population-level impacts.

Other Species

- The DAU raise further concerns in relation to curlew, golden plover, red grouse, kestrel, snipe, woodcock, peregrine falcon, and merlin. All potential impacts are considered in the EIAR. The assessment identified no significant effects for these species.

Vegetation Clearance

- It is proposed that the construction works would commence outside the bird nesting season. Pre-commencement surveys will be undertaken. If winter roosting sites or breeding activity of birds of high conservation concern is identified, the roost or nest will be located and earmarked for monitoring at the beginning of the first winter season or breeding season of the construction phase. If active, no works will be undertaken within a 500m buffer and no works will take place within the buffer until it can be demonstrated that the roost or nest is no longer occupied.
- The removal of woody vegetation will be undertaken in full compliance with Section 40 of the Wildlife Act 1976.

- All construction works associated with the cable route for the section within the North and West Clare regionally important area will be undertaken outside of the breeding season.

Reason No. 4 – Impact on Ground Stability/Hydrology

Peat Stability

- Matters relating to peat stability at turbine locations, along internal access tracks and at settlement ponds are all addressed in full within the Geotechnical and Peat Stability Assessment report (Appendix 8-1 of the EIAR).
- The peat stability across the site is found to be significantly higher than that encountered at wind farm sites across the country where peat stability has proven to be an issue.
- No floating roads are proposed due to the shallow nature of peat across the site.
- All access tracks/hardstands are to be constructed on or in solid stratum.
- Peat depths at turbine locations are all relatively shallow, with the foundation founded on competent stratum (bedrock) below the peat.
- Factors of Safety recorded at each location are greatly in excess of 1.3, indicating a low risk of peat failure across the site. The highest FoS achieved for turbines under Condition 2 (worst case) is 16.38 in undrained and 17.73 in drained conditions and the lowest is 1.89 and 1.94 respectively. The wind farm site and cable route have an acceptable margin of safety.
- It is clarified that the estimated volume of peat is 55,800m^3.
- Mitigation measures set out in the Geotechnical and Peat Stability Assessment and from Chapter 9 of the EIAR are referenced.

Peat Storage

- The majority of peat during road construction will be permanently stored in the on-site borrow pits. All temporary storage areas will be upslope of founded

roads/hardstands. Borrow pits will be enclosed depressions and drainage will be managed using temporary pumping arrangements and settlement ponds.

Tree Felling

- This will not involve the removal of tree stumps outside of those removed beneath access roads and at turbines/hardstands.
- Section 9.5.2 of the EIAR provides mitigation for potential generation of peat particles and silts in surface water runoff. Mitigation by design is set out and pre-commencement temporary drainage measures will also be installed.

Private Wells

- It is not the case that some wells have not been included in the assessment.
- The impact assessment in Chapter 9 of the EIAR notes that it is unlikely that groundwater flow volumes and direction could be impacted by any activity that is at a distance greater than 300m from a given point in the aquifer.
- The EIAR finds that it is extremely unlikely that any impact could occur to any potential wells as a result of the proposed development.

Other Matters

I note that the appeal submission includes consideration of planning policy applicable to renewable energy projects and addresses details contained in the reports to the planning authority, including requests for further information and the grid connection routing on the R460.

Further to the above, the appeal also addresses issues raised in reports from the Development Applications Unit, the Health Service Executive, Irish Water, Shannon Airport, and Irish Aviation Authority. Comments were also offered on a range of third party issues including landscape and visual impact, ecology and birds, noise and shadow flicker, human health, and landownership.

6.2. Grounds of Appeal by Cathal McMahon and Lisa Carkill

The grounds of the third party appeal may be synopsised as follows:

- The Council's decision fails to comply with the legal requirements to carry out an Environmental Impact Assessment and Appropriate Assessment.
- On the basis of the total lack of certainty in the information submitted, it is not possible for An Bord Pleanála to make a decision to grant permission as the assessment carried out under Article 6(3) of the Habitats Directive cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of works proposed on a protected site.
- The application fails to fulfil the requirements of the Planning Regulations re design of the project.
- The application fails to fulfil the requirements of the Environmental Impact Assessment Directive Article 5.1a(a) a description of the project comprising information on the site, design, size and other relevant features of the project. The design of the foundations and the materials required for their construction are referenced.
- The submission to the planning authority by the Development Applications Units is attached and it is submitted that this shows that it is not possible to grant permission for the development which would comply with the requirements of the CJEU judgement 258/11 Sweetman v An Bord Pleanála, namely relating to an assessment not having lacunae and containing complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of works proposed on a protected site.

6.3. Applicant Response to Third Party Appeal

It is submitted that the application documentation is complete and comprehensive and provides the required details the Board will need in carrying out its statutory decision process and all associated assessments. The applicant's response to the third party appeal may be synopsised as follows:

Planning Acts

- The submitted documentation is fully compliant with the provisions of Articles 22 and 23 of the Planning Regulations and has been confirmed through the planning authority's validation of the application. Reference is made to the documentation clearly specifying a limited range of turbine parameters applying to seven turbines.
- It is not the case that there is no design of the foundations of the turbines. There are drawings of the layout of the proposed development, including turbine locations, hardstanding areas, and the dimensioned extent of each turbine foundation. The turbine elevation drawings also provide all relevant dimensions in relation to the turbine foundations which detail the minimum and maximum dimensions of the turbine foundations proposed.
- The application documentation also provides detailed assessments of the proposal within the EIAR and NIS.
- The plans and particulars clearly specify the location and layout of all relevant infrastructure subject to the current application process, therefore addressing in full the Derryadd judgement and requirements of the Planning and Development Act and Regulations.
- As the application is now on appeal, the Board will be considering the matter *de novo*.

The Environmental Impact Assessment Directive

- The EIAR provides comprehensive details of the proposed foundations. Sections 4.3.1.1 and 4.3.1.3 and Figure 4-2 are referenced.

Habitats Directive

- Chapter 4 of the EIAR (Description of the Proposed Development) forms part of the NIS and is included as Appendix 3. The turbine foundations are specifically referenced in Section 3.2.4.1 of the NIS.

- The third party appellants have not articulated any specific point which would preclude the Board from completing an appropriate assessment in line with statutory requirements.
- While acknowledging that the Board will be completing its own appropriate assessment, the findings of the planning authority are noted.
- It is further noted that the first party appeal has considered the submission from the DAU/NPWS and has provided further detail/discussion in relation to the items raised.

6.4. Planning Authority Responses

In response to the first party appeal, the planning authority submits that it is considered that the issues raised have been addressed in the planning report and the refusal reasons. Acknowledging the site being within a Strategic Area, reference is made to the cumulative visual impact with the Slieve Callan wind farm and to the open and elevated nature of the landscape and the injury to visual amenity. The cumulative impact resulting in noise and disturbance for residents of the area is noted and the impact on Hen Harrier and peat stability is reiterated. It is requested that the Board upholds the planning authority's decision.

Regarding the third party appeal, this is noted and the planning authority states that it does not have any further comments to make on it.

6.5. Observations

Dr Susan Crawford is an autism consultant. It is submitted:

- The area is a clearly identified Hen Harrier preservation, where landowners are in receipt of grants for same;
- There is no clear investigation/guidance on the risk of a bog slide;
- Wind Farm Guidelines are still not updated;
- Local people have not been appropriately consulted;

- Light flicker and noise pollution associated with the development are putting populations with sensory impairment and medical vulnerability at risk. Extensive wind farm developments do not contribute to the process to developing appropriate programmes for autistic populations; and
- Given the proposed off-shore wind energy development in Moneypoint, there is no justification for the proposal.

The Milltown Malbay Wind Farm Opposition Group submission may be synopsised as follows:

Refusal Reasons No. 1 & 2

- Regardless of whether the site is zoned strategic or not, the local authority is not duty bound to accommodate every application in such a narrow perspective. Applications in the area have been refused on similar grounds. The Council's policy has been clear in relation to visual clutter, the proliferation of turbines, and required nature corridors.
- There is overwhelming resident, political and wider population submissions that there is an over-proliferation of wind farms in the locality and that wind farms are over-imposing and visually overbearing to nearby communities.
- The developer had opportunities to remedy previous lack of community engagement. They did not address the issues associated with these reasons, which were made abundantly clear at pre-planning stage.
- Further attempts at justification by the developer around sub-issues such as visual stacking and visual coherence seem irrelevant in the overarching context of the grounds of refusal.

Refusal Reasons No. 3 & 4

- Notwithstanding the developer, ABP and the agents submitting the EIARs were collectively responsible for the peat slippage catastrophe at Meenbog in County Donegal, the EIAR is not independent and cannot be considered a source of absolute authority in this regard.

- The EIAR is a ‘copy/paste job’ by the agent and reflects no significant additional, up-to-date or far-reaching enough assessments.
- The local authority cites very narrow references in regard to environmental issues in Reason 3. It does not reflect the overall context in regards to biodiversity or scope for protection of endangered species. While protection of the Hen Harrier status is stated, the red-listed status of the Kestrel is not acknowledged at the locality.
- There are landowners participating with Glás schemes that are adjacent to the site whose compliance with agri-environment schemes would be threatened not to mention the potential to lose progress made.

Additional Matters

- In light of the Derryadd judgement, the developer should have to specify the entire structures in detail.
- Specification change has profound and significant implications on issues such as ground stability. It is impossible for those wishing to make an assessment on their views on a proposal if the specification is not precise.
- The lack of required levels of community engagement were acknowledged by the local authority.

Fergal MacMahon’s farm bounds the site for more than 2km and he submits that turbines T7 and T8, substations, other plant and cable routes will adversely affect him. He considers the refusal of permission was correct, that the area is unsuitable, lacking need with the construction of Moneypoint off-shore wind farm. Furthermore, the loss of biodiversity and adverse public health effects are considered too great. Noting the planning authority’s “broad reasons”, he draws the attention of the Board to the following:

Landscape and Carrowmore Point to Spanish Point and Islands SAC and the Mid-Clare SPA

Reference is made to precedent to reject the development and to the zoning of the land for wind farm purposes for 27 years being outdated.

Tourism and Employment

Reference is made to the importance of the area to tourism and employment, the limited permanent employment from a wind farm, and the impact on Liscannor and Lahinch.

The House

Reference is made to the observer's son intending to renovate the original family home in Cloghaun More only hundreds of metres from Turbine 7, to at least two other neighbours being within the shadows of the turbines, and to family history and cultural significance of the location.

Public Health

Reference is made to the adverse health effects from turbines and to impacts on broadband and TV signals.

Project Splitting

Reference is made to a project not being permitted to split into two independent parts, namely the wind farm and the grid connection (*O'Grianna & Ors. V An Bord Pleanála* (2014)).

Turbine Delivery/Access Routes

Reference is made to the inadequacy of the R460 and the unsuitability of the local road network, to the observer farming under a GLAS scheme, to the impact on bird mortality from turbine collision, and to more suitable environmental projects for the area.

Farming, Biodiversity and Land Use

Reference is made to the 'copy and paste' approach by the applicant's agent for wind farm development, to limitations in botanical surveying, the effects on environmental farming programmes, impact on farm animals, and on Hen Harrier programmes.

Hen Harrier

Reference is made to a BirdWatch Ireland letter attached to the observation, to two roosting pairs on the observer's holding that have not been reported, the loss of grants arising from the proposed development, and Turbine 8 intruding on the observer's land.

Marsh Fritillary

Reference is made to the high concentrations of devil's bit scabious in the area, the impact on Marsh Fritillary, and to the unsuitability of the area for wind farm development.

The Curlew and Kestrel

Reference is made to the recording of these birds in the area and it is submitted that curlew have not been surveyed in Glendine.

Horses

Reference is made to the observer's equine premises which receive GLAS rare breed grants and the effects of the development on same.

Peatland

Reference is made to the steeply sloping blanket bog site, peat and shale not being strong enough to support the turbines, no information on the proposed turbine type, the slopes at this location being prone to soil creep, the risk of peat slippage and a bog slide from the works, and to bog bursts.

Wells and Waterways

Reference is made to the observer's two wells not being referred to in the applicant's documents, to impacts on other wells in the area, the siting of the substation at the

steepest forestry location, impact on the Glendine River, inadequacy of surveying of it, and the impact of works on it, and to the effects of peat slides at Derrybrien, County Galway and Meen Bog, County Donegal.

Community Involvement

Reference is made to the lack of community involvement and consultation.

The Developers

Reference is made to the applicant and its agent and to activities and procedures which are viewed as improper.

Details attached with the observation included photographs and submissions on tourism and on impact on Hen Harrier and Curlew. The latter comprised a submission from BirdWatch Ireland on the application for a similar development at this location which was withdrawn (P.A. Ref. 20/806).

Patrick Laverty and others are residents living adjacent to the proposed wind farm and Slieve Callan Wind Farm. The observation focuses primarily on the Council's second reason for refusal. Reference is made to the promotion of Slieve Callan Wind Farm as a "community windfarm", to the promises made, and to the buying into it by the local community. It is noted that it is the same consultants that are now predicting negligible impact who also predicted negligible impact for Slieve Callan. Regarding the latter, it is submitted that the spin-off benefits never materialised, the wind farm is in the ownership of multinationals, and the region experiences excessive and unchecked levels of noise and shadow flicker. It is also submitted that the turbines are more intrusive than what was envisaged and are totally overbearing on residences, with quality of life totally diminished. It is noted that TV and telecommunication signals have been severely impacted at several houses. It is stated that there was a lack of meaningful consultation with regard to the proposed wind farm and there is scepticism about the will to enforce planning conditions. The observers submit that, in light of experiences of Slieve Callan Wind Farm and the bigger and more powerful turbines proposed, it is extraordinary that the EIAR concludes there would be no/negligible impact on residential amenity. Testimonies

from local residents submitted to the planning authority are referenced and it is stated that a litany of complaints regarding noise from Slieve Callan Wind Farm have been made to the Council, with Court proceedings currently under way.

6.6. **Further Submissions**

Irish Aviation Authority requested that, in the event of planning consent being granted, the applicant should be conditioned to contact the Authority to agree an aeronautical obstacle warning light scheme, provide as-constructed coordinates, and to notify the Authority of intention to commence crane operations.

7.0 Planning Assessment

7.1. Introduction

7.1.1. This part of my assessment will consider a number of the principal planning issues raised in the appeals and observer submissions. My assessments under the headings of 'Environmental Impact Assessment' and 'Appropriate Assessment' will follow and will also seek to address some of the key environmental issues relating to the proposed development.

7.2. Grounds of Appeal by Cathal McMahon and Lisa Carkill

7.2.1. I note the grounds of the third party appeal and the submission referring to the inadequacy of the proposal under the Planning Act, the inadequacy of information to allow for Environmental Impact Assessment, and the existence of lacunae which does not permit an appropriate assessment to be undertaken.

7.2.2. Regarding the provision of information under the Planning Act, I first note the requirements under the Planning and Development Regulations 2001, as amended, and the acceptance of the application by the planning authority as being in compliance with same. I note the range of plans and other illustrations and drawings submitted. I note that the details of the exact turbine model proposed to be used are

not provided in the application. I acknowledge the general form, dimensions and scale of works provided for the construction of the proposed turbines. I further note the details on the range of turbine dimensions submitted in order to address the concerns arising from the Derryadd judgement. It is my submission that there is a reasonable degree of information on the construction of the proposed turbines which allows for a comprehensive understanding of what is proposed and this allows for an assessment of the likely environmental impacts arising from the construction process associated with turbine construction. I further consider that the range of dimensions considered by the applicant and presented in the application allows the Board to assess the environmental impacts arising from the variations in dimensions that could potentially arise. Overall, I am satisfied that the application details allows for a planning assessment of the proposed development. Where there are deficiencies in information in the application, these are examined and highlighted in my assessment which follows.

7.2.3. Regarding the issues pertaining to the Environmental Impact Assessment Directive, the Board will note that I have undertaken an Environmental Impact Assessment below based upon the information that is provided in this application. I consider that the details provided have allowed me to examine and assess the development proposal as presented, with some exceptions. Where there are deficiencies in information I have brought them to the attention of the Board in my planning assessment, my EIA, and in my recommendation.

7.2.4. Regarding the issue of appropriate assessment, I once again refer to my considerations on deficiencies in information which are highlighted in my planning assessment, EIA and the final recommendation, each of which follow.

7.2.5. Overall, I consider that the third party concerns, in relation to deficiencies in the application which undermine the Board's ability to undertake the range of assessments it has a duty to fulfil, are suitably addressed in my assessment which follows.

7.3. Need for the Proposed Development

7.3.1. Section 1.6 of the applicant's EIAR sets out details on the need for the proposed development. This includes reference to the contribution to Ireland's 2030 renewable energy target and climate action commitments, energy security and reducing import dependency, meeting EU renewable energy targets, reducing carbon emissions and other greenhouse gases with benefits to air quality and human health, and the economic benefits derived from displacing fossil fuel imports, job creation, commercial rate payments, Community Benefit Schemes, etc. I further note that Chapter 2 addresses the compatibility of the proposal with international, EU, national, regional, and local renewable energy policy.

7.3.2. I submit to the Board that, setting aside consideration of the environmental impacts arising from the selected site itself, the principle of the development, i.e. the high-level need for renewable energy projects of the type proposed, is well-founded. The duties and responsibilities in meeting Ireland's commitments to reduce greenhouse gases through projects such as onshore wind farm development are accepted. The need for developments of the nature proposed to meet these commitments is, therefore, also accepted.

7.4. Compatibility with Renewable Energy Policy

7.4.1. I note that wind farm development in principle would be compatible with a wide range of international, EU, national, regional and local policies relating to the reduction in greenhouse gas emissions, the promotion of renewable energy, and the role of onshore wind energy development. This includes the following:

- The Kyoto Protocol, an international agreement to which Ireland is a party to, which seeks significant reductions in total greenhouse gas emissions to no more than 13% above 1990 levels;
- The Paris Agreement, which provides for a limitation of the global average temperature rise to well below 2 degrees Celsius above pre-industrial levels and to limit the increase to 1.5 degrees Celsius;

- The Renewable Energy Directive, which requires EU Member States to adopt a national renewable energy action plan (NREAP) and therein to set out national targets for the share of energy from renewable resources;
- The Climate Action and Low Carbon Development Act 2015, which provides for the establishment of a national framework with the aim of achieving a low carbon, climate resilient and environmentally sustainable economy by 2050;
- The National Mitigation Plan arising from the above Act, which aims to provide the statutory basis for the transition to a low carbon, climate resilient and environmentally sustainable economy;
- The provisions of the Climate Action Plan 2023 which sets out the actions over the coming years to address the impacts which climate may have on Ireland's environment, society, economic and natural resources. Reference is made to onshore wind continuing to play a vital role in increasing the decarbonisation of the electricity sector particularly over the next five years, along with solar energy. Key Targets include Renewable Electricity Share increasing to 50% by 2025 and to 80% by 2030, with a target of 6 GW for Onshore Wind for 2025 and 9 GW for 2030.
- The National Renewable Energy Action Plan, following on from the Renewable Energy Directive, which sets out the national targets for the share of energy from renewable resources to be consumed in transport, electricity, and heating and cooling;
- The National Planning Framework, which promotes renewable generation and generation at appropriate locations to meet national objectives towards achieving a low carbon economy by 2050 (National Policy Objective 55);
- The Regional Spatial and Economic Strategy for the Southern Region, which recognises the need to safeguard and enhance the environment through sustainable development, transitioning to a low carbon and climate resilient society, and which has supporting Regional Policy Objectives including the pursuit of a low carbon energy future (RPO 87), to support the National Mitigation Plan and the National Adaptation Framework: Planning for a

Climate Resilient Ireland (NPO 88), and to support the sustainable development of renewable wind energy (RPO 99); and

- Clare County Development Plan, which objectives includes the encouragement of proposals for renewable energy developments and ancillary facilities in order to meet national, regional and county renewable energy targets, and to facilitate a reduction in CO_2 emissions and the promotion of a low carbon economy.

7.4.2. It is reasonable to conclude from the provisions and objectives of the above that the development of a wind farm would be consistent with the aims of reducing greenhouse gas emissions, improving renewable energy production, and contributing to the aim of achieving a low carbon economy. While I acknowledge that there is clear policy emerging on development of offshore wind farms, it remains the case that the development of onshore wind farms is considered to be an integral part of the delivery of renewable energy in the pursuit of decarbonisation of the electricity generation sector.

7.5. **Community Engagement**

7.5.1. I acknowledge the provisions set out in the Department of the Environment's "*Wind Energy Development Guidelines*" under Section 4.4 titled 'Public Consultation with the Local Community' which refers as follows:

"Planning authorities should encourage developers to engage in public consultation with the local community. While it is not a mandatory requirement, it is strongly recommended that the developer of a wind energy project should engage in active consultation and dialogue with the local community at an early stage in the planning process, ideally prior to submitting a planning application."

7.5.2. The Guidelines also outline how the consultation process could be developed. Best practice guidance on the pre-application public consultation is set out in Appendix 2. The Appendix notes that providing the public with a good flow of information about a proposed development can avoid conflict in the future. It also refers to it being helpful

to circulate information pertaining to a wind farm proposal to community groups, churches and clubs within approximately 10km radius in the form of a formal letter, project information leaflet, posters and advertising, and providing a pre-paid response form.

7.5.3. I note the third party submissions to the planning authority and the observations to the Board and the references to the inadequacies and/or limited extent of consultation with the local community by the applicant. I further note Appendix 2-2 of the applicant's EIAR which sets out the extent of community engagement. Therein, it is submitted that the project's Community Liaison Officer distributed information to households within 1.5km of the site boundary, visiting approximately 61 homes between 3rd February 2020 and 20th March 2020. Information was provided on contact details and leaflets were provided on the applicant's renewable energy projects and wind information and on biodiversity in the area. Further consultation in April 2020 was abandoned due to Covid-19. Advertising was placed in the Clare Champion newspaper directing people to the project website for information and a letter was delivered to 98 houses within 2km of the site. A public information evening was held in Milltown Malbay Community Centre on 29th September 2020. Due to Covid-19 restrictions, attendance was facilitated by appointment only. Since the announcement of the project, dedicated contact details have been provided and in September 2020 a dedicated project website was launched. I also note Section 2.5 of the EIAR which highlights the degree of consultation with interested bodies and agencies at the scoping stage of the EIAR.

7.5.4. With due regard to the above, I note that this planning application was lodged with Clare County Council on 18th November, 2021. The implications of Covid-19 on direct public consultation with the local community is evident and the very limited degree of face-to-face contact is understandable. I, however, must note from what is known of the information available to the public, it would appear that the level of project-specific information was scant. It would appear that there was significant reliance on a couple of leaflets for community understanding of the project. There also appears to have been a significant reliance on the local community who would be affected by the project having to access the project's website. It is also reasonable to observe that the community engagement was very much at a 'local' or

indeed an ‘immediate neighbourhood’ level, with homes between 1.5km and 2km being contacted by the applicant.

7.5.5. Further to the above, I note that Planning Application 20/806 for the wind farm was lodged with Clare County Council in October 2020 and was withdrawn in January 2021, while Planning Application 21/370 for the wind farm was lodged in April 2021 and withdrawn in September 2021. It is not clearly understood if the public consultation that the applicant has referred to in the EIAR took place in relation to the proposed development now before the Board or if it related to one, two or all three of the planning applications. In my opinion, the applicant’s actions of lodging applications and withdrawing them and making new applications must have created a high degree of confusion amongst the public about the nature and extent of the proposed development and if such a project was genuinely being pursued. These actions have done very little to allow one to come to a conclusion that community engagement was in any way orderly, meaningful and informative.

7.5.6. Overall, I must consider that the public consultation associated with this project constitutes a confusing approach by the developer. The degree of detailed information available on the project itself appears to have been somewhat limited. The confusion and limitations could only have heightened public concerns, in my opinion, and I submit that this is most unsatisfactory. I recognise, however, that the applicant is not obligated under the Planning Act or any guidance to engage further with the local community and has not contravened any legal requirements. However, the poor handling of public consultation, in light of three separate planning applications during the period which the applicant submits public consultation was ongoing, must be highlighted.

7.6. **Consideration of Alternatives**

7.6.1. I first acknowledge that the applicant’s consideration of alternatives included a ‘Do Nothing’ option, alternative renewable energy technologies, alternative turbine numbers and models, alternative layouts and development design, alternative transport route and site access, and alternative mitigation measures. It was a reasonably extensive examination of alternatives in my opinion. The main reasons

for selecting the chosen option as opposed to the range of alternatives were provided. I note that the applicant's range of alternatives did not include alternative site locations. I acknowledge that the EIAR sets out details on the principles of wind farm site selection and identifies how the proposed site meets with such principles. It is further acknowledged that the site for the proposed development is within areas designated in the Clare Wind Energy Strategy that are a 'Strategic Area' and 'Acceptable in Principle'. The need to examine other sites elsewhere as alternatives is not required in this instance, in my opinion.

7.6.2. In conclusion, it is my submission to the Board that the applicant has undertaken consideration of reasonable alternatives in the planning application. I cannot conclude that this application fails to comply with the requirements of the EIA Directive.

7.7. Impact on Biodiversity

7.7.1. Introduction

I acknowledge the wide range of submissions made to the planning authority and to the Board on ecological impacts. The upland nature of the site is acknowledged as well as the extent of conifer plantation which has been planted on blanket bog. The watercourses on and in the immediate vicinity of the site are noted. The downstream watercourses are acknowledged as likely to provide suitable habitat for Atlantic salmon, brown trout, European eel and Lamprey. The Board will note later my concerns relating to peat storage and site drainage and the impacts on waterbodies on and adjoining this site. These are principal concerns which have potentially very serious impacts for biodiversity on and beyond this site. I acknowledge the concerns that arise relating to bat collision and mortality and impacts on other fauna known to use the site. However, I consider that the principal planning concerns on biodiversity relate to the impact on Marsh fritillary and the ornithological impacts arising from the proposed development, and for Hen Harrier in particular.

7.7.2. Clare County Development Plan

I note the provisions of Clare County Development Plan. I particularly acknowledge the objectives to ensure the protection and conservation of areas, sites, species and ecological networks/ corridors of biodiversity value outside of designated sites throughout the County (CDP 14.7) and to protect and promote the sustainable management of the natural heritage, flora and fauna of the county through the promotion of biodiversity, the conservation of natural habitats and the enhancement of new and existing habitats and to promote the conservation of biodiversity through the protection of sites of biodiversity importance and wildlife corridors, both within and between designated sites and the wider Plan area (CDP 14.11).

7.7.3. Habitat Impact

I note the submission to the planning authority by the Development Applications Unit of the Department of Housing, Local Government and Heritage. It has been acknowledged that the Climate Change Advisory Council (CCAC) has said in its technical report accompanying the proposed carbon budgets to Government that "*Renewable energy infrastructure and forestry plantations must not be at the expense of biodiversity, already in a crisis of its own*." This is an important observation when considering this principal planning issue. If the proposed development proceeds, it will result in the direct loss and degradation of two Annex I habitats, namely *Erica tetralix* and blanket bog. The Department submits that Annex II otter and Marsh Fritillary, which occur on the site, are potentially negatively impacted and that at least five Annex IV species in need of strict protection occur within the development site and could be potentially impacted. It is further submitted that four Annex I bird species occur at the site, namely Golden Plover, Hen Harrier, Merlin and Peregrine Falcon, with Osprey passing through the site along proposed turbine locations.

7.7.4. Marsh Fritillary

The Department notes that a breeding colony of Annex II Marsh fritillary occurs on the site and that some of the proposed infrastructure would be sited adjacent to suitable habitat and locations where colonies of the species have been mapped. The DAU submits that it would be challenging to provide suitable habitat as compensation or mitigation. It is my submission to the Board that the likely impact on Marsh fritillary by the proposed development would be significant and it would be adverse. The likely disturbance at the construction stage and adverse effects on this protected species and its habitat are clear, given the scale, extent and proximity of works associated with this project. The applicant will be relying on fencing off sensitive areas adjoining substantial construction works. It proposes to manage likely intrusion into very sensitive areas at the edge of significant industrial-scale construction work areas, namely close to proposed turbines 1, 2, 7 and 8 and associated new roads. I draw the attention of the Board to Figure 6-10 of the EIAR. I submit to the Board that it can be reasonably ascertained that this species of conservation value is prevalent at this location due to the abundance of Devil's-Bit Scabious, aided by the remote nature of the site from industrial-type disturbance and other manmade interference.

One must be openly practical in considering the likely impact of the proposed development on this Annex II species. If the development proceeds at the location proposed, the habitat will most likely be substantially altered, interfered with and, ultimately, the value of the habitat will be degraded and lost. This is an unacceptable threat to this protected species and the proposed development would evidently be proceeding at the expense of highly sensitive biodiversity in this instance.

7.7.5. <u>Hen Harrier</u>

I acknowledge the Department's substantial submission on the impact on Hen Harrier. The following is noted:

- The site of the proposed development is used by Hen Harrier for foraging (winter and breeding season), with possible breeding also recorded.
- The West Clare area is nationally important for Hen Harrier and wind farms are known to have significant negative effects on foraging for the species. The site is part of the West Clare Uplands Important Bird Areas (IBA) Hen Harrier

population and it overlaps with an identified NPWS Hen Harrier Higher Likelihood Nesting Area (HLNA) zone within the IBA. Two further HLNAs occur within 2km of the site, a fourth is within 5km and eight more occur between 5km and 8km.

- The population of the area is becoming more important due to the declining Harrier numbers within the current Special Protection Area network.
- With regard to displacement effects from upland wind farms, a 53% reduction of flight activity is predicted within 500m of turbines.
- The vast majority of the site is comprised of potentially suitable foraging habitat and the displacement effects will result in the loss of a large foraging resource.
- There was no full assessment of in-combination effects and cumulative impacts regarding the overall wind farm/turbine/grid effects for the West Clare Harrier population.
- The proposal could lead to a reduction in food supply and the avoidance of foraging habitats could have effects on breeding success or productivity, which may lead to gradual population decline.
- Habitat connectivity would be likely to be an important consideration in wind energy development management and spatial planning for Hen Harrier and habitat fragmentation could also occur, manifested by the barrier effect of turbines.
- The site is important for wintering Hen Harrier and the species winter foraging resource could be negatively affected by the proposal. The abundance of prey species (such as thrush species including Redwing within the site) would be a valuable resource which may be impacted. The avoidance of, or barrier effect response to, the turbines would potentially compromise winter survival, with continued usage of the site outside the breeding season having consequences in terms of overall collision risk.

- There would be potential negative effects on breeding during the summer months arising from effects on suitable foraging habitat and cumulative impacts.
- The applicant's cumulative impact assessment is inadequate.
- The applicant's Enhancement Plan would not be acceptable compensation nor mitigation for the habitat loss and there is reasonable scientific doubt as to the efficacy of the measure. The provisions have limitations and the plans are not prepared or assessed. The enforceability of conditions affecting third parties is a potential issue. There are concerns about privately funded schemes being in conflict with State and EU nature conservation-related farm schemes. The NPWS will not be in a position to discuss individual plans.

From the EIAR it is noted that Hen Harrier was recorded by the applicant on 23 occasions during vantage point surveys, on five occasions during breeding bird surveys, and on five occasions during winter transect surveys. Further incidental observations were made and activity beyond the site in the vicinity of Slieve Callan is noted. I submit to the Board that the site location and its environs are definitively of national importance for Hen Harrier, and most likely of international importance as Hen Harrier numbers within the current Special Protection Area network across the country wanes. Furthermore, this area is also known to be important for breeding Hen Harrier. It would be naive not to recognise that the extensive development of wind farms at this location has significantly contributed to the decline of Hen Harrier in this area and that the proposed development, sited alongside Slieve Callan Wind Farm, would have a significant adverse cumulative impact. There will be direct habitat loss and fragmentation, habitat degradation, and disturbance and displacement of this Annex I species. There is no doubt that there has been a significant decline in nesting Hen Harrier in this area. The cumulative impact of further wind farm development will only have one significant effect on Hen Harrier, that being to remove more of this protected species from this area. One can be assured that this development would be proceeding at the expense of sensitive biodiversity if it is developed.

I note the applicant's proposals to seek to mitigate the evident outcome for Hen Harrier. However, it must first be noted that the proposed development would likely have direct adverse impacts by way of collision and mortality in the early years. It would also result in direct habitat loss and fragmentation, would facilitate habitat degradation, and would cause disturbance and displacement beyond this site. The applicant's main compensation measure is to provide a Hen Harrier Enhancement Plan (Appendix 7-7 of the EIAR). I note the submission of the Department on this proposal. One needs to be wholly practical about the applicant's proposal. This is a plan which seeks to provide alternative lands as compensation which do not form part of the development site. They are lands not in the control of the applicant. As the Department points out, there are no plans. They are not prepared or assessed and there is reasonable scientific doubt as to the efficacy of such a proposal. The Department expressly issues a concern about a privately funded scheme being potentially in conflict with State and EU nature conservation-related farm schemes. I seriously question the applicant's ability to guarantee and ensure that the proposed lands would and can be appropriately managed to enhance Hen Harrier habitat, namely to have total control over measures such as vegetation and planting regimes, animal stocking densities, pesticide control, forestry management, etc. I also query how the applicant can ensure that its proposed scheme would not conflict with NPWS proposals for the protection and enhancement of Hen Harrier in this area. Furthermore, the ability and guarantee to maintain suitable land uses throughout the lifetime of the proposed wind farm must be challenged, with the applicant not being the landowner and the plan falling outside of the development boundary of the proposed wind farm development. Finally, I suggest that a plan that is premised upon arrangements with landowners, which are not legally binding contractual agreements, would not be enforceable and, in my opinion, would not be upheld and maintained over the life of the wind farm. It is noted from the plan that the applicant submits that it (the applicant) would ultimately be responsible for the implementation of the management measures of the plan. This is notwithstanding the ownership of the lands being outside of its control. This is not practical compensation for the direct loss of Hen Harrier, its habitat and breeding and foraging territory. One needs to be realistic about the functionality of such concepts, particularly in the context of the specific sensitivity of this location and the significant cumulative impacts that would result with Slieve Callan Wind Farm.

Further to the above, I note that Section 7.10 of the EIAR refers to where the Board put in a condition requiring the use of a section 47 agreement relating to the Slieve Callan Wind Farm in reference to its proposed Hen Harrier Enhancement Plan. The Board will note that this is not comparable as that was an agreement with the planning authority on implementing and monitoring a conservation and habitat management plan. This is not the same as section 47 agreements with individual landowners and should not be taken as meaning there is some established precedent on such a matter.

Overall, it is my submission that this proposed development would definitively and significantly adversely impact on this national (and likely international) area of importance for Hen Harrier. Taken together with established wind farm development, which itself presents as having significantly adversely impacted on Hen Harrier in this area, it is apparent that this proposal would result in habitat loss and fragmentation, habitat degradation, and disturbance and displacement of this protected bird species. I am satisfied to conclude that this proposed development would have a significant adverse impact on Hen Harrier. The applicant's mitigation measures would not address the real outcome for this protected species, namely adverse effects relating to the existence of this species of conservation value at this location. The applicant's mitigation measures are not binding and, thus, are only conjecture at this stage. The development of larger and higher turbines on the proposed site, together with the cumulative effect with other wind farms, clearly would increase the displacement of the Annex I species in this area. It would affect breeding birds. It would increase the barrier effect with other wind farm development. It would also have significant impacts by way of collision and mortality. Such impacts could reasonably be seen to likely extend to other Annex I bird species surveyed by the applicant at this location.

The significant decline in Hen Harrier at this location is as a result of habitat loss by human-related activity. Wind farm development undoubtedly makes a substantial contribution to this decline. It most certainly has not contributed to any enhancement of habitat and the conservation of Hen Harrier. The existence of a pair of nesting

Hen Harrier in the immediate vicinity of the site is not as a result of the development of Slieve Callan Wind Farm. It is a clear sign of decline in the value of this area arising from extensive wind turbine proliferation in this area.

7.7.6. Other Bird Species of Conservation Value

The Board will note the concerns of the Department of Housing, Local Government and Heritage in relation to an extensive range of other bird species of conservation value likely to be adversely impacted by the proposed development. I refer to the following:

Curlew

The DAU submits that NPWS has two pre-2015 records of Red-listed breeding Curlew in the area. This is a species of conservation value that has been subject to dramatic decline nationally. The site is viewed as a potential breeding site in terms of habitat but the direct and indirect effects from the proposed development are seen as potentially eliminating this suitability. The effect in terms of displacement was also noted, with an effect of up to 800m clearly indicating a particular vulnerability. The extent of wind farm development in heath and bog at this location contributes substantially to the decline of this species in West Clare and the cumulative impact by more and larger turbines on heath and bog should not go unmissed. I note that this species of conservation value is not referred to in the applicant's Collision Risk Assessment (Appendix 7-5 of the EIAR).

Golden Plover

The Department notes that this Annex I species occurs and forages on the site, with 11 observations less than 200m from proposed turbine locations. The collision risk for the species was acknowledged. I note that the applicant's Collision Risk Assessment (Appendix 7-5 of the EIAR) estimates in Table 3-7 that the collision probability assuming no avoidance would be 140.75 per annum and 2.82 per annum

using avoidance rates outlined in SNH (Scottish Natural Heritage). Regarding the latter, the estimated loss of 84/85 of the Annex I species over the lifetime of the wind farm is acknowledged. The applicant appears to seek to play down the collision impact by referring to the annual mortality of adult Golden Plover being calculated at 27% per annum and the substantial numbers of the county's population of this species. It would be relevant to note how much of this relates to natural death. Mortality caused by manmade intrusion, such as by wind farm development, cannot readily be aligned with such mortality and should not be without express clarification.

The Board will note from the EIAR that Golden Plover was recorded on 14 occasions during vantage point surveys and that all but one recording occurred within the potential collision height. The importance of the flock in this area beyond the Shannon and Fergus Estuary has been highlighted by DAU and it is submitted that the loss of at least 6.5% of the flock per annum does not appear to be acknowledged in the application. As well as direct habitat loss, a far larger habitat loss through displacement is noted. There is no compensation habitat proposed and there is no understanding of the area that would be lost through displacement. The same concerns for Hen Harrier are seen to arise for Golden Plover with cumulative impacts, inclusive of habitat displacement and loss. The Department also submits that there may be disturbance effects. The Board should note that Golden Plover is an Annex I species and a Red-listed species in Ireland due to the significant declines in breeding population and breeding range and declines in wintering populations. I submit yet again that one can reasonably be assured that this development, if it proceeds, will be at the expense of sensitive biodiversity at this location.

Red Grouse

Red Grouse were recorded by the applicant on ten occasions on the site during dedicated Red Grouse surveys and were also recorded during vantage point and breeding bird surveys. The Department notes the Red-listed status of this species, referencing the 50% decline in range in the last 40 years. This species occurs within

the site, holding a resident breeding population, and the site clearly provides suitable habitat. The sedentary nature of Red Grouse and its susceptibility to habitat loss and fragmentation and changes in habitat quality are acknowledged. The presence of other wind farms, particularly Slieve Callan immediately adjoining this site, compounds the likely adverse impact on the conservation of this species in this area. It is important to highlight that the Department has acknowledged the recording by NPWS of collision mortality for this species at other similar sites. I draw the attention of the Board to the applicant's Collision Risk Assessment (Appendix 7-5 of the EIAR) wherein this species of conservation value is not referenced.

Kestrel

It is apparent from the applicant's own survey recordings that this species of conservation value is highly active within this site. This is evident from the significant numbers of recordings during vantage point surveys, breeding bird surveys, breeding raptor surveys, and winter transect surveys. DAU notes that this Red-listed species was recorded foraging on the site during breeding and winter seasons and that there is possible nesting at the site. Its susceptibility to collision and the applicant's predicted collision rate are acknowledged. No cumulative impacts with other wind farm development were provided on potential collision effects and no information has been given by the applicant on the area and whether other kestrel nesting pairs already utilise the foraging habitat in the wider area. The Board will note the predicted high annual collision risk assuming no avoidance from the applicant's Collision Risk Assessment (35) and the loss of 19 of this Red-listed species over the lifetime of the wind farm using avoidance rates outlined in SNH.

Common Snipe

This Red-listed species has been recorded regularly during the applicant's site surveys, inclusive of vantage point surveys, breeding bird surveys, and winter transect surveys. The DAU notes the proposed development would result in the loss of breeding and foraging habitat directly and by displacement. The majority of open

habitat on the site is located within 500m of turbines and, as a result, there would be significant effects on the site's population. Once again, DAU notes that no data was provided on the area or information on whether any other separate snipe nesting pairs already utilise suitable habitat in the area. The same issues on cumulative impacts on Hen Harrier, Golden Plover, etc. are seen to apply to this species, including on displacement, habitat loss, amount of similar habitat affected, etc. I acknowledge the low collision risk predicted by the applicant in its Collision Risk Assessment. I also note that the applicant submits that the predicted rate of collision for this Red-listed species may be underestimated as flight activity for the species is predominantly crepuscular and the vantage point surveys undertaken were largely diurnal. Overall, it would be remiss not to observe that habitat loss, the effects on breeding and foraging, and displacement would drive out more of this species of conservation value in this upland area.

Merlin and Peregrine Falcon

The Department notes that these Annex I species were recorded within the site and within the collision risk zone. The abundance of suitable habitat within the area and the lack of assessment of this habitat are acknowledged. Direct habitat loss and/or degradation and disturbance effects for Merlin in particular have been acknowledged by the Department, as are indirect effects such as reduced density of prey species resulting from wind farm development.

Woodcock

The Department notes that a breeding population of Woodcock was recorded on the site. Woodcock is a Red-listed species. The Department references the barrier effect and acoustic effect interfering with display flights and mating on this species of conservation value and potential displacement is a concern. I note that this species of conservation value is not referred to in the applicant's Collision Risk Assessment (Appendix 7-5 of the EIAR). I also note that this bird of conservation value is predominantly crepuscular. It is apparent that much of the surveying was undertaken

during daytime. Thus, I would submit that recording attained for this species may be underestimated.

Further to these bird species specifically referenced by the Department, I note the applicant's survey recordings of Buzzard immediately adjoining the site and Sparrowhawk within the site, including from breeding bird surveys. Many of these recordings were of birds flying at the potential collision height with proposed turbines. Another important observation to make is that the applicant's EIAR submits that the BoCCI Red-listed Meadow Pipit was recorded regularly during surveys. This is a preferred prey species for Hen Harrier and its incidence, along with the significant number of recordings of Hen Harrier, indicate the value and sensitivity of this location.

7.7.7. Conclusion on Ornithology

It is very clear from the above that the site of the proposed development is significant in terms of biodiversity and its ornithological value must not go unnoticed. It is my opinion that the applicant ultimately seeks to address impacts on bird species of conservation value by constructing the proposed development, removing/eroding habitat, thus eliminating the value of the site for nesting, breeding, and foraging and, therefore, after early years of collision and mortality, ensuring that the matter is addressed by the site being avoided and not being utilised by these species of conservation value.

It is self-evident that this proposed development, alongside the Slieve Callan Wind Farm, will have a significant adverse cumulative impact. The land area for wind farm development that is now squeezing out more and more birds of conservation value is extensive. The EIAR notes that there are 8 wind farms within a 12km radius of the site and there are 72 operating turbines, inclusive of the 29 turbines at Slieve Callan alongside the proposed site. I note from the applicant's cumulative assessment that

the Environmental Impact Statement for Slieve Callan Wind Farm did not note any significant impacts on Golden Plover or Red Grouse and did not specifically mention Kestrel or Sparrowhawk in its assessment. This would suggest to me that the applicant's recordings relating to the site of the proposed development now before the Board heightens the understanding that the site is indeed of significant ornithological value in itself and reinforces the need for conservation and protection of species of conservation value in this area.

I contend that it is inappropriate for the applicant to be submitting, as a ground for supporting this proposal, that the amount of habitat that would be lost by the proposed development would be insignificant relative to the availability of habitat in the wider surroundings or that that the site does not contain habitats that are unique to the local area. One cannot expand development of this nature at such sensitive locations premised upon the availability of habitat elsewhere that has not been assessed and determined to be readily suited and assured in its use by birds of conservation value. The site and its location are a known area of ornithological value, proven by the applicant's own survey findings. Speculating on appropriateness and availability of habitat elsewhere cannot and should not be relied upon. What can reasonably be observed is that the location for the proposed development is of ornithological significance.

I note that the proposed turbines would be significantly larger and higher than the neighbouring turbines. They pose a significant collision and mortality threat. It is futile to argue that the adverse impact would not be significant on this area of West Clare, which is now understood to be of significant ornithological value. Development such as that proposed at this location results in destruction of sensitive biodiversity at the expense of renewable energy infrastructure. If one is to be in any way serious about protecting areas of significant biodiversity value, then one must avoid areas such as this now. One cannot be blinded by a simple designation of an area as suitable for

wind farm development when considering biodiversity destruction and the consequent sterility of sensitive and valued uplands.

7.7.8. Overall Conclusion on Biodiversity

With regard to my assessment on the impact on biodiversity, on Marsh fritillary and ornithology in particular, I cannot reasonably see how such a development could be viewed as being compatible with Objectives CDP 14.7 and CDP 14.11 of Clare County Development Plan.

7.8. Landscape and Visual Impact

7.8.1. Introduction

The physical extent of the visual influence of the turbines, their impact on the natural landscape character, and the effects on amenity value of the area represent the principal issues of landscape and visual concern.

7.8.2. Mitigation by Design

I note that the applicant, in the early stages of its consideration on landscape and visual impact, places an emphasis on 'Mitigation by Design' and refers to a schedule of landscape and visual design considerations that were given due regard (Section 12.1.4 of the EIAR). While acknowledging the siting of turbines within a 'Strategic Area', it is reasonable also to determine that the design of the proposed development has been greatly influenced by the site constraints. The constraints maps shown in the EIAR chapter on alternatives indicate that the layout of the development has been greatly influenced by the necessity to provide required separation distances which include distances from residential properties, from waterbodies within and adjoining the site, from archaeological sites, from telecommunication links, etc. Having regard to the site's constraints, it is noted that the number of turbines of the scale and height proposed that could be accommodated on the site, when all constraints were taken into account, are being accommodated in the application.

7.8.3. Clare Wind Energy Strategy

The Clare Wind Energy Strategy forms Volume 5 of the current Clare County Development Plan. Four classifications have been developed for wind farm development in County Clare and specific objectives pertaining to each are set out. WES Eight relates to 'Strategic Areas'. It is noted that all of the proposed turbines are located within a designated 'Strategic Area'. The following is noted:

Strategic Areas

'Strategic Areas' are considered to be eminently suitable for wind farm development and are of strategic importance because of:

- Good / excellent wind resources
- Access to grid
- Distance from properties and
- Outside any Natura 2000 sites

Projects within these areas must:

- Demonstrate conformity with existing and approved wind farms to avoid visual clutter.
- Be designed and developed in line with the Wind Energy Development Guidelines, Guidelines for Planning Authorities (DoEHLG, 2006) in terms of siting, layout and environmental studies.
- Provide a Habitats Directive Assessment under Article 6 of the Habitat Regulations if the site is located in close proximity to a Special Area of Conservation or Special Protection Area.
- Be developed in a comprehensive manner avoiding the piecemeal development of the areas designated as 'strategic'.

The target wind energy generation from strategic areas is 400 MW

It is reasonable to determine that, in principle, the proposed development would sit comfortably with these provisions of the Clare Wind Energy Strategy, being sited in and utilising land so designated for development of the nature proposed and providing further renewable energy to meet the Strategy's target wind generation. Furthermore, I note that the proposed development would be sited in a location with

known good wind resources, as evidenced by the functioning wind farms in the area. I also note that the site of the proposed development is outside any Natura 2000 sites. The nearest inhabited dwelling is more than 700m from the nearest proposed turbine and it may be understood that this could be seen to be distant from properties. The Board will note my considerations on noise, shadow flicker, visual impact and other issues which impact on residential properties. In general, one can reasonably determine that the site of the proposed development is one which meets with the Strategy definition of a 'Strategic Area'.

I note the provisions of the Strategy which set out the criteria which must be met for projects within a Strategic Area. This section of my assessment will seek to examine how and if the proposed development demonstrates conformity with existing and approved wind farms to avoid visual clutter. From the outset it will be recognised that the scale and height of the proposed turbines are significantly greater than any turbines which exist in the West Clare area, and in particular with the adjoining Slieve Callan Wind Farm (tip heights of existing turbines 125m). The assessment will also consider if the proposed development is designed and developed in line with the Wind Energy Development Guidelines, Guidelines for Planning Authorities (DoEHLG, 2006) in terms of siting, layout and environmental studies. I note that a Habitats Directive Assessment under Article 6 of the Habitat Regulations has been provided as part of the application submission.

Landscape Character Areas

Section 4 of the Clare Wind Energy Strategy addresses Landscape Character Areas (LCAs). I note that the proposed turbines would be located within the designated LCA 17 Slieve Callan Uplands. LCA 17 is seen to have an overall sensitivity to wind farm development of Medium to Low. The area is seen to have the capacity to accommodate a number of large or medium wind farms subject to careful siting to avoid significant impacts on skylines. According to the Strategy, the landscape character of LCA 17 is seen to correspond with the Moorland Mountain of the Planning Guidelines.

My assessment will address the issue of landscape impact and it will also review such matters as skyline impact.

Definitions

When considering the Clare Wind Energy Strategy, it is important to note the definitions set out therein. I acknowledge the following:

- For commercial operations, turbine heights of 75m to 125m to blade tip are assumed, as these represent the range of turbines submitted in planning applications in County Clare since 2000.
- The DoEHLG Wind Energy Development Guidelines, Guidelines for Planning Authorities, 2006 acknowledge that turbine heights will change over time but consider the following definitions

- Small: less than 60 m to blade tip
- Medium: 75 to 100m to blade tip
- Large: over 100 m to blade tip.

In addition to turbine heights, the number of wind turbines in each development has been classified as follows:

- Small – 1 to 5 turbines
- Medium – 6 to 10 turbines
- Large – 11 to 25 turbines
- Very large – more than 25 turbines

The Wind Energy Strategy, however, recognises that turbine heights are increasing and there is no prescription in relation to turbine heights.

From the above, it can be accepted that the proposed turbines are not representative of the range of turbines submitted in planning applications in County Clare since 2000. They are clearly seen as being large turbines, being well in excess of 100m to blade tip. While the number of turbines is seen to be below 11 in number, it is evident that the 8 turbines being pursued on the site are likely to be the maximum which could realistically be accommodated due to the significantly higher turbines proposed and the constraints that would determine turbine siting. With due regard to these considerations, I submit that it is reasonable to determine that the proposed

development represents an exception to the type of wind farm development that is prevalent in this area due to the scale and height of the proposed turbines. They are clearly an exception also when regard is being had to the provisions of the Clare Wind Energy Strategy.

7.8.4. Wind Energy Development Guidelines

Prior to examining the Guidelines, I note again for the Board that the Clare Wind Energy Strategy states that the landscape character of LCA 17 is seen to correspond with the Moorland Mountain of the Planning Guidelines. Given that the proposed turbines are to be sited within LCA 17, it appears suitable to offer due consideration to the Guidelines provisions on this landscape character type. The site is not intensively managed farmland or a patchwork of fields and so should not be mistakenly focused on as a Hilly and Flat Farmland.

I note that the Guidelines refer to six landscape character types to represent most situations as a basis for the Guidelines. They note that it is common that a wind energy development could be located in one landscape character type but would be visible from another. Importantly in the context of the proposed development, the Guidelines state that the entire visual unit should be taken into consideration. The site of the proposed development, being within LCA 17 as defined in the Clare Wind Energy Strategy, appears to the planning authority as being aligned mainly with the Guidelines' landscape character type 'Mountain moorland', if one is to concur with the Strategy. This is notwithstanding parts of the site being covered in commercial forestry. The key characteristics of this landscape character type are stated in the Guidelines to be:

- Peaked, ridged or rolling mountains and upland with steep sides or gently formed valleys;
- Generally unenclosed;
- Landcover comprising blanket bog, a mottling of heather, wild grasses and some rush in wet flushes; and
- A landscape type of relative remoteness and often comprising pristine, unspoilt and remote landscapes.

The upland, generally unenclosed nature of the lands and the underlying natural bogland and vegetation of the site are noted. I refer to the details in the applicant's EIAR on soils and subsoils wherein it is clear that blanket peat is mapped over most of the wind farm site and Figure 8-1 illustrates the extent of blanket peat across most of the site. Thus, much of the landcover would naturally be blanket bog. It is understood that the character of the site has in parts been distorted somewhat in recent times by commercial forestry. However, the area can be understood to be remote where the structures associated with the development are proposed to be constructed.

The Guidelines note that the exposure of mountains and the preference for wind energy developments to be located at high elevations result in high visibility. Given the scale of the proposed turbines relative to what is prevalent in the wider area, it is reasonable to determine that the elevated nature of the site, combined with turbine height, ensure the proposed development would be highly visible.

The Guidelines further state that mountain moorland may be inappropriate for wind energy development for reasons of natural heritage and the fact that some of these landscapes are of rare scenic quality and/or support some of the last wilderness areas of relatively pristine, unspoilt and remote landscapes. I acknowledge that the site of the proposed development is not located in a designated area of natural heritage value nor is it designated as being of rare scenic quality or a relatively pristine landscape in light of the established commercial forestry. I acknowledge the site's significant ornithological value.

With regard to location, the Guidelines imply that turbines may be acceptable in most mountain moorland areas, i.e. on ridges and peaks, in a saddle between two peaks, and lower down on sweeping mountainsides. The Guidelines also note that the spatial extent of a wind energy development can be reduced by using taller turbines. This reference to spatial extent relates to a wind farm in isolation and does not offer guidance on the relationship with an immediately adjoining wind farm development with turbines significantly smaller in height and scale. All spacing and layout options are considered by the Guidelines to be usually acceptable. Reference is made to the

rhythmic grid layout being appropriate to the expanse of moorland, especially when it relates to the geometric blocks of conifers. I do not see that the proposed development seeks to reflect such guidance. I have alluded earlier to the site constraints which have instead been a primary influence on the siting of turbines in this instance. Regarding the issue of height, the Guidelines state that there would generally be no height restrictions on mountain moorlands as the scale of the landscape is so great.

Having regard to the matter of cumulative effect, I note that the Guidelines state that the open expanse of mountain moorland landscapes can absorb a number of wind energy developments, depending on their proximity. It is also acknowledged that the cumulative impact will also depend on the actual visual complexity of landform. The more varied and undulating an area is topographically, the greater its ability is seen to absorb and screen wind energy developments. It is further stated that the aesthetic effect of wind energy developments in these landscapes is acceptable where each one is discrete, standing in isolation. In the context of the proposed development, it may be determined that the proposed development is not understood as a discrete wind farm development standing in isolation. Reference will be made later to the applicant's photomontages to demonstrate this. Suffice to indicate at this time that the proposed development would frequently be understood in views as being an addition to the expansive Slieve Callan Wind Farm and, thus, could not wholly be understood as being in some way isolated from other such development. Further to this, it is clearly understood that this location does not have a distinctly varied and undulating landscape topographically to assist in absorbing and screening the proposed development. Indeed, it is reasonable to conclude that the greater height and scale of the proposed development over that which exists in the vicinity, together with the mountaintop siting, and the continuity of topographical characteristics of this area ensure that the proposed turbines would not be absorbed or screened in any significant manner.

I again note that the Guidelines state that a wind energy development may be located in one landscape character type but may be visible from another and that, in such an instance, the entire visual unit should be taken into consideration. It is evident from the scale of the proposed development that its visibility extends over a very wide area that encapsulates a number of other Landscape Character Types, which include 'Hilly and flat farmland' and 'Transitional marginal land'. Having regard

to this observation, it is accepted that one cannot wholly determine that the appeal site falls neatly within a *Mountain Moorland* landscape character area. Thus, it may reasonably be determined that the impact of the proposed development on landscape character is particularly complex in this instance. It is also reasonable to observe that the scale, height and siting of the proposed development are somewhat incomparable with other wind farm development in the vicinity and the proposal would produce structures of vastly greater visibility over an extensively greater geographical area. The other landscape character types proximate to this wind farm site would be greatly influenced by the proposed development, impacting on amenity value and distorting landscape sensitivities.

Overall, if the proposed development was to be taken in isolation in a mountain moorland landscape, it is reasonable to determine that the proposed development may be seen to fit with the general guidance provided. However, it is clearly the cumulative impact with existing and permitted wind farm development which causes particular concern. I note for the Board at this time the decision of the planning authority and the reference to the impact of the proposed development when taken in conjunction with existing and permitted wind turbines in the area.

7.8.5. Other Clare County Development Plan Provisions

The County Development Plan identifies three types of “Living Landscapes”. The site of the proposed development is located within a designated “Settled Landscape” where sustainable development is deemed to be appropriate and acceptable. There are designated “Heritage Landscapes” in the wider area, notably to the west and north-west along the coastal edge (including the Cliffs of Moher) and some 15km to the north at the Burren. These are areas where natural and cultural heritage are given priority. It is further noted that the Burren and Cliffs of Moher form a UNESCO Global Geopark, which constitutes a landscape of international importance. Consideration will be given to the visual impact on such areas when the applicant’s photomontages are reviewed. It is acknowledged at this time from Table 12-6 of the EIAR that actual visibility of the proposed development would be extensive for the

Cliffs of Moher and Lahinch, from Malbay Coastal Farmland, and from the Burren Uplands.

The Development Plan recognises the need to protect and conserve views from public roads by designating “Scenic Routes”. There are seven designated Scenic Routes within the applicant’s defined study area for landscape and visual impact assessment. Objective CDP 13.7 relating to Scenic Routes seeks to protect sensitive areas from inappropriate development, ensuring proposed development takes into consideration their effects on views from public roads, and ensures appropriate standards of location, siting, design, finishing and landscaping are achieved. I note Scenic Routes, in particular Scenic Routes SR1, SR6 and SR15. Consideration will be given to the impact on Scenic Routes when the applicant’s photomontages are reviewed.

7.8.6. Visual Impact

Zone of Theoretical Visibility (ZTV)

As part of the applicant’s assessment of visual impact of the proposed wind farm development, the generation of a Zone of Theoretical Visibility, with a radius of 25km from the outermost proposed turbines, was devised. The ZTV represents the area over which the development would theoretically be seen within that 25km radius. It is apparent that the visibility of turbines would extend substantially beyond a 25km distance. The ZTV indicates broad areas where the visibility of the development is most likely to occur, how much is most likely to be visible, and the extent and pattern of visibility. It presents a ‘bare ground’ scenario, i.e. without screening structures or vegetation. I note that the applicant’s ZTV shows the visibility of the proposed wind farm using the half blade height of the wind turbines as a point of reference and not the visibility of the hubs or blade tips of the turbines. The ZTV also indicates the number of turbines that would potentially be visible to half blade. Figure 12-5 and Appendix 12-4 of the EIAR show the half blade ZTV.

Before considering the ZTV undertaken by the applicant, it must first be noted that the proposed turbines would be very large, very high vertical structures and, as a result, they would be visible, recognisable and distinctive over a vast geographical area. They would be distinctly larger and higher than other turbines in the area. Wind turbines up to 175m high to blade tip placed on upland areas would have a very significant degree of visibility over a very wide geographical area in the context of this location. It is not a question of from where they are hidden or from where they would be screened. A development of this nature would have direct impacts on the interpretation of the natural landscape because of its form, scale and degree of visibility. These direct impacts cannot be graded readily by alluding to intermittency or piecemeal reading of impacts in a landscape of this nature as a result of vegetation in a defined location, a bend on a road, the location of a hill, or some other minor intrusion on visibility over a short distance. A development of this scale should, in my opinion, always be read with regard to a true sense of impact, which is in the context of a location, such as within a high amenity area. Accepting its visibility in its context, one may then determine whether this visibility in this location is acceptable or not. These large turbines would be seen. They would be prominent. They would come into views from near and far. They would impact on the setting of mountain and lowland. This is the reality of a development of this scale at this location.

Returning to the ZTV, it is unsurprising to note that the applicant's own modelling shows that the visibility of the turbines would be very expansive. The proposed development would have a distinctive visual influence to the north, west and east. The restriction on visibility to the south is understood as Slieve Callan lies to the south-east. Slieve Callan has 29 turbines developed on it. It is clear that the proposed turbines would be highly visible from several designated Heritage Landscapes along the coastline to the west, from the Cliffs of Moher to the north-west, from the Burren to the north, and from Seascape Character Areas, Scenic Routes, Recreational Routes such as the Wild Atlantic Way and the Mid-Clare Way, and some of the county's most important tourist amenities, notably along coastal edges. I note the provisions of the Clare County Development Plan as they relate to views and prospects. It is acknowledged that many of these are located along identified scenic routes. The planning authority recognises that there is a need to protect and conserve views adjoining public roads throughout the county where

these views are of high amenity value. In conserving views, it is not proposed that this should give rise to the prohibition of development along these routes but development, where permitted, should not seriously hinder or obstruct these views and should be designed and located to minimise their impact. Based upon the context of the proposed development, I consider that it is reasonable to determine that the site lies within an environmentally sensitive location in West Clare and should be understood as such.

In conclusion, I submit that the applicant's ZTV ably demonstrates the prominence of the proposed development at this location. This impact is reinforced by the height, scale, and number of turbines placed at elevated locations and where they would fail to retain hilly backdrop and would consistently produce highly prominent development on the skyline. While again noting what the ZTV actually represents, i.e. a 'bare ground' scenario, one cannot but acknowledge that existing conifer plantation on parts of the site would do little to screen turbines of the height proposed.

Photomontages and Visibility from the Public Realm

I propose initially to offer considerations on the 17 photomontages presented as part of the applicant's EIAR which formed Volume 2. From the outset, I wish to state that the representation of the likely visual impact arising from views selected by the applicant forms a reasonable illustration of the visibility of the turbines when viewed from the specific points presented. They are representative of views from designated scenic routes and views from these roads, settlements, recreational and tourist destinations, recreational routes, and transport routes. These views have been confirmed. The views presented may reasonably be determined to be location-specific and it is evident that viewpoints could have been selected elsewhere, such as other settlements, tourist destinations, etc., to indicate a varying degree of visibility.

Before addressing the individual views, I draw the attention of the Board to the section of the EIAR on Interactions and in particular 'Population and Human Health, and Landscape and Visual' on page 15-4. Therein it is stated:

"*The erection of turbines in particular will change the existing landscape. Whether the long-term change in landscape created by the erection of the turbines is deemed to be positive or negative is a subjective matter. What appears to be a positive visual effect to one viewer could be deemed to be a negative effect by another*."

Having regard to this, I accept that there is a strong degree of subjectivity in determining visual effect on the landscape. It is inevitable, in my view, that there would be divergence of opinion on such matters.

It is acknowledged that the applicant has presented each of the photomontages with a blade length of 66.5m, a hub height of 108.5m, and tip height of 175m. An alternative turbine configuration is also presented with a blade length of 75m, a hub height of 100m, and tip height of 175m for four viewpoints, namely VPs 03 and 17 to represent short-range views, VP09 to represent a medium-range view, and VP05 to represent a long-range view.

Photomontage 1

View 1 is taken from a distance of 19.2km to the north-east of the nearest proposed turbine (Turbine 5) from a local road that forms part of designated Scenic Route 6 and the Burren Way.

The applicant's assessment of visual impact refers to the existing turbines in the view as being very small features within the landscape. It is, however, apparent that they are the distinct and most prominent man-made features impacting on the natural landscape in this view. The applicant considers the proposed turbines form a "coherent cluster" and that they are very small features within an extensive view. It is then acknowledged that the proposed development would increase the horizontal extent (i.e. the linear impact) of turbines visible within the landscape. The applicant considers the magnitude of change to be negligible and the significance of effect to be slight.

The baseline photograph presents an expansive landscape view across and beyond Parknabinna Wedge Tomb. Slieve Callan Wind Farm is prominent to the left of centre, with turbines protruding above the mountaintop. The view is otherwise

unaffected by wind farm development. The cumulative photomontage highlights the prominence of the proposed development. Its turbines present as a linear extension across the ridgeline in the view. Ultimately, the eye is drawn to these prominent ridgelines at the end of the view. Having regard to their increased scale and height relative to the turbines of Slieve Callan Wind Farm, they are distinctly more prominent. Having regard to the cumulative linear impact, wind farm development becomes a significant component of the view, notwithstanding the distance between the photo location and the site for the proposed development. The reading of Slieve Callan and Slieveacurry as natural landscape features is greatly distorted by the presence of the prominent turbines on the uplands. As a location that could be understood to be representative of a view from the Burren National Park, it is apparent that the proposed development becomes a distinctly prominent feature from this location and impacts visually on views from the UNESCO Global Geopark. It evidently also expands the impact of wind farm development that intrudes on the views of the natural landscape gained from the Scenic Route. The impact would be distinct and the proposed development would become a significant man-made feature on the landscape in this view.

Photomontage 2

View 2 is taken from a distance of 8.1km east of the nearest proposed turbine (Turbine 5) from the village of Inagh on the N85 National Road.

The applicant's assessment of visual impact acknowledges the intrusion on the view of the proposed turbines by a tree and a pole, which affect visibility of four of the eight proposed turbines. The applicant considers the horizontal extent (i.e. the linear impact) of the proposed turbines within the landscape to be small. It is further submitted that the turbines are small as background features above the horizon of the landscape. It is also considered that the proposed development and Slieve Callan turbines are seen to be of similar scale and it is contended that the separation between the two wind farms across a slightly lower ground clearly defines the two wind farms as separate visual units. The applicant has concluded that the character

of the view would remain similar to the baseline existing condition and that the significance of effect would be slight.

The baseline photograph is dominated by the built-up area of the village. There is a clear view of the top of one turbine from Slieve Callan Wind Farm just left of centre in the photograph, with small parts of blades of a couple of other turbines seen through scrub. In the cumulative photomontage, the proposed turbines become prominent in the view, a couple of which are fortuitously slightly masked by a tree in behind an outbuilding in the village and another couple by a pole directly in front of the location from where the photo is taken. A step or two to the left of this location and these masked proposed turbines would be significantly more prominent. The proposed development presents as a linear expansion to the existing turbines along the upland ridge in the view. They are distinctly prominent features that break the skyline. They are more prominent than the existing turbines due to the increased height and scale and the reduced effectiveness of natural screening. Their definitive physical differences can be ascertained from the applicant's "Matching Wireframe". I note the applicant acknowledges the skyline impact, referring to the turbines as background features above the horizon of the landscape. Strangely the applicant has accepted the linear pattern of turbines that would develop in this view (the "horizontal extent"), while then proceeding to argue that the separation between the two wind farms across a slightly lower ground clearly defines the two wind farms as separate visual units. There appears to be some confusion in this assessment. There can be no doubt that the proposed development forms a linear expansion of wind farm development in this view. Any reasonable perusal of the existing and proposed wind farm developments in this view would determine that the proposal reads as an extension of the existing wind farm, not as any discernible separate wind farm development. The scale of the proposed turbines, the ridgetop siting, linear pattern, and rotating blades will ensure that they are features to which the eye would be drawn in the view. There is little by way of screening of the proposed development. It is apparent also that they would be highly prominent from Regional Road R460 westwards from the junction of the Good House and Sean Ó Rinn's public houses. The proposed development would not have a 'Slight' effect in views at this location. They would be prominent ridgetop vertical structures that would add cumulatively in a significant manner to the linear pattern of wind farm development in the view.

Photomontage 3

View 3 is taken from a distance of 1.4km east of the nearest proposed turbine (Turbine 5) from Regional Road R460 in a rural area between Inagh and Spanish Point in the vicinity of a local school and church.

The applicant acknowledges that all turbine components of the proposed development are visible above the horizon. The magnitude of change in the view is determined by the applicant to be 'Moderate', with change considered readily noticeable but not substantially different in scale and character from the surrounding and wider setting. The significance of effect is seen to be 'Significant'.

The baseline photograph is dominated by Slieveacurry, which occupies most of the view. There is no existing wind farm development in this existing view. The cumulative photomontage introduces each of the proposed turbines as large vertical structures breaking the skyline, being sited on the ridgetop of Slieveacurry. They are highly prominent features in the view and completely distort the view of the natural landscape. They would be the domineering features in this view due to their scale, height and ridgeline siting. By any reasonable standards, the visual impact in this view would go beyond the normally understood definition of 'Moderate', i.e. average or medium. The view is unequivocally changed greatly by the proposed turbines. This would be expected given their scale, height, ridgeline setting and proximity.

Photomontage 4

View 4 is taken from a distance of 3.1km south of the nearest proposed turbine (Turbine 7) from Regional Road R474, which is a designated Scenic Route (SR15).

The applicant submits that the proposed development increases the horizontal extent of turbines seen within the landscape and contends that the proposed development and the turbines of Slieve Callan Wind Farm are of similar scale and design specification. The magnitude of change is seen to be 'Moderate' and the significance of effect is considered to be 'Significant'.

Slieveacurry is the prominent landscape feature in the centre of the baseline photograph. Slieve Callan wind turbines form a distinctive grouping of substantial features to the right in the photograph. In the cumulative photomontage, the proposed turbines are highly prominent structures that break the skyline yet again. Contrary to what the applicant submits, I contend that this again is a fine example of how the proposed turbines will be clearly understood as significantly greater in height and scale over those of the neighbouring Slieve Callan Wind Farm. The existing turbines are without doubt clearly discernible as smaller structures. I note the valley between the two wind farms allows some understanding of both being read as separate developments in this view. I repeat my considerations on View 3, i.e. that the visual impact in this view would go beyond the normally understood definition of 'Moderate', i.e. average or medium. The view is unequivocally changed greatly by the proposed turbines. This has a distinguishable impact on the views of the natural landscape from the designated Scenic Route.

Photomontage 5

View 5 is taken from a distance of 9.1km south-west of the nearest proposed turbine (Turbine 7) from the eastern edge of the village of Mullagh.

The applicant submits that the proposed turbines are small features in the wide and expansive view and acknowledges that the proposed development would increase the horizontal extent of turbines visible within the landscape, while at the same time considering the ground between them causes visual separation and mitigates cumulative visual effects from minor differences in height and specification. The magnitude of change is seen to be 'Slight' and the significance of effect is determined to be 'Slight'.

The baseline photograph is dominated by the extent and visibility of turbines of Slieve Callan Wind Farm close to the centre of the view. Many of the existing turbines are clearly viewed as being downslope of the ridgetop of Slieve Callan and, thus, have the benefit of the substantial backdrop of the mountaintop. Slieveacurry is

understood as a distinctly separate landscape feature from Slieve Callan. The cumulative photomontage introducing the proposed development could not be in much greater contrast. The difference is scale and height of the proposed turbines over the existing turbines is easily understood. The proposed turbines each present as skyline development, with no mountaintop background. While set on a separate mountain, the linear spread of turbines across the ridgelines is apparent, demonstrating a clear cumulative visual impact in the view. One cannot reasonably determine the impact on this view to be 'Slight' in the normal understanding of the term, i.e. small in degree or inconsiderable.

Photomontage 6

View 6 is taken from a distance of 16.6km south-west of the nearest proposed turbine (Turbine 7) from Doonbeg Golf Course where it is intersected by a pedestrian access to the Blue Flag Doughmore Beach.

The applicant submits that, at this distance, the proposed development is seen as a small, neat and coherent cluster of turbines on the horizon. It is contended that, due to the separation distance from other developments and differences in scale, the proposal is defined as an independent wind farm development. The magnitude of change is considered to be 'Slight' and the significance of effect is viewed as 'Moderate'.

The baseline photograph is taken when the sky colour and mist (apparently) masks the visibility of Slieve Callan Wind Farm in the distance in the centre of the view. Existing wind farm development at Cahermurphy and Glenmore can just about be seen at the extreme right side in the view. It can be clearly ascertained once again that the mountaintop of Slieve Callan forms a distinct backdrop to many of the existing turbines, thus limiting their adverse skyline impact and prominence. The cumulative photomontage demonstrates the contrast of the proposed development with Slieve Callan Wind Farm as the skyline is continually punctured by the proposed development, presenting as sitting on top of Slieveacurry. While there is a distinctive gap between these existing and proposed wind farms, it is clear that the linear spread of turbines along the ridgelines in the uplands in the distant view are

recognised. This is a fine representation of how views inland from the coastal location are being greatly altered by the spread of wind farm development. I note that the prominence of the existing and proposed development and the spread of expansive wind farm development can be read and understood better in different clearer weather from this location. The difference in scale and height of the proposed turbines when compared to those of Slieve Callan can again be noted from the applicant's "Matching Wireframe". It is apparent that the visibility of the proposed development would be distinctly greater in this view, notwithstanding the distance of 16.6km. I do not consider that the magnitude of change would be 'Slight' and the significance of effect would be 'Moderate' because the proposed turbines would form the most prominent wind turbines in this view, they would break the skyline, and because they would contribute to the linear expansion of wind farm development along the distant ridgelines from a sensitive coastal location.

Photomontage 7

View 7 is taken from a distance of 10.4km south-west of the nearest proposed turbine (Turbine 7) from the N67 National Road on the northern edge of Quilty village. This section of road forms part of Scenic Route 1 and is on the Wild Atlantic Way.

The applicant submits that the proposed turbines would be seen as "very small features" and as a coherent cluster on the elevated Slieveacurry Plateau in the background of the view. It is acknowledged that all turbines would be viewed above the horizon (i.e. skyline development) and also that they would be seen in conjunction with the existing Slieve Callan Wind Farm, increasing the horizontal extent. It is further submitted that the low ground between the two developments would cause visual separation. The applicant determines the magnitude of change to be 'Slight' and the significance of effect 'Moderate'.

The uplands of Slieveacurry and Slieve Callan are distinct landscape features in the distance in the centre of the baseline photograph. The expansive turbines of Slieve Callan Wind Farm are prominent but sited on its slopes, with the higher parts of the

mountain forming a notable backdrop. The cumulative photomontage introduces the proposed turbines sitting prominently on top of Slieveacurry as clear skyline development. The greater scale and height of the proposed turbines are very much distinguishable in this montage and these turbines present as much more prominent. The Matching Wireframes ably demonstrate this also. Notwithstanding a distance of 10.4km, the proposed development makes a significant visual impact and landscape change by distorting the remaining natural uplands as skyline development. The valley between the two mountains separates the two groupings of turbines but the linear pattern of the spread along the ridgelines will be clearly understood from driving this road. There will not be a differentiation gauged between two wind farms and continuity of turbines along the ridgelines will be experienced. The cumulative effect would, therefore, be significant along this Scenic Route and tourist road. The expanse of functioning turbines will undoubtedly distract the attention of the viewer away from coastal views and towards the uplands, creating a significant intrusion on the tourist route in this sensitive Malbay Coastal Farmland Landscape Character Area. These impacts will arise when driving from Spanish Point southwards or from Quilty northwards.

Photomontage 8

View 8 is taken from a distance of 8km west of the nearest proposed turbine (Turbine 7) from the N67 National Road close to its junction with the road to nearby Spanish Point. This section of road forms part of Scenic Route 1 and is on the Wild Atlantic Way.

The applicant submits that the proposed turbines are visible as a neat and coherent cluster, with most turbine components visible above the horizon (i.e. breaking the skyline). It is contended that the turbines are seen as small elements in the background in comparison to the telecommunication poles in the view. It is also submitted that the proposed development is visually separate from Slieve Callan Wind Farm and is viewed as an independent development. The magnitude of change is determined to be ‘Slight’ and the significance of effect ‘Moderate’.

Being a short distance up the road from the location of View 7, the impacts are in many ways very similar and clearly demonstrate the likely experience for the tourist

and road user along this section of Scenic Route and the Wild Atlantic Way. It could reasonably be determined that both Slieveacurry and Slieve Callan are more prominent natural landscape features in the view shown in the baseline photograph. Once again the siting of the turbines of Slieve Callan Wind Farm below the mountaintop is a significant feature in this baseline photograph. The contrast could not be more different when the proposed turbines are introduced as prominent skyline development, dominating the top of Slieveacurry, in the cumulative photomontage. The separation of the two wind farms is less discernible in this view, with the linear spread of turbines along the ridgeline being even more emphasised by the siting of the proposed turbines on the top of Slieveacurry. The development is clearly prominent and significantly adds to the cumulative impact on the natural upland features and on views from the main road. The physical differences in scale and height between the proposed turbines and the existing turbines are definitively discernible in this view. A 'Slight' magnitude of change is somewhat of an understatement.

Photomontage 9

View 9 is taken from a distance of 5.5km west of the nearest proposed turbine (Turbine 7) from Regional Road R474. This road forms part of designated Scenic Route 15.

The applicant acknowledges that all proposed turbine components are visible above the horizon (i.e. they break the skyline) and it is considered that they are of an appropriate scale when compared with other vertical features in the view. The increase in the spatial extent of wind turbines is accepted. It is submitted that the difference in turbine scale defines the proposed and existing wind farms as separate renewable energy developments. The applicant has determined the magnitude of change to be 'Slight' and the significance of effect to be 'Moderate'.

The baseline photograph is dominated by electricity and telephone lines and poles in the foreground. Slieveacurry is visible in the centre of the photo with existing overhead lines and associated poles appearing to run parallel to and in front of the ridgeline. Slieve Callan Wind Farm turbines are seen to the right of centre and their siting below the mountaintop and the backdrop of the mountain is yet again a

distinguishable feature of that development in the view. The cumulative photomontage shows the significantly larger and higher proposed turbines all breaking the skyline, with most turbines presenting as being on top of the mountain. Due to the scale, height and siting, there is no confusion with established poles and overhead lines in the foreground. The proposed turbines are clearly the dominant features in the view. The difference in scale and height with those of the existing turbines is self-evident in this view. The proposed development greatly adds to the linear expanse of turbines along the ridgelines in this view, exacerbated by their scale, height and mountaintop siting. The cumulative visual and landscape impacts arising are, therefore, significant. 'Slight' and 'Moderate' are terms not too easily accepted when one rationally assesses the landscape and visual impact in this view.

Photomontage 10

View 10 is taken from a distance of 1.4km north-west of the nearest proposed turbine (Turbine 3) from a local road. This view is presented as being representative of the visual impact on local residential amenity.

The applicant notes that the proposed turbines would be seen as large and prominent features within the landscape. It is submitted that the open nature of the elevated moorland enables the proposed development to be sufficiently absorbed by the landscape. The magnitude of change is determined as being 'Substantial' and the significance of effect as 'Significant'.

The baseline photograph is dominated by the slopes of Slieveacurry, showing an expanse of bogland and moorland, with commercial forestry running along the ridgeline. Several of the existing turbines associated with Slieve Callan Wind Farm project above the ridge in the background, with most upper sections breaking the skyline. The cumulative photomontage is a fine example of how a development of this scale and height will impact on nearby residential properties from a visual and landscape perspective. It is first acknowledged that the proposed turbines are closer than the existing turbines, thus their greater visual presence at this closer distance would be expected. However, the scale and height differences are stark and the mountaintop siting and the breaking of the skyline, with no backdrop of any natural upland to lessen the visual impact, are apparent. For the residential property visible

in the photomontage the proposed turbines would at the very least be domineering. They would have a significant impact on the visual amenity of a property such as this, evidently much greater than the substantially screened and more distant existing turbines. I cannot comprehend why the applicant determines that the open nature of the elevated moorland enables the proposed development to be sufficiently absorbed by the landscape. I would ask the question: Where does the landscape absorb these turbines in this view? I consider that determination to be irrational. In real terms for the residents of this area, the landscape and visual impact must be seen as significant, bringing a profound change to their experience of the landscape and to their visual amenity.

Photomontage 11

View 11 is taken from a distance of 8km north of the nearest proposed turbine (Turbine 2) from the N67 National Road within the town of Ennistymon.

The applicant notes that the proposed turbines would be visible on the horizon (i.e. would break the skyline) and considers they would be mostly screened by intervening landform and treelines. It is further submitted that all turbines would be seen above the horizon with no landscape as a backdrop, mitigating the impact of any visual confusion that may arise from visual stacking. It is considered that the horizontal extent of turbines is small and does not obstruct any views of the background landscape. The turbines are viewed as very small features in the background. The applicant has determined the magnitude of change to be 'Slight' and the significance of effect to be 'Slight'.

The baseline photograph is dominated by the physical development associated with the town. There are no existing turbines from Slieve Callan Wind Farm apparently visible in this photo, although beyond the SuperValu building some upper parts of turbines would be expected to come into view in the distance. The cumulative photomontage shows the proposed development as rising above the ridgeline in the distance. Clearly, rotating turbines would attract a viewer's attention from this location. The urban setting and undulating nature of the streetscape in this area would result in sporadic views of the proposed development. However, it is reasonable to determine that the proposed turbines would become a distinguishable

component of the view. The scale, height and siting of the proposed turbines, where they break the skyline and when compared to the existing turbines, are yet again notable features and these turbines would contribute cumulatively and in a substantial manner to the visual impact of wind farm development in the upland area to the south from this town. I note that the applicant submits that the horizontal extent of turbines is small and turbines do not obstruct any views of the background landscape. One can reasonably determine from the photomontage that the proposed turbines occupy most of the upland in the distance that frames the view and could not be seen to occupy a small horizontal extent in this view, particularly where the eye is drawn to the green rural landscape and the rotating turbines placed upon the highest component of that landscape in the view. I do not accept that they would be "very small features in the background of the view" as it is evident that they would be prominent and substantial structures in the view. The term 'Slight' yet again underplays the real visual impact.

Photomontage 12

View 12 is taken from a distance of 9.1km north-west of the nearest proposed turbine (Turbine 1) from the R478 Regional Road on the northern approach into the town of Lahinch. This section of the road forms part of designated Scenic Route 1 and is also part of the Wild Atlantic Way.

The applicant submits that the proposed development would comprise a small horizontal and vertical extent of the landscape view and the turbines are seen as being appropriately scaled, as a neat and coherent cluster on the elevated ridge. It is further submitted that the appropriate scaling allows the proposed turbines to be identified as a separate independent development, positioned on a hilltop in close proximity to the Slieve Callan turbines. It is contended that the proposed development does not significantly increase the horizontal extent of turbines in the landscape. The magnitude of change is determined to be 'Slight' and the significance of effect 'Moderate'.

The baseline photograph is dominated by Inagh Estuary, O'Brien's Bridge and Lahinch Golf Course in the foreground, the town in the mid-distance and the upland

framing the view in the distance. Turbines from Slieve Callan Wind Farm are notable in the centre of the view and, as stated on numerous occasions, these turbines sit below the mountaintop and have the upper sections of the mountain as significant backdrop, minimising their prominence on the skyline. In stark contrast the cumulative photomontage shows the proposed turbines as being highly prominent, with the increased scale and height of these turbines very notable. This prominence is exacerbated by most of the turbines presenting as being located on top of the ridge, emphasising their visibility and incongruity with the natural landscape. Their height and scale significantly stress the proximity of the wind farm development to the town relative to the adjoining Slieve Callan Wind Farm. Further to this, it is clear that the proposed development forms a significant linear extension of turbines along the ridgeline framing the view, with the exception that the proposed turbines would be understood to be a lot higher and greater in scale and having a more detrimental landscape and visual impact because of the lack of backdrop and the consistent breaking of the skyline. Landscape views from this important tourist route would be greatly distorted by the proposed development. The proposed functioning turbines would become the prominent features in the view.

Photomontage 13

View 13 is taken from a distance of 10.2km north-west of the nearest proposed turbine (Turbine 1) from a viewing area off a local road on the costal edge of the north side of Liscannor Bay. This location is also on the Liscannor to Cliffs of Moher coastal walk.

The applicant submits that the proposed turbines would be seen as relatively small features and acknowledges that they would be viewed above the horizon (i.e. they would break the skyline). It is further submitted that the proposed development would be seen as a coherent cluster, with a small horizontal extent. The magnitude of change is seen to be ‘Slight’ and the significance of effect as ‘Significant’.

The baseline photograph is a panoramic view across Liscannor Bay. The uplands in the distance frame the view. The upper parts of some of the turbines of Slieve Callan Wind Farm are just discernible in the photograph. The contrast with the proposed

turbines is self-evident in the cumulative photomontage. They clearly present as being forward of the existing turbines. Their increased scale and height are well emphasised in this photomontage, as is the breaking of the skyline. I note that the applicant considers that the proposed turbines would be seen as a coherent cluster. I do not know where the clustering is occurring as they present primarily as a line of turbines on the ridge. Rather than being incidental in the view in the manner the existing turbines are, the proposed turbines form formidable components of the view, notwithstanding it being an expansive panoramic view and the separation distance involved. The rotating turbines of the proposed development would unquestionably draw the eye in this view and it would be mistaken not to acknowledge the actual visual effect this would have on the viewer who one anticipates is seeking to enjoy the coastal panorama. With the functioning turbines of Slieve Callan Wind Farm behind, it would be apparent that a cumulative impact would result, albeit that the more prominent proposed turbines would command the lion's share of the visual impact from turbines across the bay. There can be no doubt that the proposed development would have a significant landscape and visual impact in this view.

Photomontage 14

View 14 is taken from a distance of 13.6km north-west of the nearest proposed turbine (Turbine 1) beside the visitor car park for the Cliffs of Moher visitor centre on Regional Road R478. This is part of designated Scenic Route 1 and the Wild Atlantic Way.

The applicant submits that the horizontal and visual extent of the proposed development is very small in the open panoramic view. It is noted that the proposed turbines are viewed against the backdrop of Slieve Callan. It is further noted that the development does not increase the horizontal extent of turbines seen in the landscape but that it does increase the density of turbines seen within a narrow field of view. It is submitted that the proposed turbines are seen as slightly larger turbines than those of Slieve Callan Wind Farm, distinguishing them as an independent cluster. The magnitude of change is determined to be 'Slight' and the significance of effect 'Significant'.

The baseline photograph is dominated by the towns of Liscannor and Lahinch and Liscannor Bay in the mid-distance and the viewed is framed by the upland ridges on the far side of the bay. Slieve Callan is the prominent landscape feature in the centre of the view and many of the existing turbines are distinguishable in the view. It is worth repeating yet again that many of these turbines sit below the summit of the mountain and therefore their visual impact is reduced by having the backdrop of the upper parts of the mountain. Three turbines of Cahermurphy Wind Farm can be made out on the right side of the view, with their impact reduced by increased distance and appearing as being sited on lower lands. With the cumulative photomontage, once again the proposed turbines take on a wholly increased visual impact over those of Slieve Callan, evidently being closer but also being higher and greater in scale. It is acknowledged that Slieve Callan aids as a backdrop in this view. However, the contribution the proposed turbines would make in the view has to be acknowledged due to their greater scale and height. Indeed, they would become significant features in the view, the most significant wind farm features in this panoramic view. The proposed development would be understood as a cumulative build-up of turbines with Slieve Callan Wind Farm. There would be no clear and distinguishable separation between wind farms in this view and thus the proposed and existing turbines would be understood as a single grouping and not independent of each other. The significance of effect by the proposed development would indeed be ‘Significant’.

Photomontage 15

View 15 is taken from a distance of 17.4km north of the nearest proposed turbine (Turbine 2) from Main Street in Lisdoonvarna.

The applicant determines the magnitude of change to be ‘Slight’ and the significance of effect to be ‘Moderate’.

The baseline photograph shows the view a road user would have, which is focused on the rural landscape south of Lisdoonvarna in the centre of the view. The view is flanked by roadside development. There are no views of wind turbines in this photograph or if there are they cannot be made out. The cumulative photomontage

introduces turbines into the view of the rural landscape, arising from the visibility of the proposed wind farm development. While the impact could not reasonably be viewed as visually significant, it is testament to the height, scale and prominent siting of the proposed turbines that they are clearly distinguishable in a view while sited more than 17km away.

Photomontage 16

View 16 is taken from a distance of 1.3km south-west of the nearest proposed turbine (Turbine 7) from Regional Road R460. This view is presented as being representative of the visual impact on local residential amenity.

The applicant notes the proposed turbines would be viewed above the horizon (i.e. they would break the skyline). The visibility of turbines in the wider area from Slieve Callan Wind Farm are noted. The magnitude of change is seen to be 'Substantial' and the significance of effect as 'Significant'.

The baseline photograph shows farmland and the upland of Slievecurry, with coniferous plantation dominating the left side of the view. In the cumulative photomontage the proposed turbines that are visible present as huge structures, dominating the view and dominating the skyline. As with Photomontage 10, this is a fine example of how the proposed development would appear to those living in close proximity to structures of this height and scale. It is apparent these turbines would have a profound effect on the character of the landscape at a local level and a clear negative impact on the visual amenity experienced by residents of such an area.

Photomontage 17

View 17 is taken from a distance of 1.3km south-east of the nearest proposed turbine (Turbine 6) from Regional Road R460. This view is again presented as being representative of the visual impact on local residential amenity.

The applicant notes that the proposed turbine components would be viewed above the horizon (i.e. they would break the skyline). The visibility of turbines in the wider

area from Slieve Callan Wind Farm are noted. The magnitude of change is seen to be ‘Substantial’ and the significance of effect as ‘Significant’.

The baseline photograph is of Slieveacurry with a patchwork of moorland and coniferous plantations. The cumulative photomontage demonstrates well the huge scale and height of the proposed turbines and how they become such dominant structures in the view, each presenting as being on the top of the mountain and significantly breaking the skyline. These would be highly oppressive structures in landscape and visual terms for any residential property in such a location. There would be profound change for occupants of any dwelling here.

Conclusions on Photomontages

I first wish to acknowledge the ‘Mitigation Factors’ which the applicant introduces in its assessment of views after offering a determination on ‘Significance of Effect’ and before determining the ‘Residual Effect’. I note that the applicant consistently refers to the turbines being located in a ‘Strategic Area’ for wind energy development as a principal mitigation factor. This not a mitigation factor when one is considering a physical landscape and visual impact. The designation of an area cannot, and should not, change the assessment of the actual physical impacts. Such a ‘Mitigation Factor’ must be ignored in an assessment of a physical impact and cannot be used to lessen the actual significance of effect. Further to this, the emphasis on components of the proposed development not obstructing any landscape views is regularly used and is entirely misplaced because invariably this is used when, in reality, the proposed turbines break the skyline. This exacerbates the physical presence of the turbines in the view by sitting proud on the top of the mountain with no backdrop to lessen their prominence. The applicant also refers to the visual separation between the proposed development and Slieve Callan Wind Farm when such perceptions demand to be challenged as such conclusions are not readily drawn in views. The use of limited visual stacking as another mitigation factor is itself limited when one is discussing the scale and height of the proposed turbines and it

frequently does very little to address actual landscape and visual impact. Reference to screening is made in several instances and it is again apparent that the proposed turbines are not being hidden due to their scale, height and siting. It is also a frequently submitted mitigation factor that the proposed development presents as a neat and organised cluster when this is clearly challengeable because the turbines distinctly and significantly expand the linear presentation of turbines on the uplands with Slieve Callan Wind Farm. It is also apparent that what constitutes small background or minor features are entirely debatable and are based on subjective opinion. Electricity and telephone lines and poles have miniscule effects in terms of intrusion on a landscape view relative to the scale and height of the structures that are the subject of this planning application. They do not 'mitigate'. I have deliberately avoided the consideration of the applicant's 'Mitigation Factors' for the most part in my assessment above because they are in no way mitigation factors and/or because they most certainly cannot be relied on as 'Factors' which truly mitigate the landscape and visual impact.

Further to the above, one cannot reasonably determine that the proposed turbines are in some way on a par with those of Slieve Callan Wind Farm, because the site is on a lower mountain. The applicant's visual assessment has ably demonstrated such a conclusion as the substantially higher and greater scale turbines, together with their consistent breaking of the skyline, unequivocally show that the proposed development is at a completely different and greater scale to that which exists.

I now wish to consider assessment and meaningful interpretation. Landscape and visual impact assessment requires honesty, in my opinion. It should not be couched in nuanced language. The assessment must read as meaningful and be presented in easily understood language. There should be no confusion in terms such as 'Slight', 'Moderate', etc. based on a plethora of qualifications to attain such conclusions. 'Slight is slight, i.e. small in degree. 'Moderate' is moderate, i.e. average in degree. I observe that big turbines have big landscape and visual impacts. This is self-evident.

However, just because one admits to this it does not necessarily mean that a proposed wind farm development would be automatically refused for reasons relating to adverse landscape and visual impacts. If this was the case, then no wind farm development would ever be permitted. Development such as that proposed would have significant landscape and visual impacts in many locations in the vicinity of the wind farm site. This should be openly admitted. There is no hiding turbines with tip heights of 175m.

In considering the applicant's photomontages, I acknowledge the sensitivity of the West Clare landscape. The locations from which views have often been taken from, notably coastal locations and important tourist and scenic roads and sites, are important locations visually. The impact of the proposed development from such locations should not be underplayed or ignored. A development of the nature and scale proposed clearly impacts on the quality of views and experience of the landscape gained from such areas. I understand that such impacts may be seen by some as being adverse and by others as having a positive or neutral effect. This reflects the applicant's considerations from the EIAR set out earlier wherein it is stated: "*What appears to be a positive visual effect to one viewer could be deemed to be a negative effect by another"*. However, what must be recognised is that the natural landscape (i.e. the most valued component of the coastal and scenic landscapes), and views and experience of them, are distorted, frequently to a greater degree by development of the nature proposed when compared to other new development being introduced in the view which is not of such significant scale, height and consequent high level of visibility.

Further to the above and as a general observation, I submit that the views that may be termed 'local' would undergo profound landscape and visual change when perceived by neighbouring residential properties and when travelling along the local roads. This would be expected, given the scale, height and proximity of the proposed turbines in the views. I consider that it is not credible that the applicant could

conclude that the residual effects for Views 3, 4, 10, 16 and 17 are ‘Moderate’. One could not rationally concur with these conclusions based upon any reasonable meaning of that word.

I note that the median range views between 5 and 10km (Views 2, 5, 8, 9, 11 and 12), with the exception of View 12, are deemed to have ‘Residual Effects’ that are ‘Slight’. I put it to the Board this ably demonstrates the subjectivity of appearance as alluded to above. My own subjective opinions on these views greatly vary from the applicant’s findings.

Regarding the more distant views, i.e. greater than 10km from the wind farm (Views 1, 6, 7, 14, and 15), ‘Residual Effects’ are deemed by the applicant to be either ‘Not Significant’ or ‘Slight’, with the exception of View 14 from the Cliffs of Moher visitor centre which are considered ‘Moderate’. These views are mostly from highly sensitive coastal locations and they are examples of effects from within sensitive coastal locations by development that lies outside of such locations. It is accepted that there are significant distances to the proposed wind farm in such views and that with distance comes reduced visibility. It is also accepted that views in such locations are expansive and the wind farm development is only one component within a wide, expansive view. However, at the scale and height proposed, their intended siting, and the functioning of rotating turbines, to suggest they will not be relevant in the view is misleading because they will. That obvious fact does not mean that the landscape and visual impact necessarily is so great that the proposed development cannot be tolerated in these views. It simply means that the proposed turbines will have a real, physical presence in the view such that they will be noticed and will become a new distinguishable feature in the expansive view and they impact on the natural landscape.

Regarding the issue of cumulative impact, the chosen views have displayed an array of visual presentations which demonstrate that the proposed development can

frequently be understood as an extension to the existing Slieve Callan Wind Farm and may otherwise be viewed as a continuum of turbines along the uplands in this location. What can be reasonably ascertained is that the proposed development, given the turbines' scale, height and location on the mountaintop, will contribute significantly to a landscape change in a landscape which is already subject to an expansive array of turbines in the immediate vicinity. This is an issue which is clearly of concern to the planning authority and is an observation which is difficult to fault. The question is whether the landscape and visual impact is so great by the addition of the proposed turbines and would be so adverse, causing injury to the visual amenities of the area, so as to warrant refusal of planning permission on these grounds.

Finally, I wish it noted that my considerations above relate to all of the applicant's photomontages. I submit that the comparative montages with different turbine component dimensions do not make any material difference in the determination of landscape and visual impact.

7.8.7. Conclusions on Landscape and Visual Impact

I submit to the Board that there would be no doubt that the proposed development would have a significant landscape and visual impact on the natural environment, both locally and over greater distances from houses, roads, scenic routes, and tourism and amenity locations. The height, scale and siting of the proposed turbines would ensure the development would be highly visible, indeed more visible than the existing wind farm development adjoining the site. The existing turbines associated with Slieve Callan Wind Farm have a tip height of 125 metres. The proposed turbines would have a tip height up to 175 metres. This additional 50 metres in height is significant in terms of the additional extent of visibility. The visual effect is exacerbated by the prominent siting of turbines on top of Slieveacurry. This visibility cannot be considered to be 'Moderate, 'Not Significant', or 'Slight' as the applicant seeks to present. Such terminology is simply misplaced when one is talking about the height, scale and siting of the proposed turbines. The applicant's photomontages

demonstrate how substantial the landscape and visual impacts would be. The prominence of a development of this scale emphasises the frequently exposed nature of the landscape and how there are expansive views throughout much of this area. The prominence and skyline nature of a development of this scale must be openly acknowledged. The impact of this development would change the understanding of the natural landscape in many instances. Incongruity with the natural landscape should be openly acknowledged and the interpretation should not be fudged by presenting 'mitigation factors' that simply do not physically mitigate and cannot physically mitigate a development of this scale. Finally, there must be an honesty in the considerations of the cumulative impact of the proposed turbines. Wind farm development in this part of West Clare can reasonably be determined to be extensive. This proposal is intended to sit alongside an existing wind farm development. This proposal would significantly add to the extent of turbines on the uplands in this area. The proposal would also clearly expand the linear spread north-westwards in the direction of scenic, tourist and amenity locations and routes that are clearly recognised as being of importance and value, inclusive of tourist locations of national and international importance. The natural landscape is the principal tourism and amenity asset of these locations. This landscape has been greatly affected by wind farm development to date and it is a fact that the proposed development would add further in a substantial manner to this. The proposed development does not have a minor landscape or visual impact as one could interpret from the applicant's assessment.

I must acknowledge that the significant landscape and visual impacts that would result from the proposed development would have very significant landscape and visual impacts on the amenities of its neighbouring residents in the vicinity. The local community would experience landscape and visual changes to their home environment. This is a reality of the impact of a development of this scale and height when one would be residing in close proximity to it. Whether 700m or 2km from the turbines, it is apparent from the applicant's own visual assessment that these turbines would have a profound visual presence. It is futile to argue any differently, otherwise one simply does not understand the concepts of scale and height in this instance.

I acknowledge the Clare Wind Energy Strategy, which the planning authority has adopted as part of its County Development Plan, and which distinctly includes this site as being within a designated 'Strategic Area' for wind farm development. It is an obvious observation to make that the planning authority can only have expected more wind farm development to occur at this location at the time of the adoption of its Strategy. The consequential landscape and visual impacts of wind farm development had to be understood at that time. I suggest that the Strategy implies that the planning authority is actively promoting development of this nature at this location. While recognising the significant landscape and visual impacts arising from the proposed development, I consider that a refusal of permission based on the first reason given by the planning authority on landscape and visual impact could be questioned when one has regard to the Clare Wind Energy Strategy and the planning authority's assessment. The planning authority's first reason for refusal in its decision relates to injury to visual amenities in general terms and is without great clarity in so being. It would be my understanding that the 'Strategic Areas' would have had to have been specifically designated in the Clare Wind Energy Strategy with due regard to landscape and visual impact. I do not see, either in turbine numbers and output, how the proposal falls outside of the provisions of the Clare Wind Energy Strategy in relation to its provisions for 'Strategic Areas'. However, the scale, height and siting on the mountaintop of the turbines is another matter. I must conclude that there arises a significant degree of confusion when one considers other provisions of the Clare County Development Plan. It is essential to point out that the designation of an area as a Strategic Area is a designation only and this designation is subject to defined caveats. A designation does not give *carte blanche* to wind farm development. I must acknowledge Objective CDP 8.40 of the Development Plan. This sets out the requirements to be met for renewable energy and a proposed development is obligated to meet each of the requirements laid down. Each are important and relevant and the obligation is clearly on an applicant for a renewable energy project to demonstrate how each is met, while it is the duty of the planning authority, or the Board in the event of an appeal, to assess the proposal against these requirements. The Objective includes the following:

E *To strike an appropriate balance between facilitating renewable and wind energy-related development and protecting the residential amenities of neighbouring properties;*

It is difficult to reconcile the clear adverse landscape and visual impacts for neighbouring residents arising from the proposed development with this part of the Objective. The amenities of neighbouring residents would be substantially undermined. For this reason, I consider that the second reason for refusal given by the planning authority has merit. It is the specific locations, siting and scale of this proposed wind farm development which injures residential amenity. These impacts could potentially be reduced by alternatives to the locations, siting and scale of turbines in a manner which allows such a development to be compatible with both the Clare Wind Energy Strategy and Objective CDP 8.40 of the Clare County Development Plan.

I also note that the site is located with a designated 'Settled Landscape' in the County Development Plan. I fail to see how the siting of the proposed development is directed towards minimising visual impacts, how it avoids intrusions on ridges and how it attempts to avoid a more visually prominent location. Thus, it can reasonably be concluded that the proposed development distinctly conflicts with Objective 13.2 of the Plan. Further to this, I contend that the siting, scale and height of the proposed development as provided for within the Strategic Area has not taken into consideration their effects on views from designated Scenic Routes and, thus, can be seen to conflict with Objective CDP 13.7 of the Plan.

Finally, I conclude that the proposed development would have very significant landscape and visual impacts. The turbines' scale and height are substantially higher than those which exist in the area. The siting of these huge structures is very poor, exacerbating their visual impact by their placement on the mountaintop with no reduction in impact by any backdrop. The proposed development would have a significant cumulative impact. In general terms, it may not be seen to conflict with the provisions for designated Strategic Areas deemed suitable for wind farm development but clearly it conflicts with Objectives CDP 8.40, 13.2 and 13.7. Because the site is within a Strategic Area for wind farm development, it should not mean that very poorly sited turbines should necessarily be allowed to be developed. This may be an issue which the Board may consider in its deliberations leading to a determination which could concur with the planning authority's more general conclusions. The proposed development undoubtedly would have profound landscape and visual impacts for those living near it and it would intrude on views

from highly sensitive tourist and amenity locations, primarily along the coast of West Clare.

7.9. The Management of Waste Materials

7.9.1. It is estimated by the applicant that the quantity of peat requiring management on this site arising from the construction of the proposal would be 55,800m^3. The access roads would generate approximately 56% of this waste peat. The quantity of other spoil requiring management is estimated to be 54,700m^3. This gives a total of 110,500m^3. The applicant is proposing to dispose of most of this material in the two worked out borrow pits. The borrow pits would be located on hillsides where the land is naturally peat-dominated. One can readily gauge the steeply sloping nature of the locations for these waste repositories from Figures 4-6 and 4-7 of the EIAR.

7.9.2. The applicant submits that, as rock is being extracted from the borrow pits, upstands of rock are proposed to be left in place, *depending on the type of rock*, to act as intermediate retaining buttresses. It is further submitted that, *where this is not achievable*, stone buttresses are to be constructed within the borrow pit. In my opinion, it is not acceptable that the applicant does not know at this stage how primary waste repositories for this proposed development are intended to be finally constructed. Table 6.2 of the applicant's Peat & Spoil Management Plan suggests that Borrow Pit 1 would have the storage capacity to contain 29,000m^3 of spoil and Borrow Pit 2 would have the capacity to contain 84,500m^3 of spoil. Developing waste facilities on a hillside without knowing how they are going to be constructed is at best worrying. I do not accept that waste facilities handling up to 110,500m^3 of waste in such a sensitive location should be permitted without detailed and accurate proposals based upon reliable design information. It is also unacceptable that the applicant is somewhat unsure about the type of rock intended to be extracted at the borrow pit locations. These concerns pose the questions: Could one be reasonably assured that the handling, management and storage of this waste material will be carried out in a safe manner? and Would it be sustainable for the lifetime of this wind farm at this upland location? I wish to impress upon the Board that this feature of the proposed development indicates that a serious water pollution risk is evident.

Accepting concepts instead of informed, assured, detailed design for significant waste facilities should not be tolerated. The environmental threat is too great. The least the application details should provide is actual information gathered on site to comprehensively inform the developer what it will encounter in the development of this project and then prepare an appropriate design response based on knowledge, not conjecture. There can be no room for speculation when dealing with significant waste facilities at such a sensitive location.

7.9.3. I again draw the attention of the Board to the applicant's Peat & Spoil Management Plan which forms Appendix 4-2 of the EIAR. It is clear that both borrow pits / spoil storage areas would be developed on hill slopes and are proposed to be contained by constructed stone buttresses. The heights of the stone buttresses would be higher than the stored peat and spoil, with the buttresses being up to 5 metres in height. Excavation depths of up to 15 metres for borrow pit 1 and up to 13 metres for borrow pit 2 are proposed.

7.9.4. According to the Plan, construction of the borrow pits includes the following:

- The rock within the proposed borrow pit footprints will be removed *by either* breaking or blasting depending on its excavatability, which *will be determined* from a ground investigation carried out at the proposed borrow pits.
- Localised deepening of the borrow pit floors *may be* required depending on extraction operations.
- *Depending on* the depth and type of rock present in the borrow pits *it may be possible* to excavate the rock from the borrow pits whilst leaving in place upstands/segments of intact rock which will help to retain the placed peat and spoil.
- *Where it is not possible* to leaved upstands/segments of intact rock in place *it may be necessary* to construct rock buttresses founded on in-situ rock within the borrow pits.
- *It may be necessary* to construct the rock buttresses within the borrow pits in stages as infilling of peat and spoil behind the buttresses progresses.

- A number of rock buttresses to form cells with the borrow pits *may be required* to ensure access for trucks and excavators can be achieved. The locations of the rock buttresses shown on Figures 6-1 to 6-2 for the borrow pit *are indicative only and may change* subject to local conditions encountered on site during construction and as a result of the ground investigations.
- The use of temporary access ramps and long reach excavators during the placement of the excavated peat and spoil *is likely to be required*.
- A layer of geogrid to strengthen the surface of the placed peat and spoil within the borrow pits *may be required*.
- Control of groundwater within the borrow pits *may be required* and measures *will be determined* as part of the ground investigation programme. A temporary pump and suitable outfall locations *are likely to be required* during construction.
- *Where possible*, the acrotelm shall be placed with the vegetative part of the sod facing the right way up to encourage growth of plants and vegetation at the surface of the peat and spoil within the borrow pits.

7.9.5. Arising from the above, there must be very serious concerns about the containment of vast volumes of peat and spoil on the hillsides as proposed. I repeat that the applicant's Peat and Spoil Management Plan presents as a concept not as a fully understood component of a physical project. There are so many indefinites and there is too much dependence on reaction to unknowns. It is apparent that the applicant does not know enough about what it proposes to do to contain and manage this waste material, which poses a significant pollution threat if the concept fails. This is a critically important part of the project and one that poses one of the most significant environmental risks. The applicant's lack of understanding, knowledge and assuredness in what measures are necessary form a serious failure in the application.

7.9.6. It is evident that the applicant is going to extensive lengths at concept level to try to engineer the provision of repositories to contain a vast volume of spoil in upland where there is blanket bog and where the applicant appears unsure about

groundwater, rock and water conditions affecting this site. This poses a real pollution risk and potentially a health and safety risk. I do not believe that the Board should accept this level of inadequate information for such significant waste facilities. One cannot reasonably have any confidence in the applicant's conceptual design approach to such a crucial part of the proposed development.

7.9.7. Finally, the Board should also have regard to my considerations on drainage, and on soils, geology and water in the Environmental Impact Assessment section of my assessment. The stability of the proposed structures to contain the vast volumes of waste material arising from the proposed development is called into question in this instance. One could not be assured that the applicant's proposals are environmentally sustainable.

7.10. **Site Drainage**

7.10.1. It is noted that no routes of any natural drainage features are proposed to be altered in the proposed development. It is proposed that there would be no direct discharges to any natural watercourses, with all drainage waters being dispersed as overland flows. All discharges from the proposed work areas are proposed to be made over vegetation filters at an appropriate distance from natural watercourses. The EIAR notes that there would be three new stream crossings to facilitate the proposed development. Artificial drains that are in place may have to be diverted around proposed work areas to minimise the amount of water in the vicinity of work areas. Where it is not possible to divert these drains around work areas, the drains are proposed to be blocked to ensure sediment-laden water has no direct route to other watercourses. The blocking is intended to only take place after an alternative drainage system to handle the water has been put in place. Existing artificial drains in the vicinity of existing site roads are proposed to be maintained in their present location where possible. If the artificial drains are to receive drainage from works areas, check dams are proposed to be added to control flows and sediment loads. If road widening or improvement works are necessary along existing roads, where possible, the works are proposed to take place on the opposite side of the road to the drain. I note that many existing internal roads are proposed to be significantly widened as part of the proposed development.

7.10.2. The proposed drainage system for this development is intended to employ two methods as follows:

- The first method involves keeping clean water clean by avoiding disturbance to natural drainage features, minimising any works in or around artificial drainage features, and diverting clean surface water flow around excavations and construction areas.
- The second method involves collecting any drainage waters from works areas within the site that might carry silt or sediment to allow attenuation and settlement prior to controlled diffuse release.

7.10.3. This proposed drainage scheme is highly complex and, having examined the applicant's proposed drainage provisions, it is noted that the proposals include the following:

- Interceptor drains upgradient of work areas to collect surface water flow runoff and divert it to be redistributed over the ground surface as sheet flow. The material excavated to make these drains would be compacted on the downslope edge of the drain to form a diversion dike. The applicant estimates that areas in which works are carried out to construct roads, turbine bases or hardstands would have been built up with large grade hardcore and that this would retain sufficient void space to allow water to infiltrate the subsurface of the constructed areas. It is not anticipated that roadways or other infrastructure would intercept ground-conveyed surface water runoff such that it would result in scouring, overtopping or spill-over. Interceptor drains may have to be retained in certain locations to prevent roadways acting as conduits for water that might infiltrate the road sub-base. The velocity of flow in the interceptor would be controlled by check dams. Interceptor drains would be installed horizontally across slopes to run parallel with the natural contour line of a slope.
- Swales would be used to intercept and collect runoff from construction areas, installed downgradient of work areas to collect surface water flow runoff. Swales would be similar in design to interceptor drains.
- Check dams, made up of straw bales or stone, would control the velocity of flow in interceptor drains and swales. Straw bales would be secured to the

bottom of the drainage swales with stakes. Clean 4-6 inch stone would be built up on either side and over the straw bale to a maximum height of 600mm over the bottom of the interceptor drain. They would be installed at regular intervals to ensure the bottom elevation of the upper check dam is at the same level as the top elevation of the next downgradient check dam in the drain. The centre of the check dam is to be approximately 150mm lower than the edges to allow excess water to overtop the dam in flood conditions. If necessary, any excess sediment behind the dams would be removed.

- Level spreaders would be constructed at the end of each interceptor drain to convert concentrated flows in the drain into diffuse sheet flow on areas of vegetated ground. These would be located downgradient of proposed works areas. The discharge point is to be on level or only very gently sloping ground rather than a steep slope to prevent erosion. The slope in the channel leading into the spreader is to be less than or equal to 1%. The slope downgradient of the spreader onto which the water would dissipate is to have a grade less than 6%. If a grade of less than 6% is not available in the immediate area downgradient of a works area at the end of a diversion drain, a piped drain is to be used to transfer the water to a suitable location. The spreader is to be level across the top and bottom to prevent channelised flow leaving the spreader or ponding occurring behind the spreader. The top of the spreader lip is proposed to be 150mm above the ground behind it, with the length of the spreader being a minimum length of four metres and a maximum length of 25 metres.
- Piped slope drains would be used to convey surface water runoff from diversion drains downslope to flat areas where it would be reconverted to diffuse sheet flow. It is proposed that they would only be established on slopes of less than 6% in grade. They would transfer water away from areas where slopes are too steep to use level spreaders. The entrance at the top of the pipe would be stabilised with sandbags if necessary. The bottom of the pipe would be placed on a slope with a grade of less than 1% for a length of 1.5 metres before outflowing onto a rock apron. The rock apron at the outlet would consist of 6-inch stone to a depth equal to the diameter of the pipe and a length six times the diameter of the pipe. The width of the rock apron would

be three times the diameter of the pipe where the pipe opens onto the apron and would fan out to six times the diameter of the pipe over its length.

- Vegetation filters comprising existing vegetated areas are to be used to accept surface water runoff from upgradient areas. They would carry outflow from the level spreaders. They would not be used in isolation for waters with high silt loadings.
- Stilling ponds would be used to attenuate runoff from work areas and would handle runoff from roads and hardstanding areas during the operational phase. They would intercept runoff potentially laden with sediment. They would be excavated at each required location as two separate ponds in sequence, a primary pond and a secondary pond. The points at which water enters and exits the stilling ponds would be stabilised with rock aprons. The primary stilling pond is proposed to reduce the velocity of flow to less than 0.5 metres per second. The secondary stilling pond is proposed to reduce the velocity of flow to less than 0.3 metres per second, with water flowing out through a stone dam, partially wrapped in geo-textile membrane. Stilling ponds are to be sized to accommodate peak flow storm events. They would be dimensioned so that the length to width ratio would be greater than 2:1. Each pond would be a minimum of 1-1.5 metres in depth. Embankments forming the sloped sides of stilling ponds would be stabilised with vegetated turves. Stilling ponds would be located towards the end of swales, close to where water will be reconverted to diffuse sheet flow.
- A siltbuster is proposed to filter any water pumped out of excavation areas, if necessary, prior to discharge to stilling ponds or swales.
- Dewatering silt bags are proposed to remove any remaining silt in potentially silt-laden water collected from works areas. These would be used downgradient of stilling ponds at the end of drainage swale channels.
- Sedimats would be placed at the outlet of silt bags to provide further treatment of the outfall from the silt bag. They would be pegged or staked to the ground surface and would extend to the full width of the outfall.
- Culverts would be suitably sized for expected peak flows in watercourses. Some culverts would be installed to manage drainage waters from works areas, particularly where the waters would have to be taken from one side of

a roadway to the other for discharge. The size of the culverts would be influenced by the depth of the track or road sub-base. Culverts are proposed to be installed with a minimum internal gradient of 1%. Smaller culverts are proposed to have smooth internal surfaces. Depending on the management of water on the downslope of culverts, large stone may be used to interrupt the flow of water.

- Silt fences would be installed around existing watercourses in certain locations, particularly where works are proposed within the 50-metre buffer zone of a stream or the 100 metre buffer zone of a lake. They would be installed as single, double or a series of triple silt fences, depending on space availability and anticipated sediment loading. Up to three silt fences would be deployed in series.

7.10.4. As well as these drainage measures associated with the development of the wind farm infrastructure, there are further drainage proposals associated with forestry felling, the borrow pits, and cable trenches. These are as follows:

- For forestry felling, these would include blocking existing drains, installation of temporary silt traps, provision of new collector drains and sediment traps to intercept water upgradient of felling areas excavated at a gradient of 0.3%-3% gradient. All new collector drains are proposed to taper out before entering the aquatic buffer zone to ensure the discharging water gently fans out over the buffer zone before entering the aquatic zone. Mechanised operations are proposed to be suspended during and immediately after heavy rainfall. Felling of trees would be pointed directionally away from watercourses. Brash is proposed to be laid out at harvesting stage to prevent soil disturbance by machine movement. Straw bales and check dams are proposed to be placed downgradient of timber storage sites. It is proposed that branches, logs or debris would not be allowed to build up in aquatic zones.
- Surface water is proposed to be contained in the borrow pit areas but it is proposed to control the level of the water by creating a single point outlet from the basin-like area to ensure water does not overtop the pits. Interceptor drains would be installed upgradient of the borrow pit before extraction. A

mobile pump is proposed to be used at the construction phase to keep the pits free of standing water.

- For the cable trenches, excavated material is proposed to be stored on the upgradient side of a trench. Where runoff arising from rainfall occurs, material is proposed to be contained in the downgradient cable trench. Excess subsoil would be removed from the cable trench works areas and transported to the borrow pits or used for landscaping or reinstatement works. On steeper slopes, it is proposed that silt fences would be installed temporarily downgradient of the cable trench works area or on the downhill slope below where excavated material is proposed to be temporarily stored to control runoff.

7.10.5. There can be no doubt that the proposed drainage arrangements are highly complex and at times highly precise. Also, it is self-evident that much of the site drainage plan is conceptual at best. The regularity of terms such as “if”, “may have to”, “where it is not possible”, “if necessary”, etc. raise significant concern. The very extensive range of drainage measures being considered firmly indicates that this is a potential problematic site for a development of the nature proposed. On the other hand, with some very precise measures proposed and regard being had to the sensitive nature of the land on which the significant works are proposed to occur, i.e. a peat-dominated environment, a question over the environmental sustainability of the proposed engineered drainage works arises. The ability to adequately manage and maintain drainage infrastructure during events such as heavy rainfall after a prolonged dry spell must be called into question. The lack of understanding of the nature of the land and ground conditions of this site, together with the lack of firm commitments to comprehensive site drainage proposals based on such an understanding, are of particular concern. The Board will note that the applicant intends to commence the construction works outside of the breeding season for birds, i.e. the period from April to July inclusive. In other words, the forestry felling, the intensive and large-scale construction activities, and associated drainage provisions would commence in the autumn and winter period when the most significant threats arise from the works coinciding with the wettest rainfall periods in this upland, peat-dominated environment. The concerns about the risk to existing

watercourses have in no way been alleviated by the conceptual approach taken by the applicant in dealing with drainage.

7.10.6. Finally, in addition to the above, the Board should also have regard to my considerations on management of waste materials and soils, geology and water in the Environmental Impact Assessment section of my assessment.

7.11. Extent of Assessment

7.11.1. I note the observation by Milltown Malbay Wind Farm Opposition Group and the reference to the EIAR being a 'copy/paste job' by the applicant's agent. In the context of matters pertaining to the management of waste materials and site drainage, I must concur with this submission. In dealing with many wind farm developments in this location and elsewhere in recent times, I must draw the attention of the Board at this stage to the same methodologies and concepts proposed to be applied consistently. The proposed measures clearly form a 'cut-and-paste' approach to wind farm development. They present as a 'one size fits all' approach no matter where the site is, what the differing topographical characteristics are, what different drainage patterns apply, what the prevailing soils and geology of an area is, etc.

7.11.2. I submit to the Board that it is incredible that for developments of such significant potential environmental impact that there are no site-specific waste materials management and site drainage provisions which are founded upon comprehensive site investigation and assessment to inform a tailored approach to these most crucial matters on an individual site basis. A carbon-copy, generic approach cannot, and should not, be accepted for a development of this nature and scale. I submit that this failure to provide site-specific measures founded on comprehensive site investigations can ultimately lead to peat slides and devastating environmental pollution. I note the example of Meenbog Wind Farm in County Donegal (ABP-300460-17). The same generic conceptual approach to site drainage and spoil management was proposed in that instance. The construction stage of that proposed development contributed to serious adverse environmental consequences due to a bog slide. I repeat: The same generic approach is proposed in this application. It is

most concerning because it suggests that the same treatment for waste materials and site drainage will suffice for this site and any site. This could not be the case given the significant physical differences between development sites for wind farms. I ask: Would the Board accept such a generic approach to major waste facilities or large-scale industrial development on greenfield sites? I do not believe such an approach would be accepted.

7.11.3. Finally, one must be assured that the measures proposed are tailored specifically for the development proposed and are fit for purpose if this development is to be seen to be environmentally sustainable. I cannot in any reasonable way be assured that the proposed development would constitute sustainable development.

7.12. **Shadow Flicker**

7.12.1. The casting of shadows by turbines and the rotation of blades can occur with wind farm development in certain defined circumstances. As a result, this can cause potential nuisance, in particular to residential properties in the vicinity. For this to occur the sun is required to be shining and to shine at a low angle, notably after dawn and before sunset. Along with this, a turbine is required to be between the sun and the affected property and there must be enough energy to make the turbine blades move. Where shadow flicker can potentially occur the Wind Energy Guidelines recommend that it should not exceed 30 hours per year or 30 minutes per day for dwellings within 500 metres. The Guidelines also note that, at distances greater than 10 rotor diameters from a turbine, the potential for shadow flicker is very low.

7.12.2. For the assessment of impact from shadow flicker, I note that turbines with a tip height of 175m, blade length of 75m (i.e. rotor diameter of 150m) and a hub height of 100m are those that were modelled by the applicant. The applicant considered all dwellings within 1.5km of turbine locations in its assessment, which totalled 67 dwellings and these are shown in Figure 5-6 of the EIAR. The predicted shadow flicker estimated to occur is presented in Table 5-9 of the EIAR. This identified that 28 properties may experience daily shadow flicker in excess of the guideline threshold of 30 minutes per day in predicted worst case conditions. The EIAR refers

to five of these properties as being derelict. When corrected for the regional average of 29.4% sunshine, the guideline limit is exceeded at six dwellings, one of which is referred to as being derelict. I note that the applicant's assessment also considered cumulative shadow flicker impacts with the existing Slieve Callan Wind Farm and it was found that, of the 67 properties within 1.5km of the proposed development, 9 have the potential for cumulative shadow flicker impacts. The applicant's assessment concludes that the guideline limits are not exceeded at these properties by the proposed development and no cumulative shadow flicker impacts would result. Mitigation measures are proposed in Section 5.9.3.9.2 of the EIAR.

7.12.3. In considering this issue, I note that the closest inhabited residential property would be in excess of 700 metres from the nearest wind turbine. I further note the findings of the applicant's modelling results for properties within 1.5km of the turbines. I am very much aware of the range of necessary conditions to be in place for shadow flicker to result. It is apparent that shadow flicker would not occur frequently in this area as appropriate weather conditions coinciding with direction of shadow would not likely converge for each day shadow flicker could potentially result. With due regard to these observations, the potential for the proposed development to have an adverse impact through shadow flicker is, therefore, considered to be highly unlikely. Notwithstanding this, in the event that any nuisance could potentially arise, I note that technology is available to prevent shadow flicker from affecting neighbouring properties. A simple and effective measure to address concerns is to turn off offending turbines during periods when they are most likely to potentially create shadow flicker. A turbine can be appropriately programmed for this to occur. Automatic controllers can be employed to stop those turbines which could give rise to shadow flicker for the hours in any year that the phenomenon could potentially occur. These are incorporated into the controls of the turbines and can be programmed to continually monitor sunshine intensity and wind direction and can automatically take the turbines out of operation to prevent moving shadows affecting houses. With such mitigation available and appropriate monitoring and adherence to necessary mitigation, I do not consider that shadow flicker should be considered to be a potentially significant issue impacting on the amenity of residents in the vicinity of this wind farm development.

7.13. **Noise Impact**

7.13.1. Introduction

I note the many third party submissions to the planning authority and the observations to the Board which have raised concerns about the potential noise impact arising from the proposed development. Many of these have raised concerns about the health impacts from noise from turbines and the cumulative impacts with other wind farm development at this location. I propose to address noise under a number of sub-headings as follows.

7.13.2. Noise Sources and the Existing Environment

When considering the issue of noise emissions, I must acknowledge both mechanical noise and aerodynamic noise. The former is derived from moving parts contained within the proposed turbines, such as from the gearbox or generator. I note that noise derived from this source may have tonal components and this may also be dependent on wind speed and the consequent rotation of the blades. I do not intend to focus on this noise type in this assessment as modern turbines generally provide for insulation that prevents the transmission of mechanical noise. It is aerodynamic noise that merits consideration as the likely potential noise source for the wider community.

I acknowledge that aerodynamic noise could be significant from large turbines. The aerodynamic noise derived from turbines increases with wind speed and rotational speed. As distance increases from a noise source the noise spectrum becomes more biased towards the low frequencies. This wind turbine noise fluctuates at a rate depending on the speed of rotation. This is referred to as ‘blade swish’. As distance from a turbine increases this effect generally reduces. I note that the response to wind turbine noise would be dependent on an array of factors and that individuals respond differently to similar noise. In this context, it is reasonable to conclude that different people have differing degrees of hearing sensitivity. What is of particular relevance in determining the noise impact of the proposed development on the residents in the vicinity of the appeal site is that one can reasonably state that the residents in this remote area generally experience an environment where there are

low background noise levels at present. I acknowledge that there is an established wind farm in the area and that wind farm-related activities comprise a source that influences the noise environment in recent times. I note that at night-time one would expect that significant regular noise sources, such as road traffic and farming and forestry-related activities, which impact on the local area would be substantially reduced and low background noise would generally prevail as the extent of man-made noise sources decline. The impact at night-time from the proposed development by the swishing of blades from the large turbines proposed could potentially affect sleep patterns and could potentially generate stress where turbine noise is audible, particularly where windows may be left open in houses in the vicinity. The distinctive difference with blade swishing, when compared with other types of noise experienced within a rural environment, should be acknowledged as relevant in assessing noise impact. This type of noise could be perceived to change the character of the noise environment.

Wind turbine noise evidently can only occur when turbines are rotating. Noise levels are found to be greatest when the wind is blowing from the turbines in the direction of a sensitive receptor. I acknowledge that turbine noise may be masked by vegetation. I note the exposed, elevated nature of the site and the significant height of the proposed turbines. I also note the low density of housing in the vicinity and distance from urban settlements. Another important issue is the potential difference in wind speeds at the upper levels of a turbine of the height proposed and those experienced at ground level. With the tall structures proposed at this site it is perceivable that wind speed could be sufficient to rotate the proposed turbines while at lower levels the wind experience is not notable or is less detectable. The applicant's background noise assessment becomes an important feature to determine potential consequences in this scenario.

Finally, I am aware of public concerns relating to infrasound, amplitude modulation causing periodic thumping at low frequencies, and the negative health effects seen to arise from wind farm development on some people exposed to such development. There is extensive conflicting research on these issues. The assessment of this planning appeal clearly cannot provide the context for the making of decisions on

public policy relating to such health matters. However, one cannot readily deflect from the public health impact if it is an issue that would arise in a particular project.

7.13.3. Wind Energy Guidelines

I note that the Wind Energy Guidelines, dating from 2006, remain in place and have not been updated. This is particularly concerning given the outdated considerations upon which such guidelines would have been based upon, most notably the significantly smaller turbines which would have been prevalent at the time to inform the detail of such guidance. I must also stress at this stage that the Wind Energy Guidelines provide no guidance on infrasound and low frequency noise. While it is most regretful that there are no foreseeable changes to guidance, I must determine that the prevailing guidance on noise is that set out in the current national Wind Energy Guidelines from 2006. I accept that the public concern around noise is a particularly complex issue, with extensive conflicting research and a wide range of international guidance and standards. Evidently much can be learned from international best practice but the guidance to which the Board would ultimately be required to have due regard to at this time is set out in the Wind Energy Guidelines.

Section 5.6 of the Guidelines refers to 'Noise'. The Guidelines acknowledge much of what has been referred to above in discussing noise in general. It is noted that good acoustical design and carefully considered siting of turbines is essential to ensure that there is no significant increase in ambient noise levels at nearby sensitive receptors. It is also noted that sound output from modern turbines can be regulated to mitigate problems. The Guidelines require that noise impact should be assessed by reference to the nature and character of noise sensitive locations. They require noise limits to be applied to external locations and that such limits should reflect the variation in both turbine source noise and background noise with wind speed. The following is particularly noted:

"*In general, a lower fixed limit of 45 dB(A) or a maximum increase of 5 dB(A) above background noise at nearby noise sensitive locations is considered appropriate to*

provide protection to wind energy development neighbours. However, in very quiet areas, the use of a margin of 5 dB(A) above background noise at nearby noise sensitive properties is not necessary to offer a reasonable degree of protection and may unduly restrict wind energy developments which should be recognised as having wider national and global benefits. Instead, in low noise environments where background noise is less than 30 dB(A), it is recommended that the daytime level of the LA90, 10min of the wind energy development noise be limited to an absolute level within the range of 35-40 dB(A)

Separate noise limits should apply for day-time and for night-time. During the night the protection of external amenity becomes less important and the emphasis should be on preventing sleep disturbance. A fixed limit of 43 dB(A) will protect sleep inside properties during the night.

In general, noise is unlikely to be a significant problem where the distance from the nearest turbine to any noise sensitive property is more than 500 metres."

A reasonable interpretation of the limits recommended above would be:

- A fixed limit of 43 dB(A) at a noise sensitive location for night-time hours,
- 45 dB(A) or up to 5 dB(A) above background noise, whichever is the greater, at a noise sensitive location for daytime hours, and
- 35-40 dB(A) at a noise sensitive location for daytime hours where background noise is less than 30 dB(A).

I note that noise conditions attached with a grant of planning permission for wind farm development in Ireland frequently reflect the above provisions.

I observe that none of the existing houses in the vicinity of the site are within 500 metres of any proposed turbine. I observe that the scale and height of the proposed

turbines are distinctly greater than those types of turbines that would have generally been prevalent at the time of the preparation of the Wind Energy Guidelines.

7.13.4. Operational Noise

I note the applicant's submission forming Chapter 11 of the EIAR and the supporting Appendices 11-1 to11-7. The applicant's assessment considered the construction, operational and decommissioning phases of the development.

A background noise survey was conducted through installing unattended sound level meters at five locations (in the vicinity of residential properties) in the surrounding area. Locations that fell inside the predicted 35dB$_{LA90}$ noise contour were considered for noise monitoring. The summary of the background noise data acquired (Table 11-11 of EIAR) indicates that these locations constitute a low noise environment at day and night times.

The derived background noise levels were assigned to other NSLs which are deemed to be representative of the background measurement locations (Table 11-13 of the EIAR). Appendix 11-5 of the EIAR tables predicted cumulative omni-directional turbine noise levels from existing and proposed wind energy development for each NSL (198 in total). These are worst-case as they assume all noise sensitive locations are downwind of all turbines at the same time. Results are provided at various standardised wind speeds. Appendix 11-6 tables predicted omni-directional turbine noise levels for the proposed development only. They again are worst-case as they assume all noise sensitive locations are downwind of all turbines at the same time. There were no predicted daytime or night-time excesses at any NSL. The EIAR notes that there is existing wind turbine noise at some NSLs and it states that the contribution from the proposed development will be inaudible and there will be no significant changes to the noise environment. It is also noted that at other NSLs an increase in the cumulative turbine noise level will be noticeable but it will be within

best practice noise criteria curves recommended in the Wind Energy development Guidelines.

The applicant has acknowledged that turbines can be programmed to run in reduced modes of operation to achieve noise criteria during certain periods and in specific wind conditions (i.e. “Curtailment”). The applicant has submitted that the turbine technology assumed for its assessment offers various low noise modes of operation with an associated energy output reduction.

Having regard to the above, I note that the turbine technology has been assumed for the assessment. The Board has no details contained in the application on the actual proposed turbine technology which can reassure the Board or neighbouring residents that adverse noise impacts would be adequately addressed. In my opinion, there should an obligation on the applicant to provide some clear understanding about any proposed curtailment strategy in order that the Board can take an informed position on the likely effectiveness of such a strategy. In the event that alternative turbine technologies are proposed for the site, an updated noise assessment would evidently be required also to confirm that the noise emissions associated with them will comply with the noise criteria curves as per best practice guidance and/or the relevant operational criteria associated with the grant of planning permission for the development. This gap on information does not allow for a comprehensive assessment of these proposals and one should not potentially be dependent upon addressing potential environmental effects after a decision is made to permit the development.

I note the EIAR also assessed noise with regard to the operation of site roads and the proposed substation. I acknowledge the significant separation distances between the site and established NSLs and consider the use and operation of these infrastructural components would have no notable adverse noise impacts on the wider community.

The applicant acknowledges in Section 11.5.6.2 of the EIAR the potential for low frequency noise. It is submitted that, if this arises, an appropriate investigation should be undertaken. Reference is made to guidance on conducting such an investigation but no reference is made to what should be done in the event that this is a problem. Similarly, the applicant acknowledges the potential of amplitude modulation (AM) (Section 11.5.6.3 of the EIAR) and it is proposed to employ an independent acoustic consultant to assess the level of AM in accordance with stated guidance should this arise. Once again, no reference is made to what would actually be done in the event there is a problem with amplitude modulation. It is regrettable that the Wind Energy Guidelines are silent on what is evidently becoming a significant noise concern for residents of wind farm development.

Overall on operational noise, I note the predicted noise impacts arising for noise sensitive locations in the area where the proposed development is intended to be sited. I again acknowledge the low noise environment which houses in the general vicinity of this site experience. I note also that wind farm noise from Slieve Callan Wind Farm comprises part of the established noise environment for some NSLs. I acknowledge the submissions from residents of this area who have submitted that they will be adversely affected by noise from the proposed wind farm and who express concerns about existing impacts. In light of the applicant potentially seeking to address noise impacts by way of a curtailment strategy, details of which are effectively unknown or substantially limited, and to potentially be utilising alternative turbine technologies which would require updated noise assessment, I submit that third party concerns on noise impact can to some degree be understood. I also consider that it is particularly difficult to draw any reasonable conclusion on residual noise impacts when the applicant acknowledges the potential for low frequency noise and amplitude modulation. While it proposes to investigate such adverse effects if they arise, the applicant does not clearly specify how it is going to mitigate such negative impacts. Therefore, there is further uncertainty with operational noise. Any grant of planning permission would be premature without suitable reassurances on protecting residents from harmful noise effects, in my opinion. The Board is not in a position to take an informed decision on this issue.

7.13.5. Construction Noise

I note the range of activities associated with the construction phase, including the development of borrow pits, as well as the short-term nature of the construction period for the proposed development. While no national limits are set for construction noise, I am satisfied that the development would not be untypical of similar infrastructure projects and that the nuisance caused by construction activities related to the development would be short-term. Appropriate site management, guided by a Construction Environmental Management Plan and a Traffic Management Plan, would be pivotal in reducing nuisance and disturbance to the general public. Furthermore, construction periods could be controllable by way of attaching a condition with a grant of permission to limit days and times of construction, thus reducing potential adverse impact to residents nearby. Overall, construction noise impact would not be significant in my opinion.

7.13.6. Decommissioning Phase

I consider that it is reasonable to draw similar conclusions for the decommissioning phase as to those drawn for the construction phase. This impact would be short-term and would not be significant in my opinion.

7.14. **Grid Connection**

7.14.1. The intended connection of the proposed wind farm to the existing Slieve Callan substation appears to be a rational objective. The reasons for the location and layout, the construction methodologies, the proposed water crossing arrangements, and the treatment of existing underground services have all been addressed in the application. As with all such proposals, the final details and specifications for the grid connection would require to be confirmed by ESB / EirGrid.

7.14.2. The various relevant sections of the EIAR have each addressed the provision of the grid connection. I must, however, acknowledge that, being an integral part of the overall infrastructure associated with the proposed wind farm, it is not possible to readily separate undergrounding of cables within the site from the significant potential adverse impacts that may result from a failure of site drainage provisions and the management of spoil associated with the construction of the proposed development. The accommodation of undergrounding of cables throughout the site and their location under internal access roads requires to be understood in the context of the need for new internal roads and extensive widening of existing roads in a peat-dominated holding. Given there remains significant environmental risk arising from the proposed construction of the wind farm development, one cannot dismiss the contribution the on-site grid connections works could make to the clear doubts arising about the functioning of the proposed drainage and spoil management measures.

7.15. **Traffic Impact**

7.15.1. The applicant's EIAR assessed the effects of the proposed development at the construction, operational and decommissioning phases on roads and traffic. I note that, at the operational stage, the development would be unmanned and would be monitored remotely. Traffic volumes at that stage would be minimal, relating principally to maintenance, and would not cause any significant traffic concerns.

7.15.2. For the construction phase (over a 12-18 month period), there would be substantial increases in traffic volumes arising from the delivery of concrete, site preparation and ground works, delivery of large equipment, and worker traffic. For the site preparation and groundworks stage, it is estimated that 2,272 two-way trips would be made to the site by trucks and large articulated HGVs. During the turbine construction stage some deliveries would be made by abnormally large vehicles, i.e. by extended artics, and there would also be deliveries by normal large HGVs which would transport cables, tools and other components. A total of 64 trips would be made by extended artics. A maximum of 70 workers would be employed at the site at the site preparation and groundworks stage, reducing to a maximum of 45 at the turbine construction stage.

7.15.3. It is noted from the EIAR that the large wind turbine components would be delivered to the site from either Dublin, Foynes or Galway Ports, via the M18 Motorway and the N85 National Secondary Road. At Inagh, the delivery route would turn onto the R460 Regional Road for a distance of approximately 4.3km and then veer right onto Local Road L1074 and then move west / north-west before turning left onto Local Road L6230-19 for approximately 300m. It would then turn left onto a forestry track that leads into the site. At this stage, it is understood from the EIAR that concrete deliveries and general construction traffic would travel on the same route as that for abnormal loads, based on cement and other suppliers in the area.

7.15.4. The predicted increase in traffic volumes at the construction stage for the road network would include the following:

- During the 8 days when the concrete foundations are poured, this would result in an increase in traffic volumes by +1.8% on the N85 to the west of Claureen Roundabout in Ennis, to +6.0% on the N85 passing through Inagh, to +5.8% on the R460 to the west of Inagh, and to +36.3% on the L1074.
- During the remaining 247 days for site preparation and ground works, traffic volumes would increase by +0.5% on the N85 to the west of Claureen Roundabout in Ennis, to +1.5% on the N85 passing through Inagh, to +1.5% on the R460 to the west of Inagh, and to +9.2% on the L1074.
- During the 22 days when the component parts of wind turbines are being delivered by extended articulated HGVs, traffic volumes would increase by +0.5% on the N85 to the west of Claureen Roundabout in Ennis, to +1.5% on the N85 passing through Inagh, to +1.5% on the R460 to the west of Inagh, and to +9.4% on the L1074.
- For 7 days on the delivery route, 64 additional PCUs (cars and standard HGVs) would travel on the network.
- It is noted that the proposed grid connection route would travel west along the R460 for approximately 1.6km and a traffic management system would be put in place.

The short-term nature of most of these impacts on the road network is noted.

7.15.5. An assessment of the impact on link capacities in the area was undertaken for the construction stages. Route assessment and junction adequacy for accommodating the movement of abnormal sized loads were examined and autotracks were completed. Swept path analysis at constrained locations was provided and the measures to be taken (in terms of using space beyond the public road, hedge and verge works, vehicles to have a shortened wheel base with an extended blade overhang, temporary land take at junctions, etc.) were set out in the EIAR.

7.15.6. A range of mitigation measures are proposed in Section 14.1.10.6 of the EIAR. Large turbine components would be transported at night, specific traffic management measures would be employed, management of construction traffic overlapping with other wind farm development works and forestry felling is proposed, on-site borrow pits would be developed, and the development would be subject to a Construction Environmental Management Plan (CEMP) and a Traffic Management Plan.

7.15.7. It is my submission to the Board that the proposed transportation of abnormal loads associated with turbine delivery would have potential effects on the existing regional and local road networks, requiring short sections of road widening, hedgerow works, etc. I am satisfied that the applicant has comprehensively assessed the proposed route, has identified where the potential impacts would likely result, and has drawn up a range of mitigation measures to reduce the significance of the potential impacts. With the implementation of such mitigation measures, I do not envisage there would be any substantial long-term adverse impact for the road network affected. I acknowledge that there would be some short-term inconvenience to local road users during deliveries and general vehicular movements. I note that the national and regional roads affected are regularly used by HGV type traffic. A security or special contribution relating to protecting the road network affected by the turbine delivery routing could be applied to address any adverse physical impact on roads or bridge structures in the immediate term after any such impact. I consider that traffic management within settlements could likely facilitate delivery in an efficient manner to minimise local inconvenience. I do not accept that the delivery of abnormal loads would in general result in any significant environmental damage to established hedgerows, tree lines, etc. While the 12-18 months construction period would result in substantial volumes of general construction-related traffic to and from the site (much of which would be larger vehicles), I consider this is not likely to result in any

capacity issues for the regional and local routes affected. This traffic would evidently have potential structural effects on the local roads serving as the principal access to the site, as well as being a potential obstruction and nuisance to farmers, residents, and others using the local roads. This would be a short-term impact and any structural defects could be addressed by the requirement for a financial contribution to the planning authority by way of condition to rectify such impacts.

7.15.8. Finally, regarding the grid connection, I acknowledge that the road works would generally occur beyond the public road network, with the exception of a short section on the R460. This would likely lead to some short-term delays at a local level. This would not result in any significant traffic concerns.

7.16. **Property Devaluation**

7.16.1. I note the observer submissions on adverse impact on residential amenity and the third party submissions to the planning authority on property devaluation. I acknowledge Section 5.6 of the EIAR and the reference to two studies on the impact of wind farms on property values carried out in the United States dating from 2009 and 2013, as well as the study "*Impact of Wind Turbines on House Prices in Scotland*" (2016) in support of its conclusions that the provision of a wind farm at the proposed location would not impact on property values in the area.

7.16.2. The first point that must be made when considering this issue is to note that there are no studies done in Ireland which determine the siting of a wind farm does or does not affect property values. In my opinion, I would find it particularly difficult to accept that if a wind farm, with turbines of the scale and height proposed in this application, is located near a residential property, that one could rationally conclude that the siting of such large turbines would either enhance the value of the property or, indeed, have a neutral effect. The Board can peruse the photomontages presented by the applicant to draw its own conclusions. The photomontages presented as being closest to the wind farm site are those which the applicant itself seeks to show how the proposed turbines would impact on neighbouring houses. It is my view that the proposed turbines would have significant adverse impacts on the amenities of their closest neighbours in terms of landscape and visual impact and

potentially by way of noise and shadow flicker. I cannot see how these impacts would not adversely affect a property value. I appreciate that this opinion is not founded on empirical evidence.

7.17. **Access to Landholdings**

7.17.1. I acknowledge the observation by Fergal MacMahon and concerns raised about access. I note the local roads and tracks in the vicinity of the site of the proposed development which provide access to agricultural, residential and other holdings. This includes the track into the site from the L6230-19, the laneway from the L6230-19 linking into Silverhill, and the local road from the R460 linking with a laneway to Cloghaun More, which extends to the south-western end of the site close to proposed Borrow Pit 1 and other infrastructure such as proposed Turbine 7. The accesses are inadequate in width to accommodate two-way vehicular traffic and, in the event they would be used for some purpose at the construction phase of the proposed development, there would likely be adverse impacts for access to agricultural and residential holdings. I note and accept that the applicant has submitted that the access to the site would be from the L6230-19 at the north-west via the forestry track referenced above. All other accesses to the site should be strictly prohibited to protect the roads and lanes to serve agricultural and residential properties, notably at the south-west where there is potential access to the vicinity of the borrow pit and the proposed roads and turbines in this part of the site. The issue relating to the access off the L6230-19 may require an agreed approach with those who need to utilise the existing track, who have established rights of access, and are not landowners associated with the proposed wind farm development. I submit that it should be a requirement that the applicant can provide suitable agreed access arrangements with those affected to ensure continued access to their landholdings where this arises.

7.18. **Miscellaneous Issues**

7.18.1. I refer to a number of other issues arising from observer submissions:

7.18.2. The House

The observer Fergal MacMahon makes reference his son intending to renovate an original family home in Cloghaun More only hundreds of metres from Turbine 7 and to other neighbours being within the shadows of the turbines. I submit in response that the proposed development is being assessed on the basis of its current context, inclusive of the acknowledgement of all existing residential properties in the area. The Board could not reasonably seek to anticipate what may or may not arise in the development or otherwise of structures in the area which are no longer in habitable use.

7.18.3. Project Splitting

The observer Fergal MacMahon refers to the principle of project splitting, namely a project not being permitted to split into two independent parts (i.e. the wind farm and the grid connection) and refers to *O'Grianna & Ors. V An Bord Pleanála*. The proposed development does not split the project into two parts and the applicant seeks the one permission for the wind farm and its grid connection.

7.18.4. Impact of Turbine 8 on Observer's Land

I note that Fergal MacMahon submits that proposed Turbine 8 would intrude on his land, which may affect grant aid he is receiving for his farming activity. I note the drawings submitted with the planning application and these indicate that the site area at the location of proposed Turbine 8 would accommodate the area directly physically affected by that proposed turbine. The observer did not demonstrate how intrusion on his land would occur.

7.18.5. Impact on Horses

I note the observer Fergal MacMahon makes reference to his equine operations in the vicinity of proposed Turbines 7 and 8 and Borrow Pit 1. He submits that he receives GLAS rare breed grants and refers to the potential effects of the proposed development on the horses. The Board has no specific details on the nature and extent of the equine operation and could not reasonably seek to assess the impact for this equine operation based on the information that is before it at present.

7.18.6. Observation by Patrick Laverty and Others

I note the observation by Patrick Laverty and others. Many of the concerns raised relate to impacts from the existing Slieve Callan Wind Farm. These issues include the presentation of that wind farm as a “community wind farm” and associated benefits, noise and shadow flicker, and interference with TV and telecommunications signals. It is apparent that addressing the issues arising from that existing wind farm are matters outside of the consideration of the current application before the Board. I understand from the observers the concerns about increasing such problems if the proposed development was to proceed. These issues have primarily been considered in my assessment above for the proposed development.

7.18.7. Inland Fisheries Ireland

I note that there is no record that the planning authority sought a report from Inland Fisheries Ireland on the proposed development. IFI would be a key prescribed body from whom a planning authority would seek a submission on such a proposal in such a sensitive location. In the event the Board was to consider a grant of permission for the proposed development, I would recommend that before final determination the views and considerations of IFI would be sought.

8.0 Environmental Impact Assessment

8.1. Introduction

8.1.1. This application falls under Directive 2014/52/EU on the assessment of the effects of certain public and private projects on the environment (i.e. the 2014 EIA Directive). I have examined the information presented by the applicant, including the EIAR, and the submissions made during the course of the appeal. I have considered whether the information contained in the EIAR and the supplementary information provided by the applicant to date in the application process adequately identifies and describes the direct and indirect effects of the proposed development on the environment and complies with relevant legislative provisions.

8.1.2. I am satisfied that the EIAR has been prepared by competent experts to ensure its completeness and quality to allow consideration as to whether the information

contained in the EIAR and any supplementary information provided by the applicant adequately identifies and describes the direct, indirect and cumulative effects of the proposed development and complies with article 94 of the Planning and Development Regulations 2000, as amended.

8.2. Alternatives

8.2.1. The applicant provided details on the site selection criteria and examined a 'Do Nothing' option, alternative renewable energy technologies (i.e. solar), alternative turbine numbers and models, alternative layouts and development design, alternative transport route and site access, and alternative mitigation measures. My considerations on alternatives are set out in the planning assessment above. It is my submission to the Board that the applicant has undertaken consideration of reasonable alternatives in the planning application. I am satisfied to conclude that the consideration of alternatives complies with the requirements of the EIA Directive.

8.3. Population and Human Health

8.3.1. The applicant examined population, human health, employment and economic activity, land use, residential amenity, community facilities and services, tourism, property values, shadow flicker, noise, and health and safety. I note that extensive consideration was given over to reports on public opinion on wind farms and on research into the impacts on human health from wind turbines. I have examined the issues relating to shadow flicker, noise, and pollution-related issues in my main planning assessment and do not propose to repeat in detail my considerations on these issues.

8.3.2. My general considerations otherwise are as follows:

- The site of the proposed development is located in a remote, rural, upland area. Residential development is generally sparse in the immediate vicinity of the site. There are 61 inhabited dwellings within 1.5 kilometres of the proposed turbines.
- The site is separate from established urban settlements in this area, with the town of Milltown Malbay being 5km to the west and the town of Ennistimon

being 7km to the north. These settlements are the nearest providing community and social services, amenities and access to public transport.

- The principal land uses within the main body of the site are commercial forestry, agriculture and turf cutting. The principal land uses surrounding the site are also commercial forestry and agriculture as well as one-off housing and the nearby Slieve Callan Wind Farm. The land uses along the proposed grid connection route comprise forestry, agriculture and roads/tracks.
- The applicant's EIAR placed a significant emphasis on tourism reports and surveys from Ireland and Scotland in support of its considerations that there would not be a significant impact on tourism and to demonstrate a wide acceptance of wind farm development by the public. Most of these surveys are at best dated and could not, in light of the more modern form and scale of wind farm development, be seen to be surveys which can be relied upon as reasonably representative views at this time. It is also observed that the findings presented in the more recent surveys relate to very generalised opinions on the principle of wind farm development.
- The construction phase of the proposed development is not likely to have significant adverse impacts on the amenity of residents or the functioning of farms in the area. This stage would be subject to well-defined management and work practices, including delivery timing, working hours restrictions, traffic management, dust and noise controls, etc. This stage of the development would have temporary, short-term impacts in terms of any disturbance or nuisance arising.
- I note the separation distances between the proposed wind farm and residential properties and settlements. I also acknowledge that the site is an area close to where there is an established wind farm (Slieve Callan). Clearly, the encroachment of very high turbine structures and their potential noise and shadow flicker impacts on the closest established residential properties could not reasonably be seen as a development which would enhance residential property values, whilst it may prove particularly difficult to definitively place a monetary value on adverse impact. I consider that it is reasonable to

determine that the value of a property in close proximity to a site for turbines would likely differ before their existence and when they are operating, depending upon the separation distances and the potential for nuisance effects. Such value is most likely to be reduced rather than enhanced by having very large, very high, prominent, rotating structures in the vicinity of a house. I cannot foresee the value of a private residential property being enhanced in such circumstances. Indeed, I could not see the impact being neutral. I must further acknowledge that there would likely be increased impacts on property values with the cumulative build-up of turbine numbers within a confined area, such as in this instance with Slieve Callan Wind Farm. I again note the applicant makes reference to studies in Scotland and the USA on this issue. Settlement patterns are wholly different and the findings in these studies could bear no relevance to the context of the proposed development.

- Health and safety concerns for workers should not arise at the construction phase when appropriate site controls and appropriate work practices are put in place. Concerns relating to the construction of the proposed development, site drainage and management, and the threat to the wider environment are addressed in other sections of this assessment. I further note the significant reference to health impact studies in the EIAR, presented to dispel health concerns relating to wind farm development. The Board will also be aware of the array of health impact studies raised by third parties which seek to counter studies such as these. The Board is in no position to wholly embrace or reject health study findings.
- The proposed development would provide up to 70 jobs during the construction, operation and maintenance of the proposed development. The number of jobs relating to maintenance and control could not be expected to be more than one or two. The construction phase would last for between 12 and 18 months. I note that construction workers and materials would be sourced locally where possible.

- At the operational phase, the applicant proposes a wide range of mitigation, including measures relating to maintenance of the development, shadow flicker, and interference with communication systems.

8.3.3. It is reasonable to determine that the principal environmental impacts applicable to population and human health are those relating to shadow flicker, noise, health and safety, pollution, traffic, and landscape and visual amenity. These have been assessed earlier in this report.

8.4. Biodiversity

8.4.1. Chapter 6 of the applicant's EIAR considered the impact of the proposed development on biodiversity, flora and fauna. Chapter 7 considered impacts on avian receptors. The EIAR addressed the baseline ecological conditions and receptor evaluation, an assessment of the effects at the different stages of the development, proposed mitigation, and an assessment of residual effects.

8.4.2. My considerations on biodiversity, flora and fauna are as follows:

- The site drains into the Annagh River and the Inagh River. A number of watercourses that drain the site study area lead to the downstream EU designated sites Inagh River Estuary SAC and Carrowmore Point to Spanish Point and Islands SAC. The site is not on, in or in immediate proximity to any European site. I refer the Board to the section of my assessment on Appropriate Assessment.
- Slieve Callan Bog NHA, whose Qualifying Interest is upland blanket bog, lies approximately 0.21km from the site. The proposed grid connection cable route would be downgradient of the NHA and the applicant has determined that there is no potential pathway for direct or indirect impacts on this NHA. My considerations on site drainage and spoil management and the potential effects on the wider environment are acknowledged.

- A total of sixteen habitats were recorded within the site. Cutover bog and upland blanket bog make up the main habitats on which the proposed turbines would be located. Extensive wet grassland and cutover bog would lie to the south of the proposed turbines. Conifer plantation is established throughout the site on bog.
- It is noted that proposed turbines 3, 5, 6, 7 and 8 and borrow pit 2 would be located on open bogland habitat. Turbines 1, 2 and 4 would be sited in forestry.
- I note that, excepting the routing on tracks and roads, the proposed grid connection route would traverse many of the habitats found within the main site itself.
- Table 6-5 of the EIAR indicates there is one species listed designated under the Flora (Protection) Order or in the Irish Red Data book within the study area, namely Small white orchid and its status is vulnerable.
- I note Tables 6-6, 6-7, 6-8 and 6-9 of the EIAR. These list records for species of conservation interest within the study site area, including many Annex II, Annex IV and Annex V species.
- Regarding invasive species, rhododendron was recorded at a number of locations on the site away from the locations of the proposed infrastructure.
- There is a known occurrence of the Marsh fritillary butterfly in this area. Suitable habitat for this Annex II species has been identified within the site. The targeted surveys of the applicant date back from 2017 and 2018 for this species.
- Fauna-related findings recorded in site surveys included Marsh fritillary larval webs within the site, badger activity across the site, otter activity at the Silverhill River just west of the site and at the Kildeema River within the site, bat activity (with Soprano pipistrelle recorded most frequently from manual transects and Leisler's bat from ground-level static surveys), and signs of the presence of Common frog and Irish hare. The EIAR notes that the downstream watercourses are likely to support European eel, brown trout and Atlantic salmon (Annex II and V species). The EIAR also states that there is no connectivity between the site and any *Margaritifera* Sensitive Area.

- At the construction stage, the following is submitted:
    - The proposed development would include the crossing of waterbodies within the site. There is potential for construction activity runoff of silt, nutrients and other pollutants into these watercourses. The Board will note my earlier considerations under the headings ‘Management of Waste Materials’ and ‘Site Drainage’ and the applicant’s proposed drainage management provisions.
    - The applicant refers to the proposed development resulting in the direct loss of 2.97 hectares of peatland habitat. This does not include the loss of habitat where proposed infrastructure is to be located within conifer plantation, which itself has been planted on bogland. The Board will again note my considerations on the potential for significant effects arising from the construction works and the handling and management of spoil.
    - Up to 58.49 hectares of commercial forestry would be felled to accommodate the wind farm development. A total of 26.59 hectares would be felled within and around the footprint of the proposed development. An additional 1.9 hectares would be felled around all turbines to facilitate infrastructure construction and/or bat mitigation. An additional 30 hectares would potentially be felled to prevent trees causing a turbulence effect. I note that the EIAR refers to the 1.9 hectares and 30 hectares of trees being “temporarily” felled. It is my understanding that these 31.9 hectares of trees would be felled and what the applicant possibly means to state is that these would potentially be replaced. The notion that one would “temporarily” fell a tree is nonsensical.
    - The drainage impacts have potential significant effects for aquatic species in the waterbodies on and downstream of the site.
    - I note the proposed mitigation measures for Marsh fritillary on the site. The potential disturbance at the construction stage and adverse effects on this protected species and its habitat are self-evident, given the scale and extent of works associated with such a project. The reliance on fencing off sensitive areas and managing intrusion into sensitive

areas at the edge of significant industrial-scale construction work areas (close to proposed turbines 1, 2, 7 and 8 and associated new roads - Figure 6-10 of EIAR) are concerning as practical measures to avoid adverse impact on this Annex II species. One anticipates that this species of conservation value is prevalent at this location due to the abundance of Devil's bit scabious, aided by the remote nature of the site from industrial-type and other manmade disturbance.

  - Regarding invasive species, it is noted that a Rhododendron Management Plan is not proposed to be put in place as infrastructure would not be sited in areas where it has been recorded.

- At the operational stage, the following is submitted:
  - There is a likelihood of ongoing drainage effects on peatland habitat adjoining blanket bogland proposed to be disturbed.
  - I note the applicant has concluded that there is no potential for significant effects on waterbodies as a result of the proposed development at the operational stage. I again draw the attention of the Board to my earlier considerations on site drainage and management of spoil. I remain firmly of the view that there is significant potential for adverse impact on waterbodies at this location and beyond the site, with adverse impacts resulting for aquatic species.
  - The applicant places some emphasis on its Biodiversity Management and Enhancement Plan (Appendix 6.5 of the EIAR). This plan proposes the restoration of forestry back to peatland around turbines 2, 4 and 8 and revegetation and drain blocking within these areas of degraded peatland. I submit to the Board that blanket bog is not habitat that can be so readily replaced as appears suggested by trying to restore such a habitat from existing forested lands. Such a proposal is simply not any form of practical compensation for the loss of upland blanket bog. To be realistic about such proposals, one cannot see any increase in upland blanket bog being attained over the lifetime of the proposed wind farm and it is incorrect to suggest any replacement proposals could replace what would be lost.

- It is acknowledged that the operation of the wind farm has the potential to have a long-term effect on bats due to mortality from collision. It is also noted that bat activity would likely change following the commencement of the development (i.e. by displacement and avoidance).

Further to the above, I again wish to draw the attention of the Board to the submission to the planning authority by the Development Applications Unit of the Department of Housing, Local Government and Heritage. This report notes that the Climate Change Advisory Council (CCAC) has said in its technical report accompanying the proposed carbon budgets to Government that "*Renewable energy infrastructure and forestry plantations must not be at the expense of biodiversity, already in a crisis of its own*." The DAU notes that the proposed development would result in the direct loss and degradation of two Annex I habitats, namely *Erica tetralix* and blanket bog. It also acknowledges that Annex II otter and Marsh Fritillary, which occur on the site, are potentially negatively impacted and that at least five Annex IV species in need of strict protection occur within the development site and could be potentially impacted. The sensitivity of this site is clear from this report. The DAU considers the applicant's assessments have not addressed the issues of peatland and annexed habitats properly. It also has acknowledged that mitigation or compensatory habitat for annexed blanket bog and wet heath loss is difficult to provide, as I have alluded to earlier. The Department furthermore submits that the proposed works appear to be in contravention of the Clare County Development Plan provisions which seek to protect peatland habitats. It also notes the potential impacts on water quality and effects on European sites and annexed species such as Otter, Salmon or Lamprey arising from construction activity. The DAU raises particular concerns relating to peat and landslides. It is evident that the potential adverse impacts on biodiversity arising from the proposed renewable energy project are of concern to the Department. The reference to effects from peat and landslides reinforces my concerns about the applicant's drainage and spoil management provisions. This poses the most significant environmental threat to biodiversity at this location.

8.4.3. My considerations on ornithology are as follows:

- The applicant undertook extensive field surveys, details of which are set out in Appendices 7.2 to 7-4 of the EIAR.
- I note the field survey findings set out in Section 7.4 of the EIAR. The bird species recorded within the zone of influence of the proposed development included Annex I species Golden Plover, Hen Harrier, Merlin, Peregrine and Osprey. It also included Red listed species Kestrel, Snipe, Red Grouse and Woodcock. Raptors referenced in Schedule IV of the Wildlife Act that were recorded included Buzzard, Sparrowhawk, and Kestrel.
- Golden Plover, Hen Harrier, Merlin, Peregrine Falcon, Osprey, Snipe, Kestrel, Red Grouse, Sparrowhawk were observed within and flying over the site. Buzzard was observed immediately to the west of the site.
- I draw the attention of the Board to Appendix 7-4 of the EIAR. The high levels of activity over, on and in the immediate vicinity of the site by birds of conservation value are evident.
- I furthermore draw the attention of the Board to Appendix 7-5 Collision Risk Assessment. Tables 3-6 and 3-7 therein show the estimated collisions for a number of birds of significant conservation value at this site. It is apparent that the 30-year operational life of the wind farm would have significant impact by way of collision and ultimately mortality for substantial numbers of these species, in particular Golden Plover and Kestrel.
- Habitat loss, displacement and collision risk arising from a development of this scale, height and location pose concerns for many of these bird species. The collision risk for Annex I species will be high in the early years of the proposed development. The applicant is clearly relying on avoidance of the wind farm site by species of conservation value after the wind farm commences operation to minimise the level of collision and mortality for bird species of conservation value.
- The cumulative impact of wind farm development in this area is substantially eroding the quality of the environment for sensitive bird species of conservation value by distorting migratory routes, eroding habitat, encroaching on foraging areas, affecting roosting and breeding sites, etc. The proposed development, sitting alongside Slieve Callan Wind Farm, would undoubtedly add to this impact. The species of conservation value identified in

the applicant's surveys are clearly being removed from this area as habitats are displaced and distorted by increasing wind farm development.

- I note the applicant's Hen Harrier Enhancement Plan submitted as Appendix 7-7 of the EIAR. The proposed enhancement areas are primarily located beyond the boundary of the site, i.e. on lands not part of the proposed development. The ability to ensure that these lands are appropriately managed to enhance Hen Harrier habitat (planting regimes, stocking densities, pesticide control, etc.), to ensure such management does not conflict with NPWS proposals in this area, to ensure maintenance of suitable uses throughout the lifetime of the proposed wind farm, and the lack of any legally binding contractual agreement with the neighbouring landowners are only some of the difficulties that would be essential to be resolved if any such plan was to be viewed as some form of compensation for the evident loss of habitat and the collision and mortality risk that arises for Hen Harrier by the functioning of the proposed wind farm. The Board should again note that the applicant's plan states that it is the applicant who would ultimately be responsible for the implementation of the management measures of this plan even though these lands are not in the applicant's ownership.

8.4.4. I submit to the Board that the range of birds of conservation value observed by the applicant on, over and in close proximity to the site in its surveys indicates this is an area of significant ornithological value. This area is under significant pressure from existing wind farm development. There are 72 operating turbines within a 12km radius of the site, 29 turbines of which adjoin the site at Slieve Callan. The potential for further habitat loss, displacement, and collision risk by yet more turbines in this area is apparent from the proposed development. The Board will also note that the proposed turbines are significantly higher and larger than the average turbines existing at present at this location, posing a notably greater risk of collision and avian displacement. The cumulative impact would be significant in my opinion.

8.5. Lands, Soils and Geology

8.5.1. The applicant's EIAR addressed a baseline assessment, site surveying, baseline monitoring and site investigations, including geotechnical ground investigations and a peat stability assessment (Appendix 8-1 of EIAR).

8.5.2. I note the following:

- Blanket peat is the dominant soil type at the site of the proposed infrastructure. Peat depths across the site range from 0 to 4.5m, with an average depth of 0.6m.
- Peat depths at turbine locations vary from 0.2m to 2.1m, with an average depth of 0.9m. A peat depth of 1.8m was encountered at the location of proposed Turbine 1.
- The mineral subsoils underlying the peat are either soft clay or soft silt.
- Peat thickness along existing and proposed access roads are typically less than 2m, with localised depths of 2.7m.
- A number of north-east / south-west trending faults intersect the site (Figure 8-5 of the EIAR).
- The average peat depth across the grid connection cable route is 0.25m.
- The EIAR notes that no peat failures or landslides are recorded on the site.
- The applicant's peat stability assessment (Appendix 8-1) concluded that the site at the infrastructure locations has an acceptable factor of safety for undrained and drained conditions of greater than 1.3 and is suitable for the proposed development, including for the grid connection.
- The estimated volume of peat to be extracted for the proposed infrastructure is stated to be 55,800m^3. The turbines and access roads would require excavation of almost 50,000m^3 of peat. The estimated volume of other spoil to be excavated is 54,700m^3.
- The volume of rock to be excavated from the borrow pits is estimated to be 85,000m^3.

8.5.3. The main factors that influence peat stability are slope angle, shear strength of peat, depth of peat, pore water pressure, and loading conditions. I note that there are significant volumes of peat and other materials proposed to be excavated for this

development and proposed to be moved and deposited in the borrow pits. I note the deeper peat at some turbine locations and along sections of proposed new access roads. I also note the underlying mineral soils and steep slopes at locations for proposed storage of spoil, while acknowledging that the proposal includes substantial new roads across bogland and widening of existing roads as well as the felling of up to 58.49 hectares of commercial forestry. I acknowledge the acceptable factor of safety determined by the applicant for undrained and drained conditions at infrastructure locations.

8.5.4. I acknowledge the potential instability associated with works of the nature proposed, the transportation and storing of substantial volumes of spoil, and the interference with the natural terrain by the development of the turbine bases, the hardstanding areas, the construction of access roads, and the development of other infrastructure. I note again that the DAU raised particular concerns about peat and landslides. These concerns are echoed in my own planning assessment and this remains one of the most significant environmental issues relating to this proposal.

8.5.5. Based upon the analysis carried out by the applicant, the conditions relating to this site (inclusive of the predominant upland blanket bog, the siting of critical infrastructure on hillsides, etc.), and the report received from the Department of Housing, Local Government and Heritage, it is apparent that there remains uncertainty relating to risk by way of a landslide. The applicant's proposals on the handling, storage and management of spoil, site drainage provisions, and uncertainty associated with both raise significant environmental concerns.

8.6. **Water**

8.6.1. The applicant's EIAR described the existing water environment, identified likely effects on ground and surface waters, set out proposed mitigation measures, and considered residual and cumulative effects.

8.6.2. My observations on water are as follows:

- In terms of regional hydrology, the western half of the wind farm site, the substation extension works and approximately 4.5km of the grid connection cable route would be located in the Annagh River catchment. Two of the

proposed turbines would be located within this catchment. The eastern half of the wind farm site and approximately 2km of the grid connection route would be located in the Inagh River surface water catchment. Six of the proposed turbines would be located within this catchment. Both catchments are within Hydrometric Area 28 of the Shannon River Basin District.

- In terms of local hydrology, the site lies within four surface water sub-catchments. The north-western and south-western sections of the wind farm site drain into the headwaters of the Glendine River and the Kildeema River, both of which enter the Atlantic at Spanish Point. The eastern section of the wind farm site drains into the headwaters of the Inagh River which enters the Atlantic north of Lahinch. The southern section of the grid connection route and the location for the substation extension are located in the Annagh River catchment.
- The following is observed relating to the four sub-catchments:
    - Sub-catchment A (headwaters of Glendine River valley) – This is covered by peat and poorly draining grassland. The catchment drains to three main streams. Streams 1 and 2 drain a broad valley with significant areas of cutover peat, and was noted as being very wet and quaking in places. Stream 3 emerges from a valley north of proposed turbine 7 and is significantly waterlogged. Proposed Turbine 7 and a construction compound would be within this catchment.
    - Sub-catchment B (headwaters of the Kildeema River valley) – This is dominated by poorly draining grassland and areas of thin peat. It drains to two main streams (Streams 4 and 5) that converge to form the Kildeema River. Borrow Pit 1 and the construction compound drain to Stream 4 on the western section. The location of proposed Turbine 8 drains to Stream 5 in the eastern section. The met mast and 2.4km of the grid connection route would also be within this sub-catchment.
    - Sub-catchment C – This eastern section of the wind farm site is steeply sloping terrain that drains to a river that is a tributary of the Inagh River. The catchment is drained by two main streams (Streams 6 and 7). 2.6km of the grid connection route would be located in this catchment.

    - Sub-catchment D (headwaters of the Inagh River valley) - This is dominated by blanket peat on the southern elevated area and by poorly draining grassland at the northern end. The catchment is drained by two main streams (Streams 8 and 9) that converge just beyond the northern boundary of the site. Stream 8 emerges from a steep-sided valley running in a northerly direction between proposed Turbines 2 and 5. Stream 9 emerges at the southern end of the catchment and drains conifer plantation in the vicinity of proposed Turbine 1. Proposed Turbines 1-6 would be located within this sub-catchment. Borrow Pit 2 and 1.5km of the grid connection route would also be located within this sub-catchment.

- There would be a total of 14 watercourse crossings associated with the grid connection route, of which four would be existing stream crossings and the other 10 would be existing culverts.
- All proposed turbine locations, substation, construction compounds, met mast, borrow pits and access roads are located at least 50m away from streams and are outside of the fluvial indicative 100-year flood zone.
- There are numerous manmade drains within the site, many of which drain the forestry plantations.
- The applicant noted a Q rating of 4 (Good Status) for the Glendine and Inagh Rivers downstream of the site and a Q rating of 3-4 (Moderate Status) for the Kildeema River.
- The rocks of the Central Clare Group underlie the site and are classified as a Locally Important Aquifer, having bedrock which is generally unproductive except for local zones. The vulnerability of the aquifer is classified as predominantly “Extreme”. Blanket peat, having a low permeability, overlies much of the site.
- The Milltown Malbay GWB underlies the site and extends west as far as the coastline. It is assigned ‘Good Status’.
- The only public water surface water abstraction in the area would be Lough Naminna which is some 10km south-east of the site. None of the proposed development would be within the surface water catchment of this lake.

- The EIAR notes that the Geological Survey of Ireland well database indicates that there are no private wells, public water supplies or group schemes within 1km of the site. The EIAR assumed that every private dwelling in the vicinity of the proposed development had a well water supply. Most were considered remote from the proposed development and that there would be no hydraulic connection between potential wells and groundwater flow from the site, given the bedrock geology and the unproductive nature of the underlying aquifer.

8.6.3. The assessment of the issue of water is inextricably linked with the soils and geology of this location, the proximity of the development to waterbodies, the extent of bogland on the site, and the potential to impact on waterbodies on and beyond this site. The applicant proposes a highly complex scheme of drainage provisions which are generic and not site-specific. I have questioned the ability to deliver on such precise provisions earlier and the suitability of generic concepts, with due regard also to the applicant's lack of understanding relating to existing site conditions and the reality of the construction environment and weather conditions that will prevail at that phase of the development. There will be a significant dependence on the suspension of extraction during periods of heavy rainfall to avoid potential pollution events which will require comprehensive control measures. These will potentially involve the application of emergency drainage provisions. The concerns about the containment, management and permanent storage of peat and other waste materials in two worked out borrow pits have been highlighted also. The entrainment of suspended solids and the release of nutrients to waterbodies from slippage, failure, and leakage are a distinct concern with the proposed development at this upland, bogland location.

8.6.4. I acknowledge that the applicant proposes an extensive range of drainage mitigation measures at the construction and operational phases (Section 9.5 of the EIAR). The complexity of the drainage management system proposed and reliance on very precise application in a challenging environment is again highlighted, as is the generic approach to addressing this crucial issue of environmental concern without site-specific, targeted measures.

8.7. Air and Climate

8.7.1. The applicant's EIAR identified, described and assessed potential effects on air quality and climate arising from the construction, operation and decommissioning of the proposed development.

8.7.2. My considerations are as follows:

- I have acknowledged earlier in my assessment that the principle of the development of a wind farm would be consistent with the aims of reducing greenhouse gas emissions, improving renewable energy production, and contributing to the aim of achieving a low carbon economy.
- The proposed development would impact on the consideration of the carbon balance between the use of the wind farm and the loss of carbon stored in the peat on the site. However, it is accepted that over time the CO_2 lost by the construction of the proposed development would be displaced by the carbon saving of the wind farm after its early years of operation. The findings on carbon losses and savings in Section 10.3.3 of the EIAR are noted.
- The principal air emissions that would arise would be at the construction phase and would relate to transport emissions and dust generation.
- There would be substantial separation distances between the proposed infrastructure associated with the wind farm development and established residential and farm developments in the area.
- The development would be subject to a Construction Environmental Management Plan and the applicant has an extensive range of mitigation measures aligned with good construction management to address impacts on air quality.

8.7.3. It is considered that the proposed development would not have any significant adverse impacts on air quality and climate.

8.8. Noise and Vibration

8.8.1. The applicant's EIAR considered the proposed development with due regard to sensitive receptors in the vicinity and examined existing noise sources and noise and vibration sources derived from the proposed development.

8.8.2. My planning assessment has examined the noise impact of the proposed development at the construction, operational and decommissioning phases. I do not propose to repeat these considerations but acknowledge the third party concerns expressed on adverse noise effects from existing wind farm development and on potential cumulative impacts, while I note the applicant's unsatisfactory conclusions drawn on mitigation provisions in the form of curtailment and addressing low frequency noise and amplitude modulation.

8.8.3. My considerations on vibration are as follows:

- The site is remote from sensitive receptors.
- The likely significant vibration impacts would arise at the construction phase of the proposed development. Such impacts would be short-term.
- It is not anticipated that the construction of the turbine bases (including piling), the erection of the turbines, the construction of the substation extension, the development of access roads, the provision of borrow pits (including blasting activity), or the construction traffic would result in guidance limits relating to vibration being exceeded at any of the nearest sensitive receptors.

8.9. Landscape and Visual Impact

8.9.1. The Board will note my earlier assessment of the environmental effects of the proposed development in terms of landscape and visual impacts. I do not propose to repeat that assessment here. Suffice to indicate the following:

- The proposed development would have significant adverse landscape and visual impacts, both locally and over greater distances from roads and from tourist and amenity locations of national and international importance and it would impact on scenic views from designated Scenic Routes

- The height, scale and siting of the proposed turbines would result in the development being highly visible.
- The applicant's EIAR clearly shows the prominence of a development of this scale within and from sensitive landscapes and how there would be expansive views of the proposed turbines throughout much of the wider area within the defined Zone of Theoretical Visibility.
- Incongruity with the natural landscape cannot be avoided by the manner in which the proposed development is intended to be developed, i.e. turbines of significant height and scale placed on the top of Slieveacurry, emphasising their prominence and visibility.
- The cumulative impact of the proposed development with existing wind farm development at this location would be significant, with landscape and visual impacts greatly increased for important coastal tourism and amenity locations as proposed turbines encroach further north-westwards.

8.9.2. Overall, it is reasonable to conclude that the proposed development would have a significant landscape and visual impact on its own and cumulatively with other wind farm developments. It would have a profound impact at local level.

8.10. Cultural Heritage

8.10.1 The applicant's EIAR examined the potential impacts of the proposed development on recorded archaeology and the cultural heritage of the site and the area in which it is proposed to be located.

8.10.2 My considerations are as follows:

- The site of the proposed development comprises upland bogland and coniferous forestry mainly. The principal features of cultural heritage relevant to the site's location relate to archaeology. The nearest structure on the Record of Protected Structures is a derelict national school (RPS No. 637) on the north side of a trackway to the north of Regional Road R460 and more than 900m from the nearest proposed turbine (Turbine 7). There would be no impacts on this structure from the proposed development. Five other

structures on the Record of Protected Structures are located within 5km of a nearest proposed turbine. The closest of these (a 19th century house) is more than 2.5km to the nearest proposed turbine. Other features of cultural heritage in the area include vernacular structures and townland and field boundaries. The proposed development would not significantly impact on these other features and mitigation is proposed to address any notable effects.

- The EIAR states that there are no National Monuments within the EIAR site boundary, the nearest being in excess of 7km from proposed Turbine 1. One Recorded Monument is located within the EIAR site boundary, namely a multiple stone circle (CL031-052) which is located at Curraghodea and is south-west of the location for proposed Borrow Pit 2 (c. 80m from it) and proposed Turbine 5 (274m from it), while proposed Turbine 6 would be 572m to the south-west. A second Recorded Monument is located on the site's boundary at Silverhill to the west of proposed Turbine 7, namely an earthwork (CL031-019). Eighty-five Recorded Monuments are located within 5km of proposed turbines. Only three other monuments are located between 1 and 2km of a nearest proposed turbine. There are substantial separation distances between proposed turbines and most of the Recorded Monuments.
- I acknowledge that the assessment of the impact on the setting of archaeological sites beyond the site of the proposed development can be subjective but again note the extent of assessment of this issue within the EIAR. This has demonstrated that the likely indirect impacts on the wide range of monuments would not be significant.
- I note that the principal mitigation measure intended to protect physical impacts of works on the multiple stone circle (CL031-052) at Curraghodea is the introduction of a 30m exclusion zone. I note that the applicant acknowledges that it is not possible to mitigate potential indirect effects on this monument from the completed development. It is apparent that the scale, height and proximity of turbines would ensure their visibility to and from this monument. While I understand that the visual setting of this monument has in many ways been distorted already by the extent of commercial forestry in the vicinity, it remains reasonable to determine that the physical context and setting for this monument would be materially altered by the form, scale and proximate presence of the proposed development. This cannot be mitigated.

- Pre-construction stage licensed archaeological testing is proposed along new roads in non-forested areas, at the turbine bases and hardstands for Turbines 3, 5, 6 and 7, at the proposed borrow pit to the south of proposed Turbine 5, and along sections of the grid connection route.
- I note that archaeological monitoring during construction is proposed for all ground works.
- I acknowledge that, as wind farm development increases in this area, the cumulative impact on the surrounding archaeological resource would likely increase.
- The applicant has provided a range of mitigation measures, including archaeological monitoring of groundworks as referenced.

8.10.3 Overall, I conclude that the proposed development is likely to have an environmental impact on the setting of Recorded Monument CL031-052. This impact cannot be mitigated and must be accepted as a negative impact if the proposed development is to proceed. I do not consider that there are any other impacts on cultural heritage that are significant.

8.11. Material Assets

8.11.1 The material assets examined by the applicant were transportation infrastructure and telecommunications and aviation. The Board will note my assessment on traffic impact and I do not propose to repeat the conclusions drawn in that assessment. Suffice to indicate that the applicant has comprehensively assessed the proposed delivery access route and the construction-related traffic impacts, has identified where the potential impacts would likely result, and has drawn up a range of mitigation measures to reduce the significance of the potential impacts. With the proposed mitigation measures, I do not envisage there would be any substantial long-term adverse impact for the road network affected.

8.11.2 On matters relating to telecommunications and aviation, I submit the following:

- I note that the applicant was in consultation with national and regional broadcasters, fixed and mobile telephone operators, aviation authorities, and other relevant service providers. The responses received are acknowledged.
- There would be no impacts on telephone and broadband operators generally.
- The report of the Irish Aviation Authority to the planning authority requested that, in the event of a grant of planning consent, the applicant should be conditioned to contact the IAA to agree an aeronautical obstacle light warning scheme, provide coordinates, and notify it of the intention to commence crane operations with 30 days prior notification.
- The report of Shannon Airport Authority indicated that the proposed development would not have any effect on Shannon Airport obstacle limitation surfaces and requested the applicant to engage with the Irish Aviation Authority to assess impact on flights procedures and communication, navigation and surveillance equipment.

8.11.3 The environmental impacts of the proposed development at the construction and operational phases on telecommunications and aviation would not be significant in my opinion.

8.12. Cumulative Impacts

8.12.1 I note that the applicant in each section of the EIAR considered the cumulative impacts of the proposal with other land uses, plans and projects in the wider area. I further note the extent of established and proposed wind farm developments in what may reasonably be termed the immediate vicinity of this site. I am satisfied that there are clearly a number of wind farm projects which could reasonably be determined to constitute development that would derive significant cumulative environmental impacts with the proposed development, notably in relation to the ornithological impact and the landscape and visual impact, as well as some potential concerns arising from potential increased noise for the wider community. The proximity to and cumulative effects with the adjoining Slieve Callan Wind Farm in particular, in

relation to ornithological and landscape and visual impacts, have been assessed above. These cumulative impacts are significant in both instances.

8.13. Interaction of Impacts

8.13.1 Chapter 15 of the EIAR examined the interactions of the potential impacts arising. A matrix is presented to identify potential interactions (Table 15-1). I have considered the interrelationships between factors and whether these might affect the environment, even though in some instances the effects may be acceptable on an individual basis. In conclusion, I am satisfied that there would be significant adverse effects arising, particularly for population and human health / soils / geology /water / climate / biodiversity and for landscape / biodiversity, which cannot be avoided, managed or mitigated by the measures which form part of the proposed development or by planning conditions. There are concerns which remain in relation to human health and noise. My assessment details the extent of adverse impacts arising.

8.14. Major Accidents

8.14.1 I note Section 5.5.5 of the EIAR which refers to the vulnerability of the project to natural disasters and major accidents. Reference is made therein to peat stability and the applicant's conclusions on this. I repeat again for the Board that there can be no safe reliance on the applicant's submission on this issue because of the clear lack of understanding of conditions at this site and the complete reliance on concepts, not measures based on fact from site investigation. The generic approach applied in this instance, which has been repeatedly applied elsewhere at other wind farm developments, is not site-specific or project-specific. Peat failures and landslides at the construction stage of wind farm developments have occurred, and do occur, because there is a lack of knowledge about site conditions, which if they were understood do require a site-specific and targeted range of measures to address potential failure. It is entirely unsafe to rely on conceptual proposals, which would be subject to variation and changes in response to what is found at the time of construction, to protect this area from adverse environmental impact. This would not

be tolerated for any waste management facility project and should not be so accepted for a waste management proposal of this scale.

I recognise that fire risk can be a potential hazard from the operations of a wind farm. I consider that it is reasonable to observe that the remote siting of the development from established residential and other development, the application of modern technologies and continued monitoring of infrastructure would aid in reducing significant fire risks to the wider community.

8.15. Reasoned Conclusion

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

- An extensive range of birds of conservation value have been observed on, over and in close proximity to the site in the applicant's surveys, indicating that this is an area of significant ornithological value. This is a location that is of international and national importance for Hen Harrier. The decline in Hen Harrier in this location is recognised and the significance of cumulative impacts from extensive wind farm development in this area is of concern. There are 8 wind farms within a 12km radius of the site and there are 72 operating turbines, inclusive of the 29 turbines at Slieve Callan alongside the proposed site. The applicant's mitigation measures would be unsupportable, ineffective and non-binding on landowners and would not address the further decline of Hen Harrier in the area. Further habitat loss, displacement, and collision risk by yet more turbines would result. The adverse effects for other Annex I bird species and other birds of conservation value under threat are further noted. This adverse cumulative ornithological impact is compounded by the proposed turbines being significantly higher and larger in scale than the average turbines existing at present at this location, posing a notably greater risk of collision and avian displacement. The adverse cumulative impact would be significant.

- There is a breeding colony of Annex II Marsh fritillary on the site and proposed infrastructure would be sited adjacent to suitable habitat and locations where colonies of the species have been mapped. This species of conservation value is prevalent at this location due to the abundance of Devil's-Bit Scabious, aided by the remote nature of the site from manmade interference. The proposed development would likely result in the habitat being substantially altered, interfered with and, ultimately, its value degraded and lost, resulting in unacceptable environmental impacts on this Annex II species.

- The proposed development poses a significant risk to waterbodies arising from site drainage and spoil management provisions and the distinct uncertainty and clear lack of knowledge relating to both. A significant volume of waste material totalling 110,500m^3, including 55,800m^3 of peat, is required to be handled, stored and managed on this site. The proposals to excavate borrow pits, subsequently to be used as spoil repositories, and to seek to contain and store extensive volumes of peat and other spoil material on hillsides, the development of access tracks across deeper areas of peat, the construction of turbines and hardstanding areas on peat-dominant land, the removal of conifer plantation, and the provision of a highly complex generic drainage system reliant on very precise and consistent measures to ensure safe functionality, would result in a significant pollution threat to waterbodies and the wider environment resulting from failure and slippage.

- The functioning of the wind farm would be reliant upon a detailed noise curtailment strategy, details of which are not known at this stage. It is further understood that the proposed development may be reliant upon alternative turbine technologies to address noise impacts, details of which are also not known. Furthermore, it is accepted that the potential exists for low frequency noise and for amplitude modulation impacts. The Wind Energy Guidelines provide no guidance on these noise impacts. The applicant does not have measures to mitigate these noise impacts in the event they arise. The Board

could not be satisfied that the proposed development would not seriously injure the amenities of residential property in the vicinity by way of noise effects.

- The proposed development would result in significant adverse landscape and visual impacts arising from the siting, scale and height of the proposed turbines, and the cumulative impact with the extensive number of established turbines at Slieve Callan in the immediate vicinity of the site. The proposed development would be highly prominent over an extensive geographical area, would have a dominant, obtrusive, skyline impact on visually and environmentally sensitive landscapes, and would impact on the amenity and tourism value of the area. The proposal would significantly add to the extent of turbines on the existing ridgeline, much more detrimentally over those that exist in the vicinity, and it would expand the linear spread of turbines as understood in the wider environment. This cumulative impact and siting of the proposed development would contribute further to the erosion of the quality of the natural landscape.

- The proposed development is likely to have an environmental impact on the setting of Recorded Monument CL031-052. This impact cannot be mitigated and must be accepted as a negative impact if the proposed development is to proceed. It is understood that the visual setting of this monument has already been distorted by the extent of commercial forestry in the vicinity.

8.15.2 The submitted EIAR has been considered with regard to the guidance provided in the EPA documents 'Guidelines for Planning Authorities and An Bord Pleanála on Carrying our Environmental Impact Assessment' (2018), 'Guidelines on the Information to be Contained in Environmental Impact Assessment Reports' (draft August 2017), and 'Advice Notes for Preparing Environmental Impact Statements' (draft September 2015). It is noted that Article 3 (2) of Directive 2014/52/EU requires that:

'The effects referred to in paragraph 1 on the factors set out therein shall include the expected effects deriving from the vulnerability of the project to risks of major accidents and / or disasters that are relevant to the project concerned'.

8.15.3 My considerations on major accidents are set out earlier. Suffice to indicate there is a serious risk relating to site drainage and spoil management with the proposed development, which would constitute a potential significant environmental accident arising from such an event.

8.15.4 In conclusion, the likely significant environmental impacts arising as a consequence of the proposed development have been satisfactorily identified, described and assessed. I am satisfied that there would be significant adverse residual impacts relating to population and human health, soils, geology, water, biodiversity, and noise. Therefore, the proposed development is determined to have unacceptable direct and cumulative impacts on the environment. The benefits resulting from this renewable energy project cannot, and would not, outweigh the serious adverse environmental effects which its construction and operation would likely deliver.

9.0. Appropriate Assessment

9.1. Screening for Appropriate Assessment

9.1.1. *Background*

I note that the applicant submitted an Appropriate Assessment Screening Report as Appendix 1 of the Natura Impact Statement (NIS) submitted to the planning authority. This Stage 1 AA Screening Report was prepared in line with current best practice guidance. It provides a description of the proposed development, identifies European sites within a possible zone of influence of the development, identifies the possibility of significant effects, addresses the likely cumulative impact, and assesses the significance of potential impacts. The conclusion of the applicant's AA Screening Report is as follows:

"*Following an examination, analysis and evaluation of the relevant data and information set out within this Screening Report, it cannot be excluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the proposed development, individually or in combination with other plans and projects, would be likely to have a significant effect on the following sites:*

- *Inagh River Estuary SAC*
- *Carrowmore Point to Spanish Point and Islands SAC*
- *Mid-Clare Coast SPA*

As a result, an Appropriate Assessment is required, and a Natura Impact Statement has been prepared in respect of the proposed development in order to assess whether the proposed development will adversely impact the integrity of these European Sites.

No pathways for significant effect on any other European Site were identified. Thus, it can be excluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the proposed development, individually or in combination with other plans and projects, would be likely to have a significant effect on any other European Sites, other than Inagh River Estuary SAC, Carrowmore Point to Spanish Point and Islands SAC & Mid-Clare Coast SAC."

Having reviewed the screening document and additional submissions to the planning authority, I am satisfied that the information allows for an examination and identification of potential significant effects of the development, alone or in combination with other plans and projects, on European sites.

Note: This screening is undertaken without consideration being given to the potential for a landslide, peat slippage and/or site drainage failures. It is noted that the applicant's screening did not consider this issue.

9.1.2. ***Description of Development***

The applicant provides a description of the project and the characteristics of the project in Section 2 of the AA Screening Report. In summary, the development comprises:

- 8 no. turbines with an overall ground to blade tip height in the range of 175m maximum to 173m minimum, a blade length in the range of 75m maximum to 66.6m minimum, and hub height in the range of 108.5m maximum 100m minimum;
- A meteorological mast with a maximum height of 30m;
- Underground cabling (33kV) connecting the proposed turbines via a Ring Main Unit (RMU) to the 110kV substation in the townland of Knockalassa;
- Permanent extension to the 110kV substation at Knockalassa comprising an extension to the existing substation compound, provision of a new control building with welfare facilities and all associated electrical plant and equipment for an additional 110kV bay and security fencing;
- Upgrade of access junctions;
- Upgrading of existing tracks/roads and provision of new site access roads and hardstand areas;
- 2 no. borrow pits;
- 2 no. temporary construction compounds;
- Site drainage;
- Forestry felling (minimum 26.59ha / maximum 58.49 ha);
- Operational stage site signage; and
- All associated site development ancillary works and apparatus.

The application seeks a ten-year permission and 30-year operational life from the date of commissioning. It is proposed that the export capacity would range between 30 to 40MW.

9.1.3. ***European Sites***

I note that the applicant identified and examined five Special Areas of Conservation and three Special Protection Areas. Due to there being no existing pathways for significant effect, it was determined that there was no potential for significant effects on the Carrowmore Dunes SAC, the Lower River Shannon SAC, the East Burren Complex SAC, the Cliffs of Moher SPA, and the Corofin Wetlands SPA. This is accepted and further assessment of the likely effects on these five European sites is not required.

Inagh River Estuary SAC is located 6.8km from the site and in excess of 20km downstream. Carrowmore Point to Spanish Point and Islands SAC is located 7.2km from the site. Mid-Clare Coast SPA is located 7.2km from the site.

The qualifying features of conservation interest and conservation objectives for these sites are as follows:

Inagh River Estuary SAC (Site Code: 000036)

Qualifying Features

Salicornia and other annuals colonising mud and sand

Atlantic salt meadows (Glauco-Puccinellietalia maritimae)

Mediterranean salt meadows (Juncetalia maritimi)

Shifting dunes along the shoreline with Ammophila arenaria (white dunes)

Fixed coastal dunes with herbaceous vegetation (grey dunes)

Conservation Objectives

To restore the favourable conservation condition of the Qualifying Features.

Carrowmore Point to Spanish Point and Islands SAC (Site Code: 001021)

Qualifying Features

Coastal lagoons
Reefs
Perennial vegetation of stony banks
Petrifying springs with tufa formation (Cratoneurion)

Conservation Objectives

To maintain the favourable conservation condition of the Qualifying Features.

Mid-Clare Coast SPA (Site Code: 004182)

Qualifying Features

Cormorant (Phalacrocorax carbo)
Barnacle Goose (Branta leucopsis)
Ringed Plover (Charadrius hiaticula)
Sanderling (Calidris alba)
Purple Sandpiper (Calidris maritima)
Dunlin (Calidris alpina)
Turnstone (Arenaria interpres)
Wetland and Waterbirds

Conservation Objectives

To maintain the favourable conservation condition of each of the Species of Conservation Interest and wetland habitat in the SPA as a resource for the regularly occurring migratory waterbirds that utilise it.

9.1.4. ***Identification of Likely Effects***

It is first acknowledged that the proposed development is not connected with or necessary for the conservation management of any Natura 2000 site. I further note that the site and all works associated with the proposed development are intended to take place outside of the above referenced SACs and SPA. As a result, there would be no direct loss of habitat within these European sites.

The following is observed:

- There is hydrological connectivity between the proposed development and Inagh River Estuary SAC (via on-site watercourses and the Derrymore River), Carrowmore Point to Spanish Point and Islands SAC (via the Kildeema Stream and Annagh River), and Mid-Clare Coast SPA (via the Annagh and Glendine Rivers).
- With regard to Inagh River Estuary SAC, there is no potential for indirect effects via surface water pollution on Shifting dunes along the shoreline with Ammophila arenaria or Fixed coastal dunes with herbaceous vegetation due to either an absence of connectivity with the works or the nature of habitats or species.
- With regard to Carrowmore Point to Spanish Point and Islands SAC, no pathway for effect has been identified on Perennial vegetation of stony banks as this is a terrestrial-based habitat and no hydrological connectivity has been identified between the proposed development and Coastal lagoons.

- With regard to Mid-Clare Coast SPA, it is noted that none of the SCI species for which the SPA has been designated were recorded during dedicated bird surveys between April 2016 and March 2018. Furthermore, the site of the proposed development does not provide suitable supporting habitat for the SCI bird species for which the SPA is designated. At a distance of 7.2km from the proposed site, displacement/disturbance effects on SCI species for this SPA and collision risk with operating turbines can reasonably be excluded.

Having regard to the hydrological connectivity downstream with these European sites, potential pathways exist for indirect effects arising from the deterioration of surface water quality resulting from pollution associated with the construction and operational phases of the proposed development. Therefore, there are potential indirect effects for:

- Salicornia and other annuals colonising mud and sand, Atlantic salt meadows and Mediterranean salt meadows in the Inagh River Estuary SAC,
- Reefs and Petrifying springs with tufa formation in Carrowmore Point to Spanish Point and Islands SAC, and
- Wetland and Waterbirds in Mid-Clare Coast SPA.

It is, therefore, concluded that significant effects on these surface water dependent qualifying interests of the SACs and the Wetland and Waterbird qualifying interest of the SPA cannot be excluded beyond reasonable scientific doubt.

9.1.5. ***In-combination Effects***

Cumulative in-combination effects could potentially result with forestry felling and further forestry plantation at this location and with other existing and proposed wind farm and other development in the wider area. Thus, it is accepted that there is potential for significant cumulative effects with other potential sources of pollution in the area.

9.1.6. ***Mitigation Measures***

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

9.1.7. ***Screening Determination***

The proposed development has been considered in light of the requirements of Section 177U of the Planning and Development Act 2000 as amended. Having carried out Screening for Appropriate Assessment of the project, it has been concluded that the project individually or in combination with other plans or projects would be likely to give rise to significant effects on Inagh River Estuary SAC (Site Code: 000036), Carrowmore Point to Spanish Point and Islands SAC (Site Code: 001021), and Mid-Clare Coast SPA (Site Code: 004182), in view of their Conservation Objectives, and Appropriate Assessment is therefore required.

This determination is based on the following:

- The nature and extent of the proposed works associated with the proposed development and the operation of the wind farm, and
- The known pathways between the site and the European sites.

9.2. Appropriate Assessment

9.2.1. **Background**

The proposed development is not directly connected to or necessary for the management of any European site. It is therefore subject to the provisions of Article 6(3) of the EU Habitats Directive. Following the screening process above, it has been determined that appropriate assessment is required as it cannot be excluded on the basis of objective information that the proposed development individually or in-combination with other plans or projects will have a significant effect on Inagh River Estuary SAC, Carrowmore Point to Spanish Point and Islands SAC, and Mid-Clare Coast SPA. The possibility of significant effects on other European sites has

been excluded on the basis of objective information. Measures intended to reduce or avoid significant effects were not considered in the screening process.

9.2.2. **Natura Impact Statement**

The Natura Impact Statement (NIS) summarises the AA Screening Report, gives a description of the project, identifies characteristics of the receiving environment and the relevant Natura 2000 sites, discusses potential direct and indirect effects on European sites, and considers residual adverse effects and in-combination effects. The NIS had due regard to the range of studies, field surveys and consultations undertaken as part of the application. The NIS was prepared in line with current best practice and provides an assessment of a range of potential effects on the SACs and the SPA arising from the proposed development.

The NIS concluding statement was as follows:

"*This NIS has provided an assessment of all potential direct or indirect adverse effects on European Sites.*

Where the potential for any adverse effect on any European Site has been identified, the pathway by which any such effect may occur has been robustly blocked through the use of avoidance, appropriate design and mitigation measures as set out with this report and its appendices. The measures ensure that the construction and operation of the Proposed Project does not adversely affect the integrity of European sites.

Therefore, it can be objectively concluded that the Proposed Development, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site."

I note the submission received the Department of Housing, Local Government and Heritage on this application, the considerations of the planning authority, the applicant's consultation with prescribed bodies and other interested bodies and agencies, and the third party submissions.

Having reviewed the documents, submissions, reports and consultations, I am satisfied that the available information allows for an assessment of adverse effects of the development on the conservation objectives of Inagh River Estuary SAC, Carrowmore Point to Spanish Point and Islands SAC, and Mid-Clare Coast SPA alone, or in combination with other plans and projects.

9.2.3. **Appropriate Assessment**

Introduction

This assessment considers all aspects of the proposal which could result in significant effects and mitigation measures designed to avoid or reduce any adverse effects are considered and assessed. The assessment has had due regard to the applicant's submitted Natura Impact Statement, the Environmental Impact Assessment Report, the reports received by the planning authority and the Board, and third party submissions.

The following guidance is adhered to in the assessment:

DoEHLG (2009) Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities.

EC (2002) Assessment of plans and projects significantly affecting Natura 2002 sites. Methodological guidance on the provisions of Articles 6(3) and 6(4) of te Habitats Directive 92/43/EC.

EC (2018) Managing Natura 2000 sites.

European Sites

The following sites are subject to appropriate assessment:

- Inagh River Estuary SAC (Site Code: 000036)
- Carrowmore Point to Spanish Point and Islands SAC (Site Code: 001021)
- Mid-Clare Coast SPA (Site Code: 004182)

A description of these sites and their Conservation and Qualifying Interests / Special Conservation Interests are set out in the NIS. Details of these are set out in the Screening undertaken earlier in this report.

Relevant Aspects of the Proposed Development

In terms of regional hydrology, the western half of the wind farm site, the substation extension works and approximately 4.5km of the grid connection cable route would

be located in the Annagh River catchment. Two of the proposed turbines would be located within this catchment. The eastern half of the wind farm site and approximately 2km of the grid connection route would be located in the Inagh River surface water catchment. Six of the proposed turbines would be located within this catchment. In terms of local hydrology, the site lies within four surface water sub-catchments. The north-western and south-western sections of the wind farm site drain into the headwaters of the Glendine River and the Kildeema River, both of which enter the Atlantic at Spanish Point. The eastern section of the wind farm site drains into the headwaters of the Inagh River which enters the Atlantic north of Lahinch. The southern section of the grid connection route and the location for the substation extension are located in the Annagh River catchment.

Section 3 of the applicant's NIS details the characteristics of the proposed works associated with the project and Section 7 identifies other plans, projects and activities relating to potential in-combination effects. I acknowledge again that the site is outside of and beyond the boundaries of any European site and, as a result, there would be no direct effects on the qualifying interests of any European site. Inagh River Estuary SAC is located 6.8km from the site and in excess of 20km downstream, Carrowmore Point to Spanish Point and Islands SAC is located 7.2km from the site, and Mid-Clare Coast SPA is located 7.2km from the site.

The main aspects of the proposed development that could adversely affect the conservation objectives of Inagh River Estuary SAC, Carrowmore Point to Spanish Point and Islands SAC, and Mid-Clare Coast SPA relate to the potential for construction, operational and decommissioning activities to indirectly impact on surface water quality by way of pollution.

The potential effects would include:

- Deterioration of water quality arising from a landslide, peat slippage and/or site drainage failure affecting aquatic habitats and species in the European sites,
- A reduction in water quality by way of silt runoff, hydrocarbons, cementitious material and other pollutants during construction, operation and

decommissioning which could affect the aquatic habitats and species in the SACs, and

- Deterioration in surface water quality by way of silt runoff, hydrocarbons, cementitious material and other pollutants during construction, operation and decommissioning which could affect the supporting wetland habitat of SCI waterbirds in the SPA.

The Board will note that the applicant's NIS did not definitively address the likely significant effects on European sites arising from a potential landslide, peat slippage or site drainage failure. My planning assessment on this issue in relation to management of spoil, drainage provisions and the assessment of soils, geology and water in the EIA section of my assessment have clearly detailed the concerns relating to a risk of a landslide, peat slippage and drainage failure resulting from the proposed development. The outcome arising from one or all of these would have profound impacts on the surface waters of an expansive area in the vicinity of this site, leading to potential significant effects on the referenced European sites. The following observations synopsise the issues and concerns at hand:

- The proposed development includes the excavation and management of 55,800m^3 peat, with the overall total volume of spoil estimated at 110,500m^3. This a huge volume of waste material, and peat in particular, to be managed on this upland site.
- The proposed development includes deep excavations for turbine bases, development of hardstanding areas, the construction of access roads cutting across the contours on bogland and providing preferential flow paths for surface waters, along with the development of other infrastructure, including new roads and extending existing roads. Significant components of the proposed development are intended to be sited in close proximity to watercourses.
- There are serious concerns relating to the upland, hillside nature of the area for the proposed repositories (i.e. the borrow pits), the proximity to existing watercourses, the characteristics of disaggregated peat, the volume and pattern of rainfall in this location, and the distinctive uncertainties relating to the proposed systems for retaining the deposited waste materials.

- The proposed development intends to address the serious threats to surface waters by seeking to employ a generic drainage system in a peat-dominated environment.
- The potential destabilising impacts of proposed engineered drainage works are noted, together with clear felling (up to 58.49 ha.), at a sensitive upland location, where there are concerns about the functionality of the proposed provisions, the timing of construction works, and the ability to adequately manage and maintain such drainage infrastructure.

In my opinion, there must be an evident concern that entrainment of suspended solids and the release of nutrients to waterbodies arising from a possible landslide or failure to contain huge volumes of peat and other waste materials constitute a realistic potential outcome, with potential significant effects for European sites with which the site has hydrological connectivity.

9.2.4. **Mitigation**

Section 5 of the applicant's NIS refers to the range of mitigation measures intended to be employed as part of the proposed development. The measures focus on the implementation of a Construction and Environmental Management Plan (CEMP), including drainage, peat and overburden management and waste management, at the construction phase. Mitigation measures at the operational and decommissioning phases are also set out in the CEMP. The drainage plan for the site is also referenced. The CEMP and the Geotechnical and Peat Stability Assessment Report are appended to the NIS.

I submit to the Board that, in the event of a landslide, peat slippage and/or site drainage failures, the applicant's proposed mitigation measures will not work. Indeed, I contend that the applicant's proposed mitigation measures may exacerbate the potential for failure on this site at the construction stage, by creating instability. In my opinion, there is clear scientific doubt about the effectiveness of the applicant's proposed mitigation measures, notably relating to peat and waste material storage and management and site drainage.

9.2.5. **Potentially Significant Cumulative Effects**

I note Section 7 of the applicant's NIS wherein a review of plans and projects with the potential to result in cumulative and/or in-combination effects was undertaken. This included a review of the relevant provisions of Clare County Development Plan and Clare Biodiversity Action Plan, the National Biodiversity Action Plan, the RSES for the Southern Region, other existing and proposed wind farm and energy-related developments in the wider area, tree felling and replanting and other non-renewable energy related planning applications in the area.

The proposed development individually poses a significant threat from a landslide / failure to contain peat and other waste spoil and, thus, could potentially be likely to adversely affect the integrity of the identified European sites. The unknown effect arising from the combined effects with other developments in the vicinity of this site is an uncertainty which does not allow a definitive conclusion to be drawn on potential significant cumulative effects *beyond scientific doubt*. There is no understanding of potential on- and off-site effects from development in the vicinity. I cannot reasonably conclude from this application that the Board is capable of determining that all reasonable scientific doubt has been removed.

9.2.7. **Determining Residual Impacts**

Having regard to my considerations on the potential for a landslide, peat/waste spoil slippage, and/or site drainage failure arising from the construction of the proposed development and the lack of any clear understanding about cumulative effects with other development in the vicinity of the site, I cannot concur with the applicant's inference that, if the proposed mitigation measures are implemented in full, it is expected that significant effects would not result for the qualifying features of Inagh River Estuary SAC, Carrowmore Point to Spanish Point and Islands SAC, and Mid-Clare Coast SPA.

Following my appropriate assessment of the proposed development and, with due regard to consideration of the proposed mitigation measures, I am not able to ascertain with any confidence that the proposed development would not adversely affect the integrity of Inagh River Estuary SAC, Carrowmore Point to Spanish Point and Islands SAC, and Mid-Clare Coast SPA in view of the Conservation Objectives of these sites. This conclusion is drawn on a complete assessment of all implications

of the proposed development alone and in combination with other plans and projects.

9.2.8. **Appropriate Assessment Conclusion**

The proposed development has been considered in light of the assessment requirements of the Planning and Development Act 2000 as amended.

Having carried out screening for appropriate assessment of the project, it was concluded that it may have a significant effect on Inagh River Estuary SAC, Carrowmore Point to Spanish Point and Islands SAC, and Mid-Clare Coast SPA. Consequently, an appropriate assessment was required of the implications of the project on the qualifying features of those sites in light of their conservation objectives.

Following an appropriate assessment, it has been ascertained that it cannot be determined beyond reasonable scientific doubt that the proposed development, individually or in combination with other plans or projects, would not likely adversely affect the integrity of Inagh River Estuary SAC, Carrowmore Point to Spanish Point and Islands SAC, and Mid-Clare Coast SPA, in view of the sites' Conservation Objectives.

This conclusion is based on a complete assessment of all aspects of the proposed project. It is concluded that there is reasonable doubt as to the absence of adverse effects.

This is based on:

- A full and detailed assessment of all aspects of the proposed project, including proposed mitigation measures;
- Assessment of in-combination effects with other plans and projects; and
- Reasonable scientific doubt as to the absence of adverse effects on the integrity of Inagh River Estuary SAC, Carrowmore Point to Spanish Point and Islands SAC, and Mid-Clare Coast SPA.

10.0 **Recommendation**

I acknowledge that the site of the proposed development is located in an area designated a ‘Strategic Area’ in the Clare Wind Energy Strategy. This designation does not mean that it would override significant environmental effects arising from the proposed development. The adverse biodiversity and ornithological impact arising from the proposed development (for Marsh fritillary and Hen Harrier in particular), the drainage and spoil management concerns, the potential adverse noise impacts for neighbouring residents, and the landscape and visual impacts cannot be ignored.

I recommend as follows:

Appropriate Assessment

The Board agreed with the screening assessment, appropriate assessment and conclusion contained in the Inspector’s report that Inagh River Estuary SAC (Site Code: 000036), Carrowmore Point to Spanish Point and Islands SAC (Site Code: 001021), and Mid-Clare Coast SPA (Site Code: 004182) are the European sites for which there is a likelihood of significant effects.

The Board considered the submitted Screening Report for Appropriate Assessment, the Natura Impact Statement and all other relevant submissions and carried out an appropriate assessment in relation to the potential effects of the proposed development on the above referenced European sites. The Board noted that the proposed development is not directly connected with or necessary for the management of a European site and considered the nature, scale and location of the proposed development, as well as the report of the inspector. In completing the appropriate assessment, the Board adopted the report of the inspector and concluded that it cannot be determined beyond reasonable scientific doubt that the proposed development, individually or in combination with other plans or projects, would not likely adversely affect the integrity of Inagh River Estuary SAC, Carrowmore Point to Spanish Point and Islands SAC, and Mid-Clare Coast SPA, in view of the sites’ Conservation Objectives.

Environmental Impact Assessment

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

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

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

(c) The submissions received from the planning authority, prescribed bodies and third parties, and

(d) The Inspector's report.

The Board considered that the Environmental Impact Assessment Report, supported by the documentation submitted by the applicant, adequately considers alternatives to the proposed development and identifies and describes the direct, indirect, secondary and cumulative effects of the proposed on the environment.

The Board agreed with the examination set out in the Inspector's report of the information contained in the Environmental Impact Assessment Report and associated documentation submitted by the developer and submissions made in the course of the planning application.

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

- A significant risk from water pollution and habitat destruction, with due regard to the development occurring on a peat-dominated environment, the requirement for significant volumes of waste peat and spoil material to be handled, stored and managed on the upland site, the uncertainties relating to the provisions to contain and store these extensive volumes of peat and other spoil material on the site, the development of access tracks across deep areas of peat, the construction of turbines and hardstanding areas on bog, the removal of extensive conifer plantation, and the provision, functionality of and reliance on a highly complex, yet conceptual and generic, drainage system in light of the uncertainties.

- Habitat loss, displacement and collision risk arising from a development of this scale, height and location for birds of conservation value, including Annex I species Hen Harrier, Golden Plover, Merlin and Peregrine Falcon and Red-listed Curlew, Red Grouse, Kestrel, Common Snipe and Woodcock, together with the cumulative ornithological impact arising with established wind farm development in the immediate vicinity leading to erosion of the quality of the environment for sensitive bird species of conservation value by distorting migratory routes, eroding habitat, encroaching on foraging areas, and affecting opportunities for roosting and breeding sites.

- Habitat loss and displacement for a breeding colony of Annex II species Marsh Fritillary due to the siting of the proposed development in the immediate vicinity of established habitat and the resulting alteration, interference with and degradation of this habitat.

- A significant risk of adverse noise impacts for neighbouring residents arising from the reliance on a detailed noise curtailment strategy the details of which are unknown at this stage, or on alternative turbine technologies the details of which are also unknown, as well as the lack of any measures to mitigate the adverse noise impacts resulting from low frequency noise and amplitude modulation.

- Significant adverse landscape and visual impacts arising from the siting, scale and height of the proposed turbines, which would be highly prominent over an extensive geographical area, would have a dominant, obtrusive, skyline impact on visually and environmentally sensitive landscapes, and would impact on the amenity and tourism value of the area, together with the cumulative impact of the proposed development with other wind farm development at this location and the expansion of the linear spread of turbines undermining valued scenic, tourist and amenity locations, which would contribute further to the erosion of the quality of the natural landscape.

The Board completed an environmental impact assessment in relation to the proposed development and concluded that the effects of the development on the

environment, by itself and in combination with other plans and projects in the vicinity, would not be acceptable due to the health and safety risks and the environmental impacts arising from a potential failure to contain waste peat and other spoil material, the impact on Marsh fritillary and protected bird species, the potential adverse noise impacts, and the adverse landscape and visual impacts. In doing so the Board adopted the report and conclusions of the inspector.

Having regard to the conclusions drawn in my planning assessment, the assessment of environmental impacts and my assessment of likely significant effects on European sites, I recommend that permission is refused for the proposed development for the following reasons and considerations:

Reasons and Considerations

1. Having regard to:

(a) The upland and sloping nature of the terrain;

(b) The high rainfall levels prevalent at this location;

(c) Blanket bog being the dominant soil type at the site;

(d) The mapped trending faults intersecting the wind farm site;

(e) The high density of drainage channels throughout the site, both natural and man-made;

(f) The timing of construction works outside of the breeding season for birds coinciding with wetter periods;

(g) The areas of trees to be clear felled, with peat soils and subsoils subsequently exposed;

(h) The water crossings and crossing upgrades required;

(i) The existence of deep peat at turbine locations and along existing and proposed access roads;

(j) The significant volumes of peat and other spoil material requiring excavation, handling, storage and management on the site;

(k) The instability associated with the works and movement of waste material, including the necessity for placement of substantial volumes of waste peat and other spoil materials in two large repositories on bogland hilly terrain;

(l) The construction of high retaining stone buttresses required to contain waste peat and other spoil;

(m)The peat-dominated nature of the soils at the repository locations;

(n) The lack of a clear understanding of the land and ground conditions associated with the development of the proposed spoil repositories, including matters relating to the final construction of the repositories, the drainage of the peat repositories, measures required for the control of groundwater, the type and condition of rock at the repository locations, the hillside siting of the repositories, and the associated clear felling of forestry;

(o) The construction works culminating in interference with the natural terrain by the development of the turbine bases and the hardstanding areas, the construction of access roads cutting across contours on bogland, the provision of preferential flow paths for surface waters, and road widening and improvement works along existing internal roads;

(p) The proposed highly complex, generic system of drainage and the very precise nature of the application of many of the proposed conceptual measures required for their safe functionality on a blanket bog dominated site; and

(q) The destabilising impacts of the proposed engineered drainage works,

it is considered that, due to the elevated risk of failure to contain the spoil in the proposed repositories and to the uncertainty and inadequacies of the site drainage provisions, the proposed development would pose a serious threat to the environment, potentially causing extensive pollution of waterbodies within and in the vicinity of the site. The Board is not satisfied that the proposed repositories would be effective in providing for the permanent retention of peat and other spoil materials and that the mitigation measures, inclusive of the proposed complex,

generic drainage system, would be adequate to ensure the protection of the environment. Therefore, it is considered that the proposed development would present a significant risk of adverse environmental impact on the sensitive natural habitats of the site and of the wider area, constituting an unacceptable risk of pollution of watercourses in the area and seriously injuring the amenities of property in the vicinity. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

2. On the basis of the information on file, the Board is not satisfied that the proposed development, either individually or in combination with other projects, would not be likely to have a significant effect on the European Sites Inagh River Estuary SAC (Site Code: 000036), Carrowmore Point to Spanish Point and Islands Special Area of Conservation (Site Code: 001021), and Mid-Clare Coast Special Protection Area (Site Code: 004182). In such circumstances, the Board is precluded from granting permission for the proposed development.

3. The site of the proposed development is located within an area of national and international importance for Hen Harrier, an Annex I species, and in an area of significant ornithological value, inclusive of importance for Annex I species Golden Plover, Merlin and Peregrine Falcon and Red-listed Curlew, Red Grouse, Kestrel, Common Snipe and Woodcock. In addition, there is a breeding colony of Annex II species Marsh Fritillary on the site, dependent upon the existing habitat and the abundance of Devil's-Bit Scabious on the site in particular. It is the policy of Clare County Council, as set out in Clare County Development Plan 2017-2023, to ensure the protection and conservation of areas, sites, species and ecological networks/corridors of biodiversity value outside of designated sites (Objective CDP 14.7). Furthermore, it is an objective to protect and promote the sustainable management of the natural heritage, flora and fauna of the County through the promotion of biodiversity, the conservation of natural habitats and the enhancement of new and existing habitats and to promote the conservation of biodiversity through the protection of sites of biodiversity importance and wildlife corridors, both within and between the designated sites and the wider Plan area (Objective CDP 14.11).

It is considered that the siting, height, scale and operation of the proposed turbines would result in a loss of habitat, disturbance and displacement for Annex I and Red-listed bird species and the Annex II Marsh fritillary, as well as posing a significant risk of collision for the bird species of conservation value. Furthermore, it is considered that the cumulative impact of wind turbines in the vicinity, together with the proposed development, would substantially erode the quality of the natural environment for the sensitive bird species, including distorting migratory routes, eroding habitat, encroaching on foraging areas, and affecting roosting and breeding sites. The proposed development would, thus, have significant adverse impacts on biodiversity and on the ornithological importance of the area by way of collision, mortality, disturbance and displacement of protected bird species, would be incompatible with the objectives to protect and conserve this area of biodiversity value and to protect the sustainable management and biodiversity importance of the area, and would, therefore, be contrary to the proper planning and sustainable development of the area.

4. Having regard to:

(a) The reliance on a detailed noise curtailment strategy or on alternative turbine technologies in order to adequately mitigate adverse noise impacts, the details of each of which are unknown,

(b) The acceptance of potential adverse noise impacts resulting from low frequency noise and amplitude modulation,

(c) The lack of any guidance in the *Wind Energy Development Guidelines: Guidelines for Planning Authorities* (June, 2006) on low frequency noise and amplitude modulation, and

(d) The lack of any measures to mitigate impacts from low frequency noise and amplitude modulation,

the Board is not satisfied that the proposed wind farm, in itself and cumulatively with other wind energy development in the vicinity, would not seriously injure the amenities of residential property in the vicinity by way of noise effects.

5. The site of the proposed development is located in a prominent and visually sensitive location on the summit of Slieveacurry and immediately adjoining Slieve Callan in West Clare. This is a location that is visually prominent from the Burren and Cliffs of Moher UNESCO Global Geopark to the north and north-west, the sensitive coastline to the west, and areas of significant tourism, amenity and archaeological value, as well as from designated scenic routes, walking trails and cycling routes, inclusive of the Wild Atlantic Way, which form an integral part of the tourism resource of the area. Furthermore, the site is located within a designated 'Settled Landscape' in the Clare County Development Plan 2017-2023.

Objectives of the Clare County Development Plan include:

- To permit development in areas designated as 'settled landscapes' that sustain and enhance quality of life and residential amenity and promote economic activity subject to:
    - the selection of appropriate sites in the first instance within this landscape, together with consideration of the details of siting and design which are directed towards minimising visual impacts,
    - regard being given to avoiding intrusions on scenic routes and on ridges or shorelines, and
    - the availability and protection of resources.

  Developments in settled landscapes are required to demonstrate that a site has been selected to avoid visually prominent locations, the site layout avails of existing topography and vegetation to reduce visibility from scenic routes, walking trails, water bodies, public amenities and roads, and the design for structures reduce visual impact through careful choice of forms, finishes and colours, and that any site works seek to reduce visual impact. (Objective CDP 13.2);
- To protect sensitive areas from inappropriate development while providing for development and change that will benefit the rural community, to ensure that proposed developments take into consideration their effects on views from the public road towards scenic features or areas and are designed and located to

minimise their impact, and to ensure that appropriate standards of location, siting, design, finishing and landscaping are achieved (Objective CDP 13.7); and

- To strike an appropriate balance between facilitating renewable and wind energy-related development and protecting the residential amenities of neighbouring properties (Objective CDP 8.40).

Having regard to:

- The height and scale of the proposed wind turbines,
- The siting on elevated ridgelines on the top of Slieveacurry,
- The highly prominent skyline nature of the wind turbines,
- The high level of visibility from coastal tourist and amenity areas and from the Burren and Cliffs of Moher UNESCO Global Geopark,
- The prominence of the proposed turbines from designated scenic routes,
- The proximity to residential properties and the significant landscape and visual impact thereon;
- The encroachment north-westwards towards the Burren and Cliffs of Moher UNESCO Global Geopark and sensitive coastal areas and the increased visual and landscape impact thereon, and
- The cumulative impact with extensive wind farm development in the immediate vicinity,

it is considered that the proposed development sited at this location would constitute a highly obtrusive development that would:

- detract from the existing natural character of the area,
- adversely affect the natural landscape and visual context of the Burren and Cliffs of Moher UNESCO Global Geopark and sensitive coastal areas to the west and north-west,
- erode the landscape and visual quality of the designated scenic routes in the vicinity,
- seriously injure the amenities of residents in the area,
- adversely impact on the rural character of the area,

- exacerbate the cumulative impact of wind farm development from tourism and amenity sites on the coastline, and
- would otherwise compromise the scenic amenities of this visually sensitive and vulnerable area.

The proposed wind turbines would, thereby, comprise excessively dominant features and a visually obtrusive form of development in this landscape, which would contribute to the erosion of the visual and environmental amenity of the area, would materially conflict with the objectives as set out in the Clare County Development Plan, and would seriously injure the landscape and visual amenities of the area. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

Kevin Moore
Senior Planning Inspector

8th February, 2023