Inspector's Report
ABP-311044-21

Development	Wind Farm
Location	Townlands of Cahermurphy, Knocknahila More South, Carrownagry South, Caheraghacuillin, Drummin, Doolough, Glenmore, and Booltiagh, County Clare
Planning Authority	Clare County Council
Planning Authority Reg. Ref.	20/658
Applicant(s)	MCRE Windfarm Ltd.
Type of Application	Permission
Planning Authority Decision	Refuse
Type of Appeal	First & Third Party
Appellant(s)	MCRE Windfam Ltd. Cahermurphy Wind Farm No II Opposition Group
Observer(s)	Shane O'Malley

	Doolough Protection Group
	Ger & Eimear Lineen
	Patricia & Christopher A. Collis
Date of Site Inspection	28th & 29th September, 2022
Inspector	Kevin Moore

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1.0 Site Location and Description

1.1. The site of the proposed development is located approximately 4km north of the village of Kilmihil and 5km east of the village of Cree in West Clare, some 8km west of the Clare coastline. The EIAR site boundary encompasses an area of approximately 538 hectares. This is an upland rural location where there are an extensive number of wind farms in the vicinity. The location for the proposed wind farm infrastructure is across an east-west ridge which slopes to the north, south and west. The existing ground levels within the site vary from 90m OD to 142m OD. The site consists of forestry, bogland, pastureland, and tracks. There are a number of watercourses traversing the land throughout the site. Access to the site is from a local road (L-6254) to the east where the existing Cahermurphy One wind farm is sited. The turbines associated with this existing development are located on both sides of the local road. The site is also accessible from its western side via forestry roads that link with Local Road L-2100.

1.2. Cahermurphy Wind Farm, located adjacent to the site, comprises a three-turbine development, with a permitted fourth turbine. There is an extensive number of wind farms in the immediate vicinity of the site and there are several permitted and proposed in this area.

1.3. Land uses in the wider area comprise agriculture, wind farms, commercial forestry and low density housing. The applicant's EIAR states that there are 56 occupied dwellings within one kilometre of the proposed turbine locations, of which 15 belong to landowners who are associated with the proposed wind farm development. The closest occupied dwelling is approximately 700m from the nearest proposed turbine.

2.0 Proposed Development

2.1. The proposed development would comprise:

- Construction of 10 no. turbines with a maximum overall blade tip height of up to 170 metres and associated hardstand areas;
- 1 no. permanent Meteorological Mast with a maximum height of up to 100 metres;

- 1 no. 38kv permanent electrical substation which will be constructed at one of two locations : Option A in Carrownagry South townland or Option B in Cahermurphy townland. It will have a control building with welfare facilities, all associated electrical plant and equipment, security fencing, all associated underground cabling, wastewater holding tank and all ancillary works;
- All associated underground electrical and communications cabling connecting the turbines to the proposed on-site substation;
- All works associated with the connection of the proposed wind farm to the national electricity grid via an underground cable to the existing Booltiagh 110kV substation, with two options provided relative to the choice of substation location;
- Upgrade of existing tracks, roads and provision of new site access roads and hardstand areas;
- Junction access road works;
- 2 no. borrow pits;
- A temporary construction compound;
- Site drainage;
- Forestry felling to facilitate construction and operation of the proposed development; and
- All associated and ancillary site development works.

2.2. The application seeks a ten-year permission and 30-year operational life from the date of commissioning.

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 9th April 2021, Clare County Council decided to refuse permission for the proposed development for one reason relating to injury to the visual amenities of the area, contravention of Objective CDP 13.2 of Clare County Development Plan, and because it was considered that, in conjunction with existing and permitted wind turbines in the area, it would give rise to an excessive proliferation of turbines.

3.2. Planning Authority Reports

3.2.1. Planning Reports

The Planner noted the policy context for the proposal, the planning history, the reports received, and third party submissions. The principle of the proposal was seen to be supported at local and national levels. Further information was considered necessary to allow for appropriate assessment to be undertaken. An environmental impact assessment of the proposal was undertaken. A request for further information on landscape and visual impact, shadow flicker, noise and issues raised in other reports was recommended.

3.2.2. Other Technical Reports

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

The Municipal District Engineer requested further information on traffic management, detailed the need for meetings and road opening licences, set out the need for bridge, culvert and road condition surveys, and requested discussion on the indemnification of the roads authority against damage caused to public roads.

The Road Design Engineer set out roads-related details needing to be met. Further information was requested on traversing obstacles on the delivery route, the provision of a road safety audit, and the provision of road widening/passing bays on the local access road to the site.

The Environmental Assessment Officer considered that there would be no indirect impacts on Cragnashingaun Bog NHA. It was noted that the final detail for the grid

connection route will ultimately be confirmed by ESB/EirGrid. It was recommended that consideration of a grid connection along the road be requested by way of further information. It was submitted that further assessment of the loss/avoidance of Hen Harrier habitat was not necessary based on the precautionary approach being taken on the estimation of habitat loss, the loss being at the edge of the foraging range of Doo Lough territory, and the assessment of significance that has been set out. It was further considered that the construction measures would ensure the protection of Hen Harrier during the breeding season. Further details on the plan for enhancement with local landowners were requested. The need for assessment of the effects of turbines 2, 7 and 10 to Hen Harrier nest locations was also requested. It was considered that there was no residual risk to bats. It was further recommended that the water quality issues raised by the NPWS and IFI and a definitive solution to the prevention of peat fines entering the surface water system be addressed as part of a further information request. Regarding landscape and visual impact, it was noted that there are 9 wind farms surrounding the proposed wind farm and that it is a location that is outlined as Strategic and Acceptable in Principle in the Clare Wind Energy Strategy. Concern was raised about the dominance of wind farms in the area and the creation of a 'wind farm landscape'. It was recommended that the assessment of the cumulative effect of the high concentration of wind farms within the one Landscape Character Area be sought by way of further information. A review of information on the impact of the application for Seascape Character Areas was also recommended.

The Environment Section noted the potential impacts from tree felling, the construction phase, noise, vibration and dust. Further details were requested on peat stability and landslide risk, the borrow pits, surface water drainage, surface water monitoring, cumulative impact assessment of water quality, management of wastewater during the construction period, a water and sediment management plan, and noise.

3.3. Prescribed Bodies

Shannon Airport Authority recommended that a full aeronautical assessment should be requested from the applicant, with the parameters of the assessment agreed with the Authority and the Irish Aviation Authority. It was requested that, if permission is

granted, lighting of the perimeter and tallest turbines would be required in the interest of flight safety.

The Department of Defence requested that turbines delineating corners of the wind farm should be illuminated by high intensity obstacle lights, while requiring provision of obstruction lighting elsewhere and specifying the type of lighting.

Inland Fisheries Ireland stated that it was concerned that any deterioration in water quality will impact on the long-term viability of the fisheries at this location, namely the Creegh and Annageeragh river catchments. Concerns were raised about the potential impacts at the construction phase. Geotechnical details on proposed stone buttresses for borrow pits were requested. Serious concern was expressed about the construction of roads and upgrading of existing roads impacting on downstream fisheries habitat. Reference was also made to landslide risk. It was requested that detailed and site-specific drainage provisions be supplied before any grant of permission. It was acknowledged that the borrow pits would receive over 230,000m^3 of spoil. Regarding proposed surface water monitoring, it was recommended that an Environmental Working Group be put in place for the construction phase and the submission of an outline Surface Water Management Plan was requested. The proximity of turbines 4, 8, 9, and 10 to watercourses was of concern and IFI requested consultation on all watercourse crossings. Construction environmental management provisions were outlined. It was noted that streams in the upper reaches of a river system are more sensitive to pollution, with the lack of dilution in times of dry weather flow being a particular problem. The need to conserve the waterbodies at good status was stressed. It was recommended that IFI's request for further details on construction, site drainage, and peat storage be sought before any grant of planning permission.

An Taisce noted the proposals for forestry felling and acknowledged the EPA finding that forestry is one of the main pressures on water quality. Acknowledging the

presence of freshwater pearl mussel downstream of the site, it was suggested that the precautionary measures to be put in place for tree removal associated with the construction of the turbines also be applied for the felling of trees for the proposed habitat enhancement area.

The Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media recommended a schedule of conditions be attached in relation to archaeology. On nature conservation, it was submitted that there are approximately 150 operational, permitted and proposed wind energy developments within 20km of the proposed site. Further details on the impact of the grid connection on Cragnashingaun Bog NHA were requested. It was noted that the population of Hen Harrier within the project area is of international importance and that there has been a short-term decline in the density of this bird species of 50% since 2010. It was further noted that there are historical records of breeding Hen Harriers in and near the site in 2015 and 2020. Analysis of the impact of the loss of habitat on site and the cumulative impact with other wind farm developments was requested. Monitoring provisions were set out. Further details on the applicant's habitat enhancement plan were requested. Requirements for forestry replacement were set out. It was submitted that further details were required on the impact of the proposed delivery route and road widening works at water crossings to consider likely effects on European sites, freshwater pearl mussel and otter. Requirements relating to other bird species, bats, red squirrels, pine marten, and frogs were also referred to.

Irish Aviation Authority recommended that the applicant supply a full instrument flight assessment procedure for Shannon Airport.

3.4. **Third Party Observations**

71 third party submissions were received by the planning authority, 59 objected to the proposal and 12 were in support of it. Many of the principal issues are raised in the third party and observer submissions to the Board.

3.5. On 11th November 2020, the planning authority sought further information in accordance with the Planner's recommendation. A response to this request was received from the applicant on 10th May 2021. This included a minor amendment to the proposed grid connection route, including the addition of two water crossings. The NIS was revised and resubmitted.

3.6. Further third party submissions were received by the planning authority following the further information response.

3.7. The reports received following the receipt of further information may be synopsised as follows:

The Road Design Engineer indicated a lack of clarity in the response to items 6(a) and (p) of the further information but considered an agreed Traffic Management Plan could address the issue. The Autotrack analysis was considered satisfactory.

The Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media referred to the National Biodiversity Plan 2017-2021 and the need to ensure there is no net loss of biodiversity. Reference was made to the development of wind farms at the location of the proposed development and the decline in nesting Hen Harrier. It was noted that there are approximately 180 turbines operating, permitted and proposed within 20km of the site. The significance of this is a concern to the Department. Reference was also made to the extent of habitat loss arising from the proposal and the cumulative loss of available habitat. Acknowledging the applicant's peatland restoration and Hen Harrier habitat enhancement proposals, concerns remained with the implementation of the Hen Harrier programme. It was submitted that the Council should be satisfied that there is no risk of peat slippage and consequential risk to watercourses and habitats. Arising from peatland landslides in County Leitrim and County Donegal, it was requested that there should be a review of the applicant's

Peat Stability Risk Assessment in Appendix 8.1. The Department concluded by recommending a schedule of conditions.

The Municipal District Engineer considered the further information addressed the issues previously raised by the Engineer. Details of the bond required for roads and the cable route were set out. A schedule of conditions was set out.

The Environment Section submitted that it is imperative that the proposed development does not negatively impact on water quality in the catchment. Noting the applicant's consultation with IFI, the Surface Water Management Plan, the further information response, the Construction and Environmental Management Plan, and the proposed monitoring programme, a recommended schedule of conditions was set out.

The Planner repeated the content of the reports received. The 114 third party submissions received since the receipt of the further information were noted and each was synopsised. The further information request was repeated. It was considered that the proposal was in contravention of the Wind Energy Strategy's guidance on the landscape capacity for the Malbay Coastal Farmland Landscape Character Area. It was submitted that if all permitted and proposed wind farm development along with existing wind farms were in place in the Slieve Callan LCA this would exceed the limit set out in the Clare Wind Energy Strategy and may be in contravention of Clare County Development Plan. It was stated that, notwithstanding the designations of the Development Plan and Wind Energy Strategy, there were significant concerns with respect to the density of turbines at this location. The elevated nature of the site and the large turbines proposed were noted and it was considered there would be impacts on the landscape and visual amenities of the area. The responses to the issues of shadow flicker, noise and the grid connection were considered satisfactory. It was considered that further clarification of the points raised by the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media in relation to the Hen Harrier and Peatland Enhancement Plan would be required, otherwise the issue had been addressed in the further information response. The responses to the issues raised in relation to surface water and peat management, roads management, and aviation were considered to be acceptable. A refusal of permission relating to adverse landscape and visual impact was recommended.

4.0 Planning History

I have no record of any planning application or appeal relating to the site itself. I note the applicant's references to other development in the vicinity, inclusive of Cahermurphy wind farm and other wind farm development in the vicinity.

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'

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

<u>Biodiversity</u>

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

CDP14.4 Development Plan Objective: Natural Heritage Areas (NHAs) and proposed Natural Heritage Areas (pNHAs)

It is an objective of the Development Plan:

A To actively promote the conservation and protection of areas designated as an NHA (including proposed sites) and to only consider proposals for development within or affecting an NHA where it can be clearly demonstrated

that the proposed development will not have a significant adverse effect on the NHA or pNHA;

B To identify and afford appropriate protection to any new, proposed or modified NHAs identified during the lifetime of this Plan.

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.

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

Nine of the proposed turbines would be located within an area designated a "Strategic Area" and one is 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:

Derryadd Judgement

- The Board should grant planning permission and, in doing so, should include a condition specifying the nature and scale of the turbines which have been consented to clarify the overall range of turbine parameters. The Board will then be clarifying that the plans and particulars submitted for the planning application fall within the certain limited degree of flexibility referenced in the Derryadd judgement.
- The application documentation provides comprehensive details and assessments of all elements of the proposed development.
- In the interest of clarity and specificity, the appellant invites the Board to request additional plans and particulars under Article 73 of the Regulations to allow the appellant to augment the extant application documentation with additional drawings, plans and particulars and highlight the detail of the

relevant infrastructure. Such detail could be readvertised to allow further engagement.

The appellant submits that, in the interest of clarity, irrespective of turbine model procured within the parameters proposed, the overall outcome of the assessments contained in the EIAR would not change as the very slight variation between maximum and minimum parameters is limited to 5 metres for turbines. The appeal submission refers to consideration of the worst case assessment for a range of chapters in the EIAR.

Wind Energy Strategy Targets

- In no way does the potential MW generating capacity of the proposed development contravene the current Clare County Development Plan. The MW targets in the Clare Renewable Energy Strategy are not caps and are not intended to limit the potential for renewable energy.
- The proposed development is entirely consistent with the Clare Wind Energy Strategy, Clare Renewable Energy Strategy and Clare County Development Plan.
- Any perceived exceedance of the generating targets set out in the Strategies or Plan cannot be considered as a factor to inform any determination as to the ability of a landscape to accommodate wind energy development nor inform any consideration of proliferation/concentration of a particular renewable energy infrastructure.

Policy Targets: Targets and Timing

- Despite more than 10 years passing since the current Wind Energy Strategy was first adopted, there has been no increase in the MW targets of the current Strategy of the County Development Plan. The 550MW (County Clare), 400MW (Strategic Areas) and 250MW (Sliabh Callan LCA) targets remain unchanged since 2009. The national and international policy context for renewable energy, wind energy and decarbonisation has changed dramatically in the same period. The targets from 2009 are now likely out of

date and are likely to significantly understate the amount of wind energy that County Clare will have to accommodate.

Clare Wind Energy Policy Areas

- The Clare Wind Energy Strategy has defined the parameters and identified the areas that has allowed multiple wind energy projects to be brought forward in a plan-led manner, in the exact way the proposed Cahermurphy Two wind farm project has also been guided by the current planning policy.

County Development Plan Objective 13.2

- The target contained in WES 8 is 400MW of wind energy generation to come from Strategic Areas. To date, only 144.78MW of wind energy projects have been permitted or constructed in the areas designated Strategic Areas. 9 out of the proposed 10 turbines would be located in a Strategic Area and would further deliver on the stated target by delivering a further 11% of the County's target for Strategic Areas.
- WES 9 has a target of 150MW of wind energy generation from Acceptable in Principle areas. To date, only 99.7MW of wind energy projects have been permitted or constructed in these areas. One of the proposed turbines would be located in such an area and would deliver a further 3.2% of the target for these areas.
- Further to the appellant's analysis presented in the appeal submission, of the 5,188 ha classified as Strategic Areas for wind farm development in West Clare, only 1,648 ha or 32% of it remains available for further development. Of the 9,112 ha classified as Strategic Areas for wind farm development across the county, 47% of that area is now unavailable for further wind farm development as a result of existing/operational wind farms or turbine setback areas around properties, leaving just 4,237 ha or 1.32% of County Clare that can be developed within designated Strategic Areas and potentially be made available for further future wind farm development.

County Development Plan Objective 13.2

- Settled Landscapes comprise 51.6% of County Clare. The policy pertains to a large area and is very general in nature.
- Item B in Objective CDP 8.40 of the County Development Plan states that it is an objective of the plan to assess future renewable energy-related development proposals having regard to the Clare Renewable Energy Strategy 2017-2023. The Strategy only designated 2.6% of County Clare as Strategic Areas for wind energy development. Considering the trade off in a spatial context between the clear and specific designations and the very general policy objective, the limited viable areas reserved as Strategic are predominantly located within settled landscapes. Accordingly, the development of wind energy infrastructure was clearly anticipated, expected and encouraged within these areas. The proper planning and development of the area should align with planning and development objectives of the Strategy when considering the proposal, which is predominantly located in a Strategic Area.
- The development as proposed is highly appropriate at a location that has been designated as predominantly a “Strategic Area”.
- The proposal complies with all criteria set out in Objective13.2 as follows:
  - The proposal conforms with all other relevant provisions of the Plan.
  - As a renewable energy project it has at its core the protection of resources.
  - Selection of the site was plan-led. The design was constraints-led. The visual assessment demonstrates that the landscape is robust and is capable of assimilating the proposed development.
  - It does not interfere with shorelines or scenic routes.
  - The site was selected to avoid visually prominent locations, scenic routes, walking trails, etc.

- The design for the development was fully cognisant of the site topography and sensitive receptors within the wider area and the design was fully informed through detailed visual analysis.

- The proposed development will contribute to national targets and is located on lands that are designated as strategic.
- The planning authority seem to have significantly misinterpreted or misunderstood its own plan, which suggests there are conflicting objectives.
- The proposal is in accordance with the Regional Spatial and Economic Strategy.
- Within the wider strategic and acceptable in principle areas surrounding the proposal there is a strong precedence for the provision of wind farm infrastructure.

Planning History

- There are already developments of a similar scale present in the landscape which cannot be ignored. The Cahermurphy Wind Farm I exists in the immediate vicinity and is within a Settled Landscape in a defined Strategic Area.
- The planning authority decision in the current instance represents a departure from the adopted Development Plan policy at this location.

Spatial Separation from other Wind Farms

- The proposed turbines do not extend the spatial extent of the turbines visible across the lands identified as Strategic Areas for wind energy development. The Wind Energy Strategy and Development Plan guides wind turbines towards Strategic Areas, including the site of the proposed development. To label the proposal as an “excessive proliferation of turbines” is at variance with the Wind Energy Strategy.

- Where visible, the proposal will be viewed in conjunction with the three existing Cahermurphy turbines and the permitted Cahermurphy I extension turbine.
- The combined wind farm will be viewed as one independent wind farm within a landscape where turbines are planned for. The combined wind farm would not constitute a 'proliferation' of other wind farms located elsewhere on the Slieve Callan Uplands.
- There is substantial distance separating the Cahermurphy turbines from KIltumper, Glenmore and Booltiagh wind farms.
- Whether the addition of the proposed development would negatively alter the character of the landscape is a subjective matter. There would be some change to the character of the landscape. However, the addition of 10 turbines would not be adding a novel feature to the wider receiving landscape of the Slieve Callan Uplands where the lands are designated for wind energy development.

Turbine Density and Scale

- The combined cluster of the Cahermurphy project will have a lower density of turbines per km^2 than most other wind energy developments sited in the Strategic Areas of the Slieve Callan Uplands. The project will also have one of the highest generating capacities of renewable energy per km^2, which makes it the most efficient in West Clare. Table 5-1 of the appeal submission highlights the density of turbines per km^2 and generating capacity per km^2 for the Cahermurphy project and other wind farms in the vicinity.
- The low density per km^2 mitigates the potential for significant landscape and visual effects.

Turbine Heights, Scale and Elevation

- The topographical characteristics of the site help to assimilate and integrate the slightly taller proposed turbines.

- The Cahermurphy I extension turbine was permitted at a turbine tip height of 150m. The proposal, with tip heights of 170m, is only a 13% increase.
- The existing and permitted turbines of Cahermurphy I are sited at higher elevation than all but one of the proposed Cahermurphy 2 turbines.
- The slightly longer blades of the proposed development and the siting at slightly lower elevations ensure that the vertical positioning of turbine nacelles is viewed at a lower or similar position within the landscape than all of the existing Cahermurphy 1 turbines. Table 5-2 of the appeal submission indicates the relative heights. The vertical positioning of all combined turbine nacelles keeps a relatively even profile across the landscape, resulting in a visually coherent development.
- From the west it is expected that the proposed turbines would be seen sitting slightly higher within the landscape as the turbines are located in closer proximity to westerly receptors.

Comparative Visual Analysis

- The Cahermurphy 1 and proposed Cahermurphy 2 turbines are viewed as a single wind farm and the relatively even profile of turbine nacelles provides a coherent and visually balanced combined development.
- Lower proposed tip heights would reduce the capacity of the 'Strategic Area' to generate renewable energy and would require more turbines to generate the same quantum of renewable energy.
- The proposed tip height is deemed to be appropriate from a visual perspective.
- Comparative photomontages are presented as Appendix 4 of the appeal submission, comparing differing turbine dimensions from short, medium and long range views. The alternative tip height is the same as the 150m tall previously permitted Cahermurphy turbine. Given market trends, it is unlikely that turbine components for turbines with a tip height lower than 150m will be available or commercially viable when the proposed development would be

built. The turbines scaled at 150m tip height will not materially alter the prominence or significance of visual effects from the locations chosen.

Subjective Bias

- The Planner's report demonstrates a subjective bias and is in direct conflict with the policies of the County Development Plan, the Wind Energy Strategy and the Renewable Energy Strategy.
- The EIAR's landscape and visual impact assessment followed a systematic, objective and transparent methodology for assessing the baseline landscape and visual environment and assessing the significance of the landscape and the visual effects arising from the proposed development. The Planner's report found no fault with the methodology and did not state any disagreement with the assessment of the baseline environment, receptors identified, or magnitude of significance of change or significance of effect.
- The planning report has a distinct lack of definitive evidence or policy support. It reads as having unwarranted bias. Examples from the Planner's report are set out in the appeal submission.
- The considerable planning policy support for the proposed development has been largely disregarded.

Public and Statutory Consultee Submissions

- It is considered that the initial application documentation, further information response, and first party appeal comprehensively deal with any issues raised by all submissions.
- In response to the Development Applications Unit submission on Hen Harrier, it is submitted;
    - The potential for effects on hen harrier was assessed in full within the Ornithology chapter of the EIAR. The potential area of displacement / avoidance was calculated with reference to the best available scientific knowledge and following an approach accepted on several other

successful wind farm planning applications. The appellant's calculation assumes that there will be total avoidance of a buffer zone with a 250m radius from any proposed wind turbine. Examples from elsewhere are provided.

- The applicant has committed to enter an agreement with landowners to manage land for the benefit of hen harrier for the inclusion of their lands within the Hen Harrier and Peatland Enhancement Plan. If conditioned, the applicant will enter into a Section 47 agreement with the relevant landowners.
- In response to the concerns of the DAU in relation to the implementation of the Hen Harrier and Peatland Habitat Enhancement Plan, an update of the document is included as Appendix 5 of the appeal submission. It provides additional details related to the practical implementation of the enhancement measures. It is submitted that, should the Board require additional information in relation to the Enhancement Plan, the provisions of section 132 of the Planning and Development Act would afford the opportunity to do so.

6.2. Grounds of Appeal by Cahermurphy Wind Farm No II Opposition Group

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

- The application does not comply with the requirements of the planning regulations.
- The EIAR is not compliant with the EIA Directive.
- The planning authority failed to carry out a proper Environmental Impact Assessment.
- The planning authority failed to carry out an Appropriate Assessment according to the caselaw of the CJEU.
- It is not possible for An Bord Pleanála, having carried out its legal functions *de novo*, to grant permission for this development.

6.3. Applicant Response to Third Party Appeal

The applicant's response to the third party appeal may be synopsised as follows:

- The appeal does not go into detail in relation to the planning authority's decision. It does not mention the refusal reason or raise any project-specific concerns. It makes general statements in relation to the requirements of the competent authority under the EIA Directive and certain requirements under the Planning and Development Act and Regulations.
- The grounds of appeal should be dismissed.
- The decision of the Board will be supported by its own AA and EIA which will supersede that of the planning authority.

The response to the appeal acknowledges the Derryadd judgement. The first party appeal submission is referenced and it is highlighted that should additional plans and particulars be required by the Board this can be provided. It is repeated that the EIAR and NIS assess the relevant worst-case scenarios. It is further acknowledged that the potential replanting lands that could arise from the Hen Harrier and Peatland Habitat Enhancement Plan have not been considered within the cumulative / in-combination sections of the documents but that additional detail on the matter could be provided to the Board on request. It is submitted that, under Article 111 of the Planning and Development Regulations, the Board is obliged to request this information. The provisions of Article 73, allowing augmentation of application documentation, which can be advertised, are also noted.

6.4. Third Party Response to First Party Appeal

The third party response to the first party appeal may be synopsised as follows:

- The Regional Spatial and Economic Strategy for the Southern Region supports the premise that pursuit of renewable energy option is positive but "at appropriate locations".
- Clare Development Plan Policy CDP 8.40 referenced in the first party appeal also states "To strike an appropriate balance between facilitating renewable and wind energy related development and protecting the residential amenities

of neighbouring properties." It also includes the requirement for renewable energy developments to be in full compliance with the requirements of the SEA and Habitats Directive and Objective CDP 2.1.

- Clare Development Plan Policy CDP 10.11 referenced also states the development and siting of wind energy projects must be balanced with the potential impacts on the landscape, ecology and amenities of local communities.
- Clare Wind Energy Strategy states that each application for development will be considered in line with existing planning policy, objectives and legislation.
- CDP 13.2, also referenced by the first party, contains a number of statements that would seem to support the planning authority's reason for refusal.
- The other plans and strategies referenced in the first party appeal encourage the development of renewable energy but that this must be a balanced development which takes into account a wide range of factors involving the effect of each development on its surroundings. At no point is there an assumption that the need for renewable energy should outweigh other considerations to the extent that they become irrelevant.
- The one area of the County Development Plan that has not been included is biodiversity. This has a number of specific objectives relevant to the application and the site. The first strategic aim is to conserve and protect sites which have been designated for their ecological or environmental sensitivity. This area is internationally recognised as a crucial habitat for Hen Harrier. A sample of Development Plan objectives are provided in the response, namely CDP 14.2, CDP 14.3 and CDP 14.7.
- Insufficiency of details on pre-application consultation and on landowners and legal agreements is referenced.
- The further information response included a response regarding the potential of a building as a roost for bats that was factually incorrect and in contradiction to statements in the original application documentation.
- The first party appellant does not highlight reports that were not requested by the planning authority or were not followed up by the planning authority. No

report was requested from HSE. Following the further information, no follow up report was requested from the Environmental Assessment Officer. The Planner ignored the comments from DAU regarding the enhancement plan and the practical application of the 'Hen Harrier programme' and that the farm management areas should not be equated to specific mitigation against the loss of Hen Harrier and peatland habitat.

- While the first party appellant is of the opinion that the Planning Officer's report indicates that the majority of issues have been considered acceptable, consideration of the application documents clearly indicate that a proper EIA would suggest multiple reasons for refusal.
- In respect of the Derryadd judgement, the measurements provided regarding turbine bases and hardstanding, when compared to other developments, appear to be the same whatever the turbine height considered.
- The third party fails to understand the relevance of the information from page 30 onwards regarding the identified strategic wind area still available for development. A planning application is dependent on whether it is a suitable design in a suitable place.
- The third party does not agree that the proposed development complies with all the criteria set out in Objective 13.2.
- The various comments regarding the existing and proposed wind farm in the Cahermurphy area possibly indicates project splitting, viewing the two wind farms as a complete unit.
- The map on page 42 indicates how the Malbay Coastal Farmlands to the west will likely perceive the turbines as a visual intrusion given that they are positioned right on the edge of the higher ground provided by the Slieve Callan Uplands.
- Towards the end of the appeal there is an attack on the Planner's report which is of a personal nature and is highly unprofessional. Most of the areas focused on are ones that are reliant on subjective judgement. It is equally true to suggest that the applicant's interpretation of objectives in the Clare County

Development Plan and the Clare Wind Energy Strategy and the manner in which they are presented are also subjective.

- In reference to the DAU submission to the planning authority, it should be noted that no legal agreement has yet been entered into regarding the landowners' management of land for the benefit of the Hen Harrier.

I note that the third party appellant, after offering comment on the first party appeal, then undertook an assessment of the applicant's EIAR and further information submission.

6.5. Planning Authority Responses

In response to the first party appeal, the Council notes the first party appellant's grounds of appeal and requests the Board to uphold the Council's decision.

In response to the third party appeal, it is submitted that the appeal does not elaborate any further in relation to how a proper EIA or AA was not carried out. It is further submitted that the reports on file set out the planning authority's assessment of the proposal, including the Appropriate Assessment and Environmental Impact Assessment determination documents.

6.6. Observations

Shane O'Malley, living 900m from the site, raised concerns relating to the impact of the proposed development on his health arising from his vulnerability to wind turbine noise, identifying his sensitivities resulting from injuries in an accident and his experiences of the effects of existing wind farm development. Reference was made to a number of studies. It was considered that the planning authority neglected to fully consider the health implications of the development arising from infrasonic sound and low frequency noise. It was requested that the Board does not approve the proposed development. A number of peer reviewed articles, correspondence and reports are attached with the submission.

Doolough Protection Group referred to the excess of wind farm development in the West Clare area. Concerns were raised about the cumulative impact with other wind farm development, noise impact, impact on European sites and ecologically sensitive

areas, impacts on water quality, and the potential for a landslide. Consideration is given to the submissions from the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media, Inland Fisheries Ireland, and An Taisce.

Ger and Eimear Lineen, who reside 742m from the nearest proposed turbine, raise concerns in relation to the proximity of the proposed development to their home and health impacts, noise, visual impact, property devaluation, lack of community engagement, impact on biodiversity, traffic control concerns, impact on internet and mobile signals, and peat slippage.

Patricia and Christopher A. Collis submit that there is a plot of land involved in the application for which the applicant does not have written consent and the application is thus invalid.

6.7. Responses to Observations

The applicant's responses to the observations may be synopsised as follows:

Response to Patricia and Christopher Collis

- The public land register used to inform the observation is out of date. Mr. Hehir and his predecessor in title have been in beneficial occupation and possession of the lands in question for over 70 years (Folio CE9534). The observation does not dispute the actual ownership of the land highlighted and makes no claim over it. The applicant has the permission of the beneficial landowner. It is submitted that the observation should be dismissed.
- A portion of the proposed grid connection runs under the public road within Folio CE9534. The works would be within the public road corridor and the applicant has obtained the consent of Clare County Council to make the planning application.
- The Board is advised of section 34(13) of the Planning and Development Act and Section 5.13 of the Development Management Guidelines for Planning Authorities (June 2017).

Response to Ger and Eimear Lineen

Noise

- The existing Cahermurphy Wind Farm is operating within its noise limits and no noise complaints have been received by the developer. The developer is not aware of any noise complaints made to the planning authority.
- The EIAR demonstrates that the predicted operational noise levels will be within the relevant best practice noise criteria curves for wind farms at all locations.
- The applicant has committed to further investigations should noise complaints arise.

Visual Impact

- The site is zoned as a 'Strategic Area' and an area that is 'Acceptable in Principle' for wind energy development. The location has been plan-led, has been designed to minimise potential environmental effects and to maximise the energy yield.
- The proposed development complies with all of the criteria set out in Objective 13.2 of the Clare County Development Plan.
- The topographical characteristics of the site help to assimilate and integrate the taller turbines in combination with the existing Cahermurphy turbines.
- Following engagement with the observers, a photomontage was prepared for their property and there was an offer to carry out TrueView visuals. The applicant went to great lengths to ensure those in the vicinity had all the information before them when making their submissions to the planning authority.

Devaluation of Property

- The most recent credible study into the matter is "*Impact of Wind Turbines on House Prices in Scotland*" (2016). It found no evidence of a consistent negative effect on house prices and the results vary across areas.
- Although there have been no empirical studies carried out in Ireland, it is a reasonable assumption that the provision of a wind farm at the proposed location would not impact on property values in the area.

Community Engagement

- Section 2.7.2 of the EIAR sets out the public engagement undertaken by the applicant up to the time the application was lodged. Appendix 2-2 of the EIAR sets out the proposed ongoing engagement strategy. The applicant met with the observers at their home in August 2020 and a dedicated photomontage was prepared for their property. The applicant issued a letter drop to nearby residents when a temporary meteorological mast was erected. The level of engagement has been carried out in line with best practice guidelines.

Biodiversity and Ornithology

- The site and grid connection route were originally planted as a commercial crop and will be felled in the future should the proposed development proceed or not.
- Detailed ecological surveys were undertaken as detailed in the EIAR, including watercourses within and downstream of the site. Instream works are avoided and the development is located as far from watercourses as possible. Watercourse crossings are minimised.
- The EIAR concludes that the proposal will not result in any residual adverse effects on biodiversity. Based on the ornithological assessment, it is considered that the potential effects of the proposed development would not be significant.

Traffic Control

- The EIAR provides a robust and detailed assessment of traffic considerations and confirms the road network is capable of accommodating the proposed development. A traffic management plan was submitted and will be finalised and agreed with the Roads Authority and An Garda Síochána.
- Regular meetings will be carried out with the Roads Authority throughout construction and any issues raised will be rectified as soon as practicable.

Response to Doolough Protection Group

- The detail of the observation has been addressed in detail in the planning application, EIAR, NIS, response to further information request, and the first party grounds of appeal.
- Reference is made to the planning authority's considerations on the application, consultee responses, the proposal in the context of the County Development Plan, the Climate Action Plan 2021, and the National Energy Security Framework (April 2022).

Response to Shane O'Malley

- Should permission be granted the turbines will meet the relevant noise criteria set out in the EIAR or as conditioned by the Board.
- The applicant's assessment did not find that significant noise impacts are likely to arise.
- The applicant is committed to further investigations should noise complaints arise.
- A Technical Note is attached in response to the observation in relation to low frequency noise/ infrasound and comprises Appendix 8 of the response and it

references scientific assessment which indicates that the observer's concerns about effects on his home are not supported.

- The applicant is willing to place noise monitoring equipment at the observer's dwelling should he agree to same to assist in alleviating his concerns.
- There have never been any noise complaints made in relation to the existing Cahermurphy wind farm, The Council has never indicated anything to suggest that it is operating other than in accordance with all required limits.
- It is understood that the observer's reference to noise at the existing wind farm relates to a visit by him to the existing Cahermurphy wind farm and not to noise experienced at his home. The noise at this wind farm has been monitored and found to be compliant with the relevant noise condition imposed under the planning permission.

In response to each of the observations, the planning authority submitted that the Board will note that the planning authority decided to refuse permission and that it remains of the view that visual impact is the substantive issue.

Shane O'Malley concurred with the other observations.

Ger and Eimear Lineen concurred with the other observer submissions.

Patricia and Christopher Collis support the other observations that were made.

6.8. Further Responses

The Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media recommended that, in the event of permission being granted, archaeological monitoring be carried out and recommended conditions were set out. The Department noted and accepted the conclusions of the NIS. Regarding EIA and Hen Harrier, it was noted that the project area is of national and international importance for this bird species. Potential impacts were outlined. The short-term decline of 50%

in the density of Hen Harriers in the area since 2010 was noted, as was nesting in the vicinity of the site. It was once again acknowledged that there are approximately 180 operational, permitted and proposed turbines within 20km of the site and the significance of cumulative impacts are stated to be of concern. It is highlighted that a specific calculation of area of available open habitat in the surrounding area does not appear to have been given by the applicant and that a qualitative measurement of the availability of this habitat in the wider surroundings is important when considering cumulative loss of habitat as a consequence of other developments. It is considered that clarification should be sought with respect to this. In addition to the proposed mitigation measures in the EIAR, the Appendices, the NIS and the further information, the Department recommends the inclusion of a number of conditions if planning consent is granted. The conditions relate to a bird monitoring programme, the Hen Harrier Enhancement and Peatland Restoration Plan, biodiversity monitoring, use of chemical fertilisers, clearance of vegetation, and need for licensing relating to frogs, newts and their spawn.

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 appeal 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 Cahermurphy Wind Farm No II Opposition Group

7.2.1. The grounds of the appeal that were submitted by this third party were as follows:

- The application does not comply with the requirements of the planning regulations.
- The EIAR is not compliant with the EIA Directive.

- The planning authority failed to carry out a proper Environmental Impact Assessment.
- The planning authority failed to carry out an Appropriate Assessment according to the caselaw of the CJEU.
- It is not possible for An Bord Pleanála, having carried out its legal functions *de novo* to grant permission for this development.

7.2.2. In my opinion, this appeal could reasonably be dismissed. The appellant has not in any manner submitted how the application does not comply with the requirements of the planning regulations, how the EIAR is not compliant with the EIA Directive, how the planning authority failed to carry out a proper Environmental Impact Assessment, and how the planning authority failed to carry out an Appropriate Assessment according to the caselaw of the CJEU. Furthermore, the appellant did not demonstrate how it is not possible for An Bord Pleanála to grant permission for this development, having carried out its legal functions *de novo*. The appellant makes five short claims without any foundation given for such claims. These are statements, not grounds of appeal.

7.2.3. Further to the above, I note the third party appellant's response to the first party grounds of appeal. After offering comment on the first party appeal, the third party seeks to undertake an assessment of the applicant's EIAR. Such considerations are not responses to the first party appeal but rather present as an attempt by the third party to provide further details in a manner which seeks to enhance its own grounds of appeal. Such a submission is not acceptable as it far exceeds what may reasonably be viewed as a response to the first party appeal submission. The third party cannot reasonably be afforded a second opportunity to set out further grounds of appeal in its response submission.

7.2.4. In conclusion, I submit that the third party appeal submission should be dismissed as its content is clearly without substance or foundation.

7.3. **The Nature and Extent of the Proposed Development**

7.3.1. Having regard to the Derryadd judgement (2021, IEHC 390), the specific nature and extent of the proposed development necessitates clarification. The public notices with the applications refer to the construction of turbines "*… with a maximum overall blade tip height up to 170 metres*". The applicant has sought to address this issue by clarifying the proposed development that was subject to its various assessments. I also acknowledge the range of drawings reflecting the provision of turbines to a height of 170 metres. In the event of a consideration of a grant of planning permission, it would appear reasonable that a condition could be attached specifying the nature and scale of the turbines which have been consented to clarify the overall range of turbine parameters. Alternatively, the Board could request further information to clarify further the nature and extent of the proposed development.

7.4. **Sufficient Legal Interest**

7.4.1. I note the observers Patricia and Christopher A. Collis submit that there is a plot of land involved in the application for which the applicant does not have written consent and the application is thus invalid. The applicant has responded to this observation in a comprehensive manner, demonstrating that the applicant has the permission of the beneficial landowner to make the planning application. I am satisfied that the applicant has demonstrated sufficient legal interest to allow for the making of the planning application. Notwithstanding my own considerations on this matter, I note the provisions of section 34(13) of the Planning and Development Act, as amended, wherein it is stated:

"*A person shall not be entitled solely by reason of a permission under this section to carry out any development*."

7.5. **Need for the Proposed Development**

7.5.1. Section 1.5 of the applicant's EIAR sets out details on the need for the proposed development. This refers 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, national and regional renewable energy policy.

7.5.2. 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.

7.6. Compatibility with Renewable Energy Policy

7.6.1. 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 2019 which sets out the actions over the coming years to address the impacts which climate may have on Irelands environment, society, economic and natural resources;
- 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.

7.6.2. 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.

7.7. **Project-Splitting**

7.7.1. I note that the third party has submitted that the various comments by the applicant regarding the existing and proposed wind farm in the Cahermurphy area possibly indicates project splitting, viewing the two wind farms as a complete unit. I acknowledge that the applicant has referred to the existing Cahermurphy wind farm when considering cumulative impacts and that it has presented the proposed development in a manner which suggests the proposal forms an extension to this wind farm at times in the EIAR (notably in landscape and visual impact terms) and in other submissions. I note, however, that the application is identifiably separate from the existing wind farm and would have a separate grid connection entirely. While it could be construed as further wind farm development west of the existing wind farm, it is clearly a separate project. I do not see the issue of project-splitting arising in this instance.

7.8. **Community Engagement**

7.8.1. 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."

7.8.2. 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.

7.8.3. I note the third party submissions to the planning authority 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 approach emphasises a focus on the residents of dwellings within 2km of the site as these people would be closest to the development. I also note Appendix 2-1 of the EIAR which highlights the degree of consultation with interested bodies and agencies at the scoping stage of the EIAR.

7.8.4. Community engagement in Appendix 2-2 is stated to have included:

- Engagement in 2018 with local farm families who wished to assess their lands for inclusion in studies for the extension of the Cahermurphy 1 project;
- Individual house engagement from March 2018 to August 2020. As part of this process a low-call number and project email address were created to aid communication. Those not on the email mailing list are stated to have received all information circulated in print and via one-to-one calls where possible. I note that during the Covid pandemic public gatherings were avoided and socially distant engagements were stated to have been pursued.

- The applicant produced a project booklet in March 2020 and this was distributed to the wider community and to near neighbours from March to August 2020.

7.8.5. I note that the applicant proposes further engagement. This would include providing a dedicated Community Liaison Officer who would be contactable by email and phone, a participatory design process for the Community Benefit Fund, exploration of the potential for Community Investment in the project, initiation of the set-up of a liaison group for the pre- and post-construction phases, and the establishment of a liaison group for the decommissioning phase.

7.8.6. With due regard to the above, I note that this planning application was lodged with Clare County Council on 18th September, 2021. Much of any meaningful public consultation should have completed well in advance of this date. Thus, it may reasonably be determined that the impact of the Covid pandemic on public consultation should have been extremely limited as such meaningful consultation should have occurred prior to the restrictions that followed its initial outbreak. It would appear that there was significant reliance on the project booklet for community understanding of the project, a booklet which was produced in March 2020 when much of the design process and application preparation was almost complete. Furthermore, there appears to have been extremely limited face-to-face community engagement prior to this, with most of that focused on landowners with a potential landholding interest in the project. There would appear to have been a significant reliance on the local community having to utilise the email address and the low-call number for 'active' participation in the public consultation process. It is also noted that the community engagement was very much a 'local' or indeed an immediate neighbourhood, engagement prior to March 2020.

7.8.7. I consider that the approach to meaningful public and community consultation prior to the sending out of brochures a short time before the planning application was lodged with the planning authority to be of extremely limited value. I could not see the local community offering views at this late stage which could in some way be seen to guide the design of this project. The public consultation could not be seen to be in accordance with the spirit of the Wind Energy Guidelines. Furthermore, I

acknowledge how dated such guidance is and how one could reasonably have anticipated a more timely and comprehensive engagement with the local community in this planning application.

7.8.8. Overall, I consider the public consultation associated with this project to date constitutes a minimalistic approach by the developer. Such an untimely approach undoubtedly heightens public concerns due to the low level or lack of information that is made available. This is unsatisfactory. I do 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. I also acknowledge the substantial number of public submissions received by the planning authority and the Board, which would indicate that the wider community was aware of the nature and extent of the proposed development. I submit that alternative approaches to pre-application public consultation and provision of ongoing liaison would have assisted in a manner that at least would have improved an understanding of the applicant's proposal and potentially would have addressed fears for some. Such an approach would have been more desirable.

7.9. **Consideration of Alternatives**

7.9.1. I first acknowledge that the applicant's consideration of alternatives included a 'Do Nothing' option, alternative site locations, 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. It was an extensive examination of alternatives in my opinion. The main reasons for selecting the chosen option as opposed to the range of alternatives were provided. It is 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'.

7.9.2. I note the involvement of Coillte as co-development partners and the consideration of three blocks of land in the Cahermurphy area. It is reasonable to observe that land availability and suitability of that land must be regarded as a relevant contributor in

considering, in a practical manner, a proposal and other projects which may reasonably be pursued as alternatives. It is, therefore, reasonable that the Coillte landbank was reviewed to determine alternative site locations. Accessibility to the national grid is also a significant consideration. The potential options to provide connectivity to the grid have been given. This again is reasonable. Any constraints with the grid are matters to be addressed elsewhere and are beyond the control of the applicant. Clearly, the project can only be viable if any such constraints are addressed. At this stage, the applicant can only reasonably demonstrate the ability to provide for the grid connection.

7.9.3. 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.

7.10. **Impact on Hen Harrier**

7.10.1. I acknowledge the wide range of submissions made to the planning authority and to the Board on ecological impacts. While acknowledging concerns raised about impacts on bats, other fauna, etc., I consider that the principal planning concerns on biodiversity relate to the ornithological impacts arising from the proposed development, and Hen Harrier in particular.

7.10.2. 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).

7.10.3. In considering the applicant's EIAR, I note from Section 8.3.6 that in 2016 the NPWS prepared an unpublished *post hoc* analysis report of a 2015 Hen Harrier Survey which identified a range of relatively important yet non-designated areas for breeding hen harriers. I observe that the site of the proposed development is located in the non-designated area North and West Clare. A population of sixteen pairs was recorded in this area in 2010. Eight pairs were identified in 2015, correlating to a 50% decrease in occupancy between 2010 and 2015. I note from the EIAR that in 2010 there were two records of confirmed breeding on the site of the proposed development. In 2015, there was one record of confirmed breeding and one record of possible breeding. I also note from the EIAR that ornithological surveying has been ongoing since 2010 and that during the 2010 breeding season three hen harrier territories were recorded within the boundary of what is now the wind farm site.

7.10.4. I note the applicant's own survey findings. Hen harrier was recorded on 22 occasions during vantage point surveys, mostly on the open habitat on the eastern side of the site. Twenty observations were within the wind farm site. Furthermore, in the environs of the site, there were 21 observations of hen harrier recorded during Breeding Raptor Surveys, seven observations of hen harrier recorded during designated Hen Harrier Roost Surveys, and three observations of hen harrier in the Winter Walkover Surveys. I also note from the EIAR that hen harrier bred in a section of forestry to the south and to the south-east of Doo Lough and hen harrier were recorded roosting at Booltiagh Wind Farm site.

7.10.5. The submissions to the planning authority from the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media are acknowledged. The Department has noted that there are approximately 180 turbines operating, permitted and proposed within 20km of the site. The Department acknowledged that the population of Hen Harrier within the project area is of international importance and that there has been a short-term decline in the density of this bird species of 50% since 2010. It was further noted that there are historical records of breeding Hen Harrier in and near the site in 2015 and 2020. Analysis of the impact of the loss of habitat on site and the cumulative impact with other wind farm developments was requested. The decline in nesting Hen Harrier at this location is clearly a concern to the Department and the significance of

the number of wind farms at this location is an inseparable part of this concern. The Department clearly states its concern about the extent of habitat loss arising from the proposed development, as well as the cumulative loss of available habitat. Notwithstanding the acknowledgement of the applicant's peatland restoration and Hen Harrier habitat enhancement proposals, the Department remains concerned about the implementation of the Hen Harrier programme.

7.10.6. I further note the submission of the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media to the Board. It is submitted that the project area is of international and national importance for Hen Harrier. The short-term decline of 50% in the density of Hen Harrier in the area since 2010 is again noted, as is the decline in nesting in the vicinity of the site. The significance of cumulative impacts is again stated to be of concern. It is noted that a specific calculation of area of available open habitat in the surrounding area has not been given by the applicant and that a qualitative measurement of the availability of this habitat in the wider surroundings is important when considering cumulative loss of habitat as a consequence of other developments. Clarification is requested to be sought with respect to this. This is clearly an issue which has not been addressed to date, notwithstanding the conditions referenced in this submission to the Board.

7.10.7. Having regard to the above, I put it to the Board that the site location and its environs are definitively of international and national importance for Hen Harrier. Furthermore, the immediate vicinity of the site is also known from NPWS records to be important for breeding hen harrier. I submit that 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. This has resulted in direct habitat loss and fragmentation, habitat degradation, and disturbance and displacement of this protected bird species. There clearly has been a significant decline in nesting Hen Harrier. The cumulative impact of further wind farm development will only have one significant effect on Hen Harrier and that is to remove more of this protected species from this area. I submit to the Board that this is assured if the proposed development proceeds.

7.10.8. I note the applicant's proposals to seek to mitigate the evident outcome for Hen Harrier. The proposed development would remove 63 hectares of breeding / foraging area. What is proposed is that the applicant seeks to remove this suitable habitat that is used for nesting and foraging and to replace it somewhere else in the vicinity and not far from other established wind farm development. According to the EIAR, the proposal is to provide an enhancement area of 28.2 hectares approximately 700 metres from a hen harrier territory to the south of Doo Lough and to engage some local landowners in a programme to farm 30 hectares in the area in a Hen Harrier friendly manner. The further information response added 48.17 hectares south-east of Doo Lough to be managed for the benefit of Hen Harrier. These locations are mapped in Figure 3.4 of the applicant's revised NIS submitted by way of further information.

7.10.9. I submit that this is not a solution at such a sensitive location. I note that the proposed 28.2 hectare site is intended to be maintained for the duration of the operational phase of the proposed wind farm. In practical terms, I ask would the required natural revegetation take place and would this prove to be a functional habitat over the lifetime of the project? Furthermore and most importantly, it must be acknowledged that there are no legal and binding agreements in place with relevant local landowners for the proposed programme to farm the other land areas in a hen harrier friendly manner. The letters submitted with the further information response clearly demonstrate this. The landowners' consents to the inclusion of their lands are not legally binding and there is no way such provisions could be relied upon. This concern is compounded even more by the letter from Coillte, i.e. one of the parties who is the applicant. The person writing on behalf of Coillte's states:

"*Please note that I have no authority to bind Coillte and no binding agreement shall exist or be deemed to exist until such time as a formal contract has been agreed by all parties, executed and exchanged and all sums due there-under paid in full*."

Who knows at this stage if a binding agreement can be reached? The Board will again note that this submission comes from the co-developer of the proposed development. It is apparent that this is not an enforceable management proposal when there are clearly no legal agreements in place. The landowners can readily renege on any commitment that they may have provided to date.

7.10.10 Further to the above, I note that the first party appeal submission (page 49) gives an example of where the Board put in a condition requiring the use of a section 47 agreement relating to the Slievecallan wind farm. 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 completely different to section 47 agreements with individual landowners and should not be taken as meaning there is some established precedent on such a matter.

7.10.11 In addition to the concerns raised, I further query the practical reality of attaining functional peatland restoration over the operational period of the proposed development.

7.10.12 The above are matters which need to be acknowledged and which undermine any consideration of a grant of planning permission for this proposal premised upon providing compensatory measures for Hen Harrier which cannot be relied upon.

7.10.13 Overall, it is my submission that this proposed development would definitively and significantly adversely impact on this international and national 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 proposals 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.

7.10.14 The principal question of sustainability when it comes to Hen Harrier is: Is the continued 'squeezing out' of this Annex I species from this area, due to the ongoing

expansion of wind farm development, sustainable? It must again be remembered that the site, and the area in which it is located, are of international and national importance for Hen Harrier. I submit that it is not sustainable and the adverse environmental impacts that would result cannot be justified. With regard to such a conclusion, I then cannot 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.

7.11. **Landscape and Visual Impact**

7.11.1. 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.

7.11.2. 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 Good Design' and refers to a schedule of landscape and visual design considerations that were given due regard (Section 13.2.3 of the EIAR). While acknowledging the siting of turbines within a 'Strategic Area' and an area 'Acceptable in Principle', 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 Hen Harrier nesting, from telecommunication links, etc. Having regard to the site's constraints, it is noted that the number of turbines that could be accommodated on the site, when all constraints were taken into account, are being accommodated in the application.

7.11.3. 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' and WES Nine relates to areas that are 'Acceptable in Principle'. It is noted that nine of the proposed turbines are located within a designated 'Strategic Area' and one is within an area that is designated 'Acceptable in Principle'. 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

Areas Acceptable in Principle

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.

I note the following from the first party appeal:

- Of the 400MW of wind energy generation to come from Strategic Areas, only 144.78MW of wind energy projects have been permitted or constructed to date in these areas designated Strategic Areas. With 9 out of the proposed 10 turbines to be located in a Strategic Area, this would further deliver on the stated target by delivering a further 11% of the County's target for Strategic Areas.
- Of the150MW of wind energy generation to come from Acceptable in Principle areas, only 99.7MW of wind energy projects have been permitted or constructed to date in these areas. With the one proposed turbine located in such an area, this would deliver a further 3.2% of the County's target for these areas.

- Of the 5,188 ha classified as Strategic Areas for wind farm development in West Clare, only 1,648 ha or 32% of it remains available for further development. Of the 9,112 ha classified as Strategic Areas for wind farm development across the county, 47% of that area is now unavailable for further wind farm development as a result of existing/operational wind farms or turbine setback areas around properties, leaving just 4,237 ha or 1.32% of County Clare that can be developed within designated Strategic Areas and potentially be made available for further future wind farm development.

I note that the planning authority does not refute this submission. In this context, it is apparent that the proposed development would sit comfortably, in principle, with these provisions of the Clare Wind Energy Strategy, being sited in and utilising land so designated for development of the nature proposed and further moving towards the target wind generation in the designated areas. In addition, it is noted that the proposed development would not lead to the Strategy targets being exceeded in any instance.

With regard specifically to Strategic Areas, I note that the proposed development would be sited in a location with known good/excellent wind resources, as evidenced by the extent of functioning wind farms in the immediate area. Options for access to the grid appear to be on hand and it is noted that the proposal is effectively understood as an extension to the existing Cahermurphy Wind Farm, albeit a stand-alone functioning project. I further note that the site of the proposed development is outside any Natura 2000 sites. The nearest 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 and other issues which impact on residential properties and these are matters which will be addressed later. However, 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. 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. I also note that the proposal is effectively an extension of the existing Cahermurphy Wind Farm and is in the West Clare area where there is extensive wind farm development, notably to the east and north-east. While I accept that it is at the western end of the designated Strategic Area at this location, it is reasonable to determine that it would not be readily perceived to be 'piecemeal development' in such a context.

With regard to Areas Acceptable in Principle, the same points made above can be made again in relation to sufficient wind speeds and access to the grid. It is also noted that there is extensive established wind farm development in the vicinity and there is further proposed and permitted wind farm development in the area. Again, it is noted that 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 and will seek to show how or if it is designed and developed in line with the Planning Guidelines in terms of siting, layout and environmental studies. I note again 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 eight of the proposed turbines would be located within the designated LCA 17 Slieve Callan and that the two northernmost turbines would be located within LCA 20 Malbay Coastal Farmland. LCA 17 is seen to have an overall sensitivity to wind farm development of Medium to Low and LCA 20's overall sensitivity is seen to be High. Within LCA 17 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. I repeat that eight of the proposed ten turbines would be located within LCA 17. LCA 20 is acknowledged as having an open and exposed character and is a significant tourism and recreational area. It is seen to have some limited capacity to accommodate small wind farms further east where the landform is more undulating. I note that the Strategy does not indicate which landscape character area LCA 20 is seen to correspond with in relation to the Planning Guidelines. Table 13-2 of the applicant's EIAR would appear to indicate that the Strategy refers to this LCA as corresponding with Hilly and Flat Farmland as set out in the Guidelines as it relates to the proposed development.

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 125m to blade tip. While the number of turbines is seen to be below 11 in number, it is evident that the 10 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.

7.11.4. 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. Eight of the proposed ten turbines would be located within LCA 17. I acknowledge the applicant's considerations in Section 13.4.4 of the EIAR, wherein it is submitted that the key characteristics of 'Transitional Marginal Landscapes' fit with the landscape of Cahermurphy and the EIAR then goes on to address how the proposed development meets with Guideline provisions on this landscape character type. When considering the context of the proposed development one could have regard to the site in some

way corresponding to Mountain Moorland, Transitional Marginal Landscape, and Hilly and Flat Farmland. Given the provisions of the Strategy and most of the proposed development being sited with 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. There is clearly some reasonable understanding that the site could be seen to be within a transitional character area.

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 mainly 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 the site being extensively 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 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 clearly stated that blanket peat is mapped over most of the wind farm site and Figure 9-1 illustrates the extent of blanket peat across most of the site. Thus, much of the landcover would naturally be blanket bog. It is

acknowledged that there are no peaked mountains in this part of LCA 17. It is understood that much of the character of the site has 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, ensures 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 is understood as being an addition to an expanse of wind farm developments in the area and cannot 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 those that exist in this area and the continuity of topographical characteristics of this area ensure that the proposed turbines would not be absorbed or screened in any significant manner. Finally, I note that the applicant's EIAR places much emphasis on Transitional Marginal Landscape. On the matter of cumulative effect, the Guidelines state that, should two or more wind energy developments be visible within a confined setting, a critically adverse impact might result, depending on turbine height and wind energy development extent and proximity. This is an issue of concern which is apparent from the planning authority's decision.

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 and height 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 would be seen to fit comfortably with the general guidance provided. However, it is clearly the cumulative impact with existing and permitted wind farm development which causes particular concern. I again 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.

7.11.5. 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 20km from the outermost proposed turbines, was devised. The ZTV represents the area over which the development would theoretically be seen within that 20km radius. It is apparent that the visibility of turbines would extend substantially beyond a 20km 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 13-14 and Appendix 13-2 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 170m 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. 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 in all directions. It is clear that the proposed turbines would be highly visible from several designated Heritage Landscapes along the coastline to the west, 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. I note that the applicant has submitted in the EIAR that, of the five scenic routes within the 20km study area, four are coastal routes and the views from the fifth route (SR15), 6.7km north of the site, are towards the coast and this warrants its listing. 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 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 often they would fail to retain hilly backdrop and would frequently 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 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 16 photomontages presented as part of the applicant's EIAR which formed Volume 2 and the response to a further information request. 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 16-4. 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.

Photomontage 1

View 1 is taken from a distance of 6.63km to the north of the nearest proposed turbine (Turbine 3) from the R464 Regional Road, which is a designated Scenic Route. The baseline image appears to present as being unaffected by wind farm development. In the 'Current View', the existing Cahermurphy Wind Farm is distinct and prominent in the landscape. This is the reality at the location where this view is taken from. The 'Cumulative photomontage' shows a clear landscape and visual change with the introduction of the proposed wind farm development. It clearly indicates the degree of cumulative impact of wind farm development in the local area. There is a stark change to the landscape character as turbines have become the dominant feature in the view. The eye is drawn to the expanse of turbines and the presence of the natural landscape is greatly distorted. What is not in any manner clear in the latter montage is the distinct difference in height of the proposed turbines over those significantly smaller turbines which exist and which are proposed beyond the site. It is evident that the proposed development would be the more prominent turbines in the view in the middle distance. I find it very difficult to concur with the

applicant's findings that the 'Significance of Effect' would be 'Slight' in this view, i.e. "An effect which causes noticeable changes in the character of the environment without affecting its sensitivities". The cumulative effect of wind farm development at this location changes the character of the landscape in a significant manner. This should be acknowledged, notwithstanding such development being located within a designated 'Strategic Area' for wind farm development.

Photomontage 2

View 2 is taken from a distance of 9.53km from proposed Turbine 5 from a local road east of the site in a rural area. It is a view across Lough Naminna towards the existing Booltiagh Wind Farm. The existing turbines are highly prominent in the baseline view and are clearly dominant features in the landscape. The fact of the development of extensive numbers of turbines at this location has been confirmed. Having regard to the scale and height of these turbines and the undulating character of the landscape, a limited visual impact is expected. There is no view available of the proposed wind farm at Cahermurphy due to screening. Thus, the impact in this view would effectively be imperceptible. If the view was either side of this screen and the proposed development came into view, it is reasonable to determine that the limited view of upper sections of the turbines would result in an insignificant impact, while clearly introducing an additional cumulative effect on the landscape.

Photomontage 3

View 3 is from the N68 National Secondary Road in a rural area some 8.72km south-east of proposed Turbine 10. The baseline image shows the existence of turbines associated with Glenmore Wind Farm. The landscape is expansive and these turbines are not in any way dominant in the view. Additional turbines come into view centrally in the 'Current View', notably the existing Cahermurphy Wind Farm. These are seen as being distinct from the Glenmore Wind Farm and become a notable focus in the landscape. This is confirmed. With the addition of the proposed 10 turbines, they do not form a distinct wind farm development. They expand wind farm development westwards across the ridge. The cumulative impact is self-evident. It greatly exacerbates the prominence of wind farm development in the view. What is

not in any manner presented is the more prominent impact the proposed turbines would make because of their increased scale and height. This would have been anticipated in such a view. I fail to see how the applicant could determine such a magnitude of change as 'Slight' and a significance of effect as 'Slight'.

Photomontage 4

View 4 is from a local road north of Kilmihil village 4.13km south-east of proposed Turbine 9. This is a view in which there is an expanse of forestry in the foreground and a ridge at the furthest point, with one-off housing between both. The baseline image appears to indicate no intrusion by turbines in the view. The separate existing Cahermurphy and Kiltumper wind farms are prominent features in the 'Current View'. This is confirmed. The proposed wind farm development significantly expands the proliferation of wind turbines across the ridge and they are not readily interpreted as a wind farm that is distinct from the existing Cahermurphy wind farm. The turbines are highly prominent on the ridgeline and clearly are the main focus of man-made structures in this rural landscape. Being forward of the other established turbines, the prominence of the proposed turbines is evident in the final montage. The proximity of the proposed turbines to residential properties and their prominence from such dwellings can reasonably be interpreted from this montage. One could reasonably determine that their impact on residential properties nearby would be significant due to their dominance in the view. I note that the applicant submits that the sensitivity of visual receptors to be medium, with viewers who may have some susceptibility to change in a view. The sensitivity of residences in this view are considered by the applicant to be 'Low'. My own subjective opinion on this would differ due to the turbines' scale, height and proximity to houses. The significance of effect is beyond 'Moderate' in my opinion.

Photomontage 5

View 5 is from Clooneenagh Cross 1.3km south-west of proposed Turbine 9. Hedgerow is prominent in the foreground of the baseline image and forestry dominates the view of the ridgeline at the rear. There are no turbines in the existing view. However, if one takes a couple of steps forward from where this view is taken,

the three Cahermurphy turbines become distinctly clear in the view. The introduction of the proposed turbines indicates that these features would be highly prominent and dominant in this view. Having regard to their height, scale and proximity, such dominance would be anticipated. The impact on this view could only reasonably be seen to be significant, albeit there does not appear to be any particular sensitivity or sensitive receptor affected. I acknowledge that the applicant's significance of effect is also stated to be 'Significant'. The residual effect is found by the applicant to be 'Moderate' with the application of mitigation measures, which includes the turbines being in a 'Strategic Area', the local roads being of low sensitivity, the low density of housing, and the proximity. In my opinion, the effect on this view remains significant because of the dominance of the new structures and the lack of physical mitigation measures.

Photomontage 6

View 6 is from the R484 Regional Road south-east of Creegh village and 4.37km south-west of proposed Turbine 9. Slieve Callan Wind Farm is located in the distance in the baseline image. In the 'Current View', Slieve Callan, the existing Cahermurphy, Booltiagh, Glenmore, Letteragh, Boolynagleragh, and Kikltumper wind farms all come into view. Slieve Callan and Cahermurphy are distinctly separate from the other wind farm developments. This is confirmed. The other wind farms present as a grouping on the right side of the view. Wind turbines clearly form the prominent features in the distant view. The introduction of the proposed development presents as a clear extension of the Cahermurphy wind farm. Given their increased scale and height and their proximity to the location from which the view is taken, the proposed turbines are evidently more prominent than those further back along the ridge and beyond on Slieve Callan. They each present as structures which significantly break the skyline, with little if any screening. The final montage ably demonstrates, even at a distance of more than 4km, the highly dominant effect the proposed turbines would have on neighbouring residential properties. The local sensitive receptors are clearly impacted as turbines of significant height and scale progress westwards. The applicant has determined the significance of effect to be 'Moderate', i.e. an effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends. I accept that wind farm

development is now an integral part of the view at this location. The cumulative impact evidently increases, with the increased height and scale of the proposed turbines projecting more prominently than existing turbines. The outcome that results is one where the proposed development is a distinct and significant addition to wind farm development at this location.

Photomontage 7

View 7 is from the N67 National Secondary Road within the village of Moyasta 15.47km south-west of proposed Turbine 9. The baseline image shows a relatively flat local topography. The Tullybrack Wind Farm is present in the 'Current View', screened somewhat by existing forestry and a house and sheds. There are no other turbines visible. The 'Cumulative photomontage' shows the proposed development appearing as very distant, extending wind farm development westwards in the view. The final montage ably demonstrates this cumulative effect, albeit the proposed turbines are at a significant distance. The issue at hand is the cumulative effect and the encroachment westwards. The proposed development has a distinct impact on the view. It is clearly visible and is a new substantial man-made component in the view. I note the applicant has determined that the 'Residual Effect' would be 'Not Significant'.

Photomontage 8

View 8 is from a local road north of the N67 to the north of Kilkee at a distance of 18.81km south-west of proposed Turbine 1. This view is taken from a sensitive coastal area on the Loop Head Peninsula looking inland. This is an elevated position looking down onto farmland. A faded ridge can just about be made out in the distance in the baseline image. A linear pattern of existing turbines can just about be made out on the right side of the image. These apparently are Tullabrack and Moanmore Wind Farms. The 'Current View' presents as similar although there are some very slight silhouettes of turbines apparently from Boolynagleragh Wind Farm. I can confirm from inspection that Slieve Callan and the other referenced existing wind farms are seen clearly from this view. In the 'Cumulative photomontage' the proposed turbines appear. These are the most distinct turbines in the view,

presenting clearly and significantly further west of the existing turbines associated with other wind farms. The final montage indicates the substantial visual impact the proposed turbines will make to the view, comprising significant skyline development and being structures that would be commanding and prominent in the view, notwithstanding the significant distance involved. While established wind farm developments are effectively in the long-range view, the proposed development becomes a prominent feature in the mid-range. The applicant has deemed the 'Magnitude of Change' to be 'Negligible' and the 'Residual Effect' to be 'Not Significant'. I do not accept this conclusion.

Photomontage 9

View 9 is from a private road off the entrance to Doonbeg Golf Resort some 7.68km west of proposed Turbine 1. This view is again from a sensitive coastal area looking inland. It is a view across a relatively flat landscape with a ridgeline in the long-range. There are substantial numbers of houses in the near to mid-range. On first view, the baseline image would appear to indicate that there is no existing wind farm development in the view. However, upon closer examination, the light silhouettes of turbines associated with Slieve Callan Wind Farm can just about be made out on the left side of the image. I can confirm from inspection that Slieve Callan Wind Farm forms a distinct part of this view. In the 'Current View', three further turbines are visible in the centre of the view associated with the existing Cahermurphy Wind Farm and two turbines can just be made out east of these associated with Kiltumper Wind Farm. The 'Cumulative photomontage' introduces the proposed development and the proposed turbines become the prominent features in the view. Their scale and height are such that they are not in any meaningful manner screened in the view. They are substantial structures on the skyline and must be recognised as such. I find it difficult to comprehend the applicant's conclusion that the additional cumulative effect of the proposed development over and above the Do-Nothing Scenario is not significant. The sensitivity of visual receptors at this scenic coastal location is defined as 'High' by the applicant and I concur with this but I cannot realistically conclude that the 'Magnitude of Change' is 'Slight' as so determined by the applicant. The impact is self-evident. The final montage presents something wholly different from the conclusion drawn by the applicant.

Photomontage 10

View 10 is from a local road east of Mullagh village and 3.66km north-west of proposed Turbine 1. This is taken from a hill looking down over a varied rural landscape of fields, forestry and one-off housing. An east-west ridgeline is clearly visible in the distance. There are no views of wind turbines in the baseline image. In the 'Current View', the three existing Cahermurphy Wind Farm turbines are clear in the mid-range. On the far left side of the view there are a number of turbines in the long-range associated with other wind farm developments. These are barely visible due to their distance and many are substantially masked by established forestry and the ridgeline. I can confirm that these existing turbines are clearly visible in this view. The 'Cumulative photomontage' introduces the proposed turbines where the upper sections are visible, with the lower parts of the towers masked by hedgerow. While significantly greater in height and scale and closer in the view than the existing Cahermurphy turbines, the final image does not appear to demonstrate the greater visual impact that would result from the larger structures. The proposal can be seen to be a substantial addition to wind farm development at Cahermurphy. Much more of the proposed turbines would come into view when moving further east along the local road. The applicant has determined the 'Residual Effect' to be 'Moderate, i.e. an effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends. The proposal comprises a substantial expansion of wind turbines in the local area and turbines which are significantly higher and of greater scale than those prevalent in this area.

Photomontage 11

View 11 is from the R474 east of Miltown Malbay 8.95km north of proposed Turbine 9. The R474 is a designated Scenic Route. The baseline image shows expansive agricultural lands with a ridgeline in the distance on which there is extensive forestry. There is sporadic housing in the foreground. There are no wind turbines in the view. The 'Current View' shows the three turbines of the existing Cahermurphy Wind Farm centrally in the view and clearly distinguishable on the ridge. This has been confirmed. The 'Cumulative photomontage' shows the proposed turbines presenting

as encroaching and more imposing structures in the view. Four turbines associated with the proposed Coor West Wind Farm appear on the left side of the view. The proposed development comprises distinct new features which puncture the skyline in the same manner as the other existing and proposed turbines. The effect on views from the Scenic Route is clear as wind farm development becomes the prominent feature on the landscape and the development to which the eye is drawn when travelling this section of the route. The proposed development would make the most significant contribution to this landscape change in this view. The applicant acknowledges the proposed turbines' visibility and how obvious they appear in the landscape, considering them to be distant and not dominant. I do not concur with such conclusions as they comprise a significant landscape change in the view in their own right and cumulatively make the greatest addition to this change in this view. I find that it is not credible to determine the 'Residual Effect' to be 'Slight' on views from this Scenic Route.

Photomontage 12

View 12 is a distant view from Clahane viewpoint west of Liscannor and 18.32km north-west of proposed Turbine 2. This view is from a sensitive coastal area looking across Liscannor Bay. There are no views of any turbines in the baseline image. The 'Current View' is particularly hazy but some turbines in Slieve Callan Wind Farm can be vaguely made out on the left side of the view. No other wind farm development can be seen. I can confirm that Slieve Callan Wind Farm is distinctly visible in this view. The 'Cumulative photomontage' remains as hazy as the previous montage and the upper sections of some of the turbines of the proposed development rise vaguely above a distant ridgeline. The final montage clarifies the findings of the 'Cumulative photomontage'. Notwithstanding the upper sections of four or five proposed turbines only appearing behind the distant ridgeline, it is evident that they are not non-descript in the view as the turning blades would of course draw attention in the view across the bay. In light of the visibility of the Slieve Callan Wind Farm turbines, there is no reason to determine why the sections of the proposed turbines shown in the photomontage would be any less evident in this view. Given the expansive view of the coastline, the effect could not be seen to be overly significant. Clearly, the distance of over 18km affects visibility. However, the proposed development would

be the most visible wind farm in this expansive view. The applicant has determined the ‘Residual Effect’ to be ‘Imperceptible’. In the true meaning of the word, the rotating blades of the proposed turbines in this view would be ‘perceptible’.

Photomontage 13

View 13 is from a local road 2.1km north of proposed Turbine 3. It presents as an approach to a low hill in the mid-range showing marginal agricultural lands and forestry on a ridge. There are no turbines in the baseline image. The ‘Current View’ shows three of the existing Cahermurphy Wind Farm turbines projecting above the low hill in the mid-range and on the left side of the view. The visual and landscape impact of the ‘Cumulative photomontage’ and final montage by all of the proposed turbines on this view is stark. They are the prominent and dominant features in the view, both in the near and mid-range. There is little by way of any mitigation. This is a fine representation of how the proposed turbines would affect the landscape at a local level in the vicinity of the proposed wind farm. Indeed, I acknowledge that this would be expected. I again note that the proposed turbines do not present as being in any way different to the existing turbines in the view, notwithstanding their significantly greater height and scale. The applicant describes the ‘Magnitude of Change’ as ‘Substantial’. In my opinion, the impact could correctly be termed ‘Profound’. I do not comprehend how the ‘Residual Effect’ could be termed ‘Moderate’ when one considers the actual impact on the view of the natural landscape.

Photomontage 14

View 14 is from the N67 National Secondary Road, halfway between Quilty village and the junction of the N67 with Regional Road R483 and 6.2km north-west of proposed Turbine 1. This is an important and busy tourist route close to the coast. The baseline view shows marginal agricultural land in the foreground, rising to a low hill in the centre of the view, with sporadic housing dotted across the view. Slieve Callan Wind Farm is discernible in the upland area in the distance on the left side of the image. It is confirmed that Slieve Callan Wind Farm is a significantly prominent development along this section of national route. The ‘Current View’ cuts out the

section of the view that includes the distant turbines on Slieve Callan. There are no turbines visible in the view. In the ‘Cumulative photomontage’ and the final montage, the blades and upper sections of the proposed turbines come clearly into the view. They will introduce distinct turbine features on this southward approach on the N67 that heretofore are not present. They will become relevant features in this view as the blades function. They will be a distinct new component in the landscape, notwithstanding their distance from this section of the busy tourist route. It is also evident that if one continues along the N67 in a southwards direction the visual and landscape impact of the proposed turbines substantially increases. The applicant has determined the ‘Residual Effect’ to be ‘’Slight’. It is my submission that it is apparent that the proposed turbines would be notable and distinct features which will draw the eye to the rotating blades, impacting on the sensitivities of the rural landscape as viewers move southwards along this section of the N67.

Photomontage 15

View 15 is from Regional Road R483 midway between Creegh village and its junction with the N67 and 3.8km west of proposed Turbine 1. The baseline image shows a flat landscape in the foreground, rising slightly in the mid-range where there is an expanse of evergreen forestry on the left side of the view and showing Slieve Callan Windfarm in the distance through a break in forestry. The southern part of the view (right side) shows marginal agricultural land rising slightly in the mid-range. The ‘Current View’ is a repetition of the baseline image. The ‘Cumulative photomontage’ and final montage show the proposed turbines prominently projecting above existing forestry and houses in the centre of the view. They become the principal focus in the view. The upper sections and turning blades are strident features. It is apparent that the houses in the view will have a distinctly altered landscape and visual context with the development of the prominent proposed wind farm. This is to be expected, given the scale, height and proximity of the proposed turbines. They would not be structures which could be meaningfully screened. It is evident that, as one moves further forward and eastwards along the local road, the dominance of the proposed turbines would be increased. I note that the applicant refers to the three existing turbines of Cahermurphy Wind Farm being visible between proposed Turbines 5 and 6. These are not discernible in the views presented. I find it extraordinary that the

applicant refers to the ‘Magnitude of Change’ as being ‘Moderate’. How can the applicant realistically conclude from the montages that “*Change may be readily noticeable but not substantially different in scale and character from the surrounding and wider setting*”? Furthermore, I question how the ‘Residual Effect’ can be determined to be ‘Moderate’, i.e. “*an effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends*”. I ask: what existing and emerging baseline trends in this view? It must simply be recognised that the scale, height, rotating blades, high visibility, and skyline character of the proposed turbines greatly distort the landscape and visual character in this view.

Photomontage 16

View 16 is taken from a local road junction close to Knocknahila Bridge 2.3km north-west of proposed Turbine 1. The baseline view is one of an undulating rural landscape, with few buildings visible. The three turbines of the existing Cahermurphy Wind Farm rise above forestry located on a ridge left of centre in the view and present as distant features, contained in number and location and not overly imposing on the expansive view of the rural landscape. The ‘Current View’ repeats this image. The ‘Cumulative photomontage’ wholly changes the expansive view of the rural landscape. The proposed turbines dominate the view. They are the focus of the view. They project significantly above the treelines and form prominent skyline development. Their dominance is unsurprising, given their scale, height and proximity. I note that the applicant refers to the ‘Magnitude of Change’ as being ‘Substantial’. It is self-evident that it is at least that because of the turbines’ dominance. The applicant has determined the ‘Residual Effect’ to be ‘Moderate’ after mitigation factors are employed. There is little by way of mitigation that can reverse the actual physical substantial nature of the magnitude of change in this view. The photomontages themselves ably demonstrate this.

Conclusions on Photomontages

Landscape and visual impact assessment requires honesty. It should not be couched in nuanced language. In my opinion, the assessment must read as meaningful and be presented in easily understood language. I make the observation that big turbines have big landscape and visual impacts. This is self-evident. 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.

In considering the applicant's photomontages, I must acknowledge that the sensitivity of the landscape from which views have frequently been taken, and the consequences and impacts for the value and quality of coastal locations and important tourist and scenic roads in particular, is generally ignored in the applicant's assessment. It is obvious that development of the nature and scale proposed clearly impacts on the quality of views and experience of the landscape gained from within such areas. In the main, such impacts may be seen by many as being adverse and by many 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 (which is more often the most valued component of the coastal and scenic landscape), and views and experience of it, is clearly distorted, frequently to a greater degree by development of the nature proposed when compared to other new development being introduced in the distance which more often would not be 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 properties and when travelling along the local roads, as evidenced by Photomontages 5, 10, 13 and 16. This is expected, given the scale, height and proximity of the proposed turbines in the views. I cannot concur with the applicant's conclusions on 'Residual Effects' that they are in some way 'Moderate' in any reasonable meaning of the word.

I note that the median range views (between 5 and 10km), with the exception of View 11, 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 (greater than 10km from the wind farm – Views 7, 8, and 12), 'Residual Effects' are deemed by the applicant to be either 'Not Significant' or 'Imperceptible'. These views are primarily from highly sensitive coastal locations and they are examples of my reference to 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 and the functioning of rotating turbines, to suggest they will not be perceived 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. 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.

Finally, regarding the issue of cumulative impact, the chosen views have displayed an array of visual presentations which demonstrate that the proposed development can readily be understood as an extension to the existing Cahermurphy Wind Farm,

would be wholly separate from other wind farms in the vicinity, and can otherwise be viewed as a continuum of turbines in a southerly and westerly direction. What can be reasonably ascertained is that the proposed development, given the turbines' scale, height and location, will contribute significantly to a landscape change in a landscape which is already subject to an expansive array of turbines in this area. It is clearly this issue which concerns the planning authority. This 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.

7.11.6. 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, both locally and over greater distances from houses, roads, scenic routes, and tourism and amenity locations and it would intrude on protected views. The height and scale of the proposed turbines would ensure the development would be highly visible. This visibility cannot be considered to be 'Moderate, 'Not Significant', or 'Imperceptible' 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 is obvious and should be openly acknowledged. The impact of this development would change the understanding of the 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 very extensive. This proposal significantly adds to the extent of turbines on the ridge and in this area. The proposal also clearly expands the linear spread westwards in the direction of scenic, tourist and amenity locations and routes that are clearly recognised as being of importance and value. 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 an inconsequential landscape or visual impact as one could interpret from the applicant's assessment.

In conclusion, I must acknowledge the significant landscape and visual impacts that would result from the proposed development. I must further note that the proposed development would add substantially in a cumulative manner to wind farm development in this part of West Clare. I cannot ignore that the proposed development would have very significant landscape and visual impacts on the amenities of residents in the vicinity of the proposed development. However, I must be forthright in acknowledging that the Clare Wind Energy Strategy, which the planning authority has adopted as part of its County Development Plan, distinctly includes this site as primarily being within a designated 'Strategic Area' for wind farm development, with one turbine proposed in an area designated 'Acceptable in Principle'. It is an obvious observation to make that the planning authority can only have expected more wind farm development to occur at this location, with the consequential landscape and visual impacts, and it is the planning authority that is actively promoting such development at this location in its own Strategy. While recognising the significant landscape and visual impacts arising from the proposed development, I consider that a refusal of permission based on landscape and visual impact could not be warranted when one considers the Clare Wind Energy Strategy. It simply does not add up. The 'Strategic Areas' and areas 'Acceptable in Principle' 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, output, and landscape and visual impact how the proposal falls outside of the provisions of the Clare Wind Energy Strategy.

7.12. **The Management of Waste Materials**

7.12.1. 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 87,992m^3. The quantity of other spoil requiring management is estimated to be 161,722m^3. This gives a total of 249,714m^3. The applicant is proposing to dispose of this material in the two worked out borrow pits. The borrow pits would be located on hillsides where ground elevations are between 120 and 130m OD and where the land is naturally peat-dominated. I make the observation that Table 9-8 in the Land, Soils and Geology section of the EIAR, relating to the worst case peat, mineral soil (spoil) excavation volumes, indicates that the estimated volume of peat to be extracted would be 92,117m^3. The table also shows that the turbines and access roads would require excavation of 71,737m^3 of peat and the estimated volume of other spoil to be excavated is 161,722m^3. This gives a "worst case" total of 253,839m^3. Whether it is 249,714m^3 of waste material or 253,839m3, it is reasonable to determine that this is a significant volume of material requiring handling, storage and management.

7.12.2. 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 extraordinary that the applicant does not know at this stage how primary waste repositories for this proposed development are intended to be finally constructed. Furthermore, it appears 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.

7.12.3. I 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 7 metres in height. The illustrations present the peat and spoil being contained within buttresses up to 15 metres in height for the southern borrow pit and up to 11 metres in height for the northern borrow pit. This is confirmed in the further information response.

7.12.4. The Plan states:

- The buttresses *should be* constructed of coarse boulder fill with a high permeability in order to prevent water retention occurring behind the buttresses.
- A layer of geogrid to strengthen the surface of the placed peat and spoil within the borrow pits *may be* required.
- Interceptor drains are also intended to be provided upslope of the borrow pits, *where necessary*.
- 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.
- A silting pond *may be* required at the lower side/outfall location of the borrow pits.
- *Where possible*, the acrotelm shall be placed within the vegetation 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.
- All of these guidelines and requirements *should be* confirmed by the designer prior to construction.

7.12.5. 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. 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 and assuredness in what measures are necessary form a serious failure in the application.

7.12.6. 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.

7.12.7. 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.

7.13. **Site Drainage**

7.13.1. 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 four new stream crossings and potentially one existing stream crossing upgrade. 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.

7.13.2. 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.

7.13.3. 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 stone 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. Sediment will be cleaned out of the stilling pond when it exceeds 10% of pond capacity.

- 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.

7.13.4. 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 mats are to be aligned parallel to ground contours where possible. 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.

7.13.5. 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. They in no way address Inland Fisheries Ireland concerns about proximity of turbines 4, 8, 9, and 10 to watercourses and the pollution risk that results.

7.13.6. 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.

7.14. **Shadow Flicker**

7.14.1. 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.

7.14.2. For the assessment of impact from shadow flicker, I note that turbines with a rotor diameter of 140m and a hub height of 100m are those that were modelled by the applicant. The applicant considered all dwellings within 1.4km of turbine locations in its assessment, which totalled 100 dwellings and these are shown in Figure 6.3 of the EIAR. The predicted shadow flicker estimated to occur is presented in Table 6-2 of the EIAR. This identified that 54 properties may experience daily shadow flicker in excess of the guideline threshold of 30 minutes per day in predicted worst case conditions. It was estimated that, when the regional sunshine average of 28.3% is taken into account, the total annual guideline limit of 30 hours is predicted as being exceeded at five of the modelled properties. I note that the applicant's assessment has also concluded that the cumulative model results with the existing wind farm to the east indicates that there are no additional properties where the guideline limits would be exceeded due to shadow flicker. I further note that one building would experience an increase in potential shadow flicker due to the presence of both the proposed and adjoining existing wind farm. Mitigation measures are proposed in Section 6.4.3.1 of the EIAR in the event of shadow flicker exceeding guideline threshold values of 30 minutes per day at residential receptor locations.

7.14.3. In considering this issue, I note that the closest residential property would be approximately 700 metres from the nearest wind turbine. I further note the findings of the applicant's modelling results for properties within 1.4km 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, I do not consider that shadow flicker could be considered to be a potentially significant issue impacting on the amenity of residents in the vicinity of this wind farm development.

7.15. **Noise Impact**

7.15.1. Introduction

I note the many third party submissions to the planning authority which have raised concerns about the potential noise impact arising from the proposed development. I also note the concerns raised in observations submitted to the Board. Many of these have raised concerns about the health impacts from low frequency 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.

7.15.2. 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 are established wind farms 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 the extensive 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.

7.15.3. 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.

7.15.4. Operational Noise

I note the applicant's submission forming Chapter 12 of the EIAR and the supporting Appendices 12-1 to12-5. This submission noted that there are 100 noise sensitive locations (NSLs) within 1.2km of the proposed turbine locations, with the nearest being 700m from proposed Turbine 6 and two further NSLs being 702m from proposed Turbines 1 and 10. 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 (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 indicates that these locations constitute a low noise environment at day and night times. The Board will note from Section 12.5.6 of the applicant's EIAR that Cahermurphy 1 wind farm had

not yet been constructed at the time the applicant undertook the background noise survey.

Table 12-22 of the EIAR set out Noise Criteria Curves at various standardised 10m height wind speeds. Predicted noise levels at various wind speeds were calculated for the 100 NSLs within 1.2km of the proposed turbines. These included the potential cumulative impacts of the proposed development in combination with Cahermurphy 1 and Kiltumper wind farms. These were compared against the adopted noise criteria curves. Following review of exceedances to the criteria in various wind direction sectors, I note that in the prevailing wind direction (south-west) exceedances were noted at 16 NSLs. As well as this, there were exceedances in 19 houses in the south-east wind direction and 12 houses in the north-west wind direction. A summary of the array of exceedances in each wind direction are provided in Tables 12-24 to 12-31 of the EIAR. Appendix 12-5 of the EIAR consists of a complete review of cumulative turbine noise levels against relevant criteria for specified directions. The applicant's review considered a turbine operating in standard mode.

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. 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. This is seen to be an effective mitigation to ensure noise limits are complied with. It is intended that a detailed curtailment strategy matrix would be finalised as part of the detailed design for the selected turbine technology to achieve the noise criteria at each of the noise sensitive locations. To demonstrate the principle of curtailment, the applicant presented a typical curtailment strategy matrix for south-westerly winds to address exceedance in this wind direction sector. The applicant submits that, assuming the implementation of such curtailment, it is not considered that a significant effect would be associated with the operation of the

proposed development. The applicant acknowledges that noise levels at low wind speeds would increase due to the development.

Having regard to the above, I note that the Board has no details contained in this application on the turbine technology which can reassure the Board or indeed any of the occupants of the potential affected houses that adverse noise impacts would be adequately addressed. In my opinion, there should an obligation on the applicant to provide some clear understanding about the detailed curtailment strategy matrix in each of the relevant wind direction sectors in order that the Board can take an informed position on the likely effectiveness of such a strategy. It is not acceptable to provide such limited details on critical measures where there are likely to be evident adverse environmental impacts on neighbouring residents nor is it correct to leave such matters to a post-decision period. Further to this, I note that the applicant submits that, if alternative turbine technologies are considered for the site, an updated noise assessment would be prepared 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. I submit to the Board that this again is a most unacceptable proposal, i.e. seeking to address potential significant 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 12.6.3.5 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) 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 a significant noise concern for residents.

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. There are predicted adverse noise impacts for a substantial number of residential properties. I again acknowledge the low noise environment which houses in the general vicinity of this site experience. I must acknowledge the submissions from residents of this area who have submitted that they will be adversely affected by noise from the proposed wind farm. In light of the applicant 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 be truly understood. Finally, I 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 in no position to take an informed decision on this issue.

7.15.5. 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.

7.15.6. 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.

7.16. Grid Connection

7.16.1. The intended connection of the proposed wind farm to the existing Booltiagh 110kV substation appears to be a rational objective. The applicant has ably demonstrated in the further information response as to why the location and layout of the underground route has been chosen. It is clear that it is not technically feasible to combine the proposed grid connection route for the wind farm with the existing Cahermurphy wind farm, with the latter being installed at 20kV. Two options for an on-site 38kV substation are proposed and each have been examined in detail in the application. 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.

The various 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 **c**ould make to the clear doubts arising about the functioning of the proposed drainage and spoil management measures.

7.17. **Traffic Impact**

7.17.1. 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.

7.17.2. For the construction phase, 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. 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. The route to the site for wind turbine deliveries would be from Dublin Port or Galway Port via the N68 National Secondary Road, moving to Regional Road R484 at Ballyduneen, then through Kilmihil and north-westwards to Creegh, and then eastwards to the eastern end of the site along the local road network. It is understood that this was the same haul route used for the existing Cahermurphy wind farm development. Route assessment and junction

adequacy for accommodating the movement of abnormal sized loads were examined and autotracks were completed. General construction access to the site would follow a more direct route northwards from Kilmihil via the local road network.

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

- During the 10 days when the concrete foundations are poured, this would result in an increase in traffic levels by 6.1% on the N68, 21.1% on the R484, and an increase of almost three-fold on the local road leading to the site.
- During the remaining 245 days for site preparation and ground works, traffic levels would increase from 1.3% on the N68, 4.6% on the R484 and 40.4% on the local road.
- During the 10 days of the turbine construction stage, traffic levels would increase by 0.9% on the N68 and 26.1% on the local road.
- During the 30 days when the component parts of wind turbines are being delivered by extended articulated HGVs, traffic levels would increase by 1.5% on the N68, 17.2% on the R484 and 19.6% on the local road.

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

7.17.4. A range of mitigation measures are proposed in the EIAR. Large turbine components would be transported at night, specific traffic management measures would be employed, 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.

7.17.5. 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. However, 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.

7.17.6. Finally, regarding the grid connection, I acknowledge that the road works would generally occur in the road corridor and would result in some short-term delays at local level, with some diversions and minor road closures. This would not result in any significant traffic concerns.

7.18. **Property Devaluation**

7.18.1. I note that the observers Ger and Eimear Lineen have raised concerns in relation to property devaluation. These observers reside 742m from the nearest proposed turbine to their property. These concerns are supported by the third party. The applicant submits that the most recent credible study into the matter is "*Impact of Wind Turbines on House Prices in Scotland*" (2016) and that it found no evidence of a consistent negative effect on house prices, with results varying across areas. The

applicant also submits that, although there have been no empirical studies carried out in Ireland, it is a reasonable assumption that the provision of a wind farm at the proposed location would not impact on property values in the area.

7.18.2. The first point that must be made when considering this issue is to repeat 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 of the scale and height proposed in this application is located near a residential property such as the observers' house, that one could rationally conclude that the siting of such larger 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, which show the turbines' effect on the closer neighbouring houses, to draw its own conclusions. 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 potential 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.

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 site locations, 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, accidents/natural disasters, health and safety, and other environmental hazards. 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, pollution, and traffic 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 sparse in the immediate vicinity of the site. There are 56 dwellings within one kilometre of the proposed turbines.

- The site is separate from established urban settlements in this area, with the village of Kilmihil being 4km to the south and the village of Creegh being 5km to the west. These small settlements are the nearest providing community and social services, amenities and access to public transport.
- The principal land use within the main body of the site is commercial forestry. There is also a small proportion of farmland and turbary. The principal land use surrounding the forestry is farmland. The forestry land use for the site will remain. The land uses along the proposed grid connection comprise forestry, agriculture and public roads.
- 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 wind farm development in principle.
- 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 in which there are substantial numbers of existing turbines. 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 after, depending upon the separation distances and the potential for nuisance effects. Such value is most likely to be reduced rather than enhanced.

- 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 acknowledge that no report was received by the planning authority from the Health Service Executive. 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 and personal experiences which counter the findings set out in the EIAR.
- The proposed development would provide up to 72 jobs during the construction, operation and maintenance of the proposed development. The number of jobs relating to maintenance and control would be approximately 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 7 of the applicant's EIAR considered the impact of the proposed development on biodiversity, flora and fauna. Chapter 8 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 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.
- Cragnashingaun Bogs NHA (002400), whose Qualifying Interest is peatlands, lies approximately 1.5km to the east of the site. The proposed grid connection cable route would run adjacent to the northern boundary of the NHA. The applicant has determined that there is no potential pathway for direct or indirect impacts on the NHA. My considerations on site drainage and spoil management are acknowledged.
- A total of eleven habitats were recorded within the site. Lowland blanket bog was recorded at the site's south-western section south of proposed Turbine 1 and west of proposed Turbine 4. There is extensive wet heath, cutover bog and wet grassland along the eastern half of the site in the vicinity of proposed turbines 3, 6, 8 and 10 and the proposed southern substation site and the location of one of the proposed borrow pits. The dominant habitat on the site is conifer plantation. This forestry was planted on peatland.
- I note that the proposed grid connection routes would traverse many of the habitats found within the main site itself.
- No botanical species listed under the Flora (Protection) Order, the EU Habitats Directive or in the Irish Red Data books were recorded on the site.

- No invasive species were recorded within the site. Rhododendron was recorded at a number of locations along the proposed grid connection route.
- Fauna-related findings recorded in site surveys included bat activity (with Soprano and Common pipistrelle recorded most frequently), low levels of badger activity, no otter breeding or resting sites, signs of the presence of pine marten, red squirrel, Irish hare and Common frog. No evidence of marsh fritillary was recorded. The watercourses within the site were found to be unsuitable to support freshwater pearl mussel.
- The downstream watercourses provide suitable habitat for Atlantic salmon, brown trout, freshwater pearl mussel, and otter.
- 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 plan.
    - The applicant refers to the proposed development resulting in the direct loss of 0.49 hectares of peatland habitat. 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.
    - 34.11 hectares of commercial forestry would be felled to accommodate the wind farm development.
    - The drainage effects have potential significant effects for aquatic species in the waterbodies on and downstream of the site.
    - Regarding invasive species, a Rhododendron Management Plan is proposed to be put in place.
- 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 the potential for significant effects on waterbodies at the operational phase is far lower than the construction phase following the implementation of mitigation measures. 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 great emphasis on its Habitat Enhancement Plan (Appendix 8-8 of the EIAR), i.e. the proposal to replace 28.2 hectares of forestry with restored peatland habitats on lands beyond the wind farm site. I submit to the Board that the loss of blanket bog is not habitat that can be readily replaced as appears suggested by trying to restore such a habitat from existing forested lands. I further note that the provisions of the plan which extend to adjoining landowners have no definitive legally binding agreement in place, are not likely to be enforceable and, indeed, would not survive as part of a long-term plan, which would be necessary if restoring peatland is to be a practical reality.
- A review of bat roosts for the area by the applicant did not identify any roosts within or adjacent to the proposed development site. A range of mitigation measures are proposed and are set out in Appendix 7-2 of the EIAR.

8.4.3. My considerations on ornithology are as follows:

- The applicant undertook an extensive range of field surveys, as set out in Appendices 8.2 to 8.4 of the EIAR.
- I note the field survey findings set out in Section 8.4 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 Common Tern. It also included Red listed species Woodcock, Kestrel, Curlew, Snipe, and Lapwing and Amber listed Cormorant, Tufted Duck and Black-headed Gull. Raptors referenced in Schedule IV of the Wildlife Act that were

recorded included Buzzard, Sparrowhawk, and Kestrel. In addition, it is noted from non-core bird data that a Kestrel breeding territory was confirmed within the wind farm site to the west of Cahermurphy Hill.

- Hen Harrier, Peregrine Falcon, Lapwing, Snipe, Buzzard, Sparrowhawk, and Kestrel were observed within and/or flying over the site. Merlin was observed hunting over bog adjoining the site and a flock of Golden Plover was observed in flight within 500m of the site.
- I draw the attention of the Board to Appendices 8-4 and 8-5 of the EIAR. The activity over, on and in the immediate vicinity of the site by birds of conservation value is evident.
- 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 cumulative impact of wind farm development in this area must be 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 would add to this impact. The species of conservation value identified in the applicant's surveys are being squeezed out of this area as habitats are displaced and distorted by increasing wind farm development.

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. It is noted that there are approximately 180 turbines operating, permitted and proposed within 20km of the site. The existing Cahermurphy wind farm adjoins the appeal site. 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 9-1 of EIAR).

8.5.2. I note the following:

- Blanket peat is the dominant soil type at the site. Peat depths across the site range from 0 to 2.7m, with an average depth of 0.7m.
- Peat depths at turbine locations vary from 0.25m to 2.6m. A peat depth of 1.8m was encountered at the location of proposed Turbine 4 and 1.9m at the location of proposed Turbine 8.
- The summary peat depth map for the site in the EIAR shows that peat depths in excess of 3m were encountered in proximity to proposed Turbines 6 and 8, while depths in excess of 2.5m were encountered in the vicinity of proposed Turbines 3 and 4.
- Peat thickness along existing and proposed access roads are typically less than 1.5m, with localised depths of 2.5m.
- There are poorly drained mineral soils and poorly drained peaty soils on the northern and south-eastern slopes of the site.
- The subsoils along the proposed cable route are mainly blanket peat. Average peat depth is 1m.
- There are no mapped fault lines on the site or in the immediate vicinity.
- There are no recorded failures or landslides recorded on the site.
- The applicant's peat stability assessment (Appendix 9-1) 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.
- According to the worst case peat, mineral soil (spoil) excavation volumes (Table 9-8 of the EIAR), the estimated volume of peat to be extracted is stated to be 92,117m^3. The turbines and access roads would require excavation of

71,737m^3 of peat. The estimated volume of other spoil to be excavated is 161,722m^3. This gives a "worst case" total of 253,839m^3. The Board will note the increases in volumes of peat and spoil material over those used in the applicant's Peat and Spoil Management Plan.

- The volume of rock to be excavated from the borrow pits is estimated to be 203,500m^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 acknowledge the acceptable factor of safety determined by the applicant for undrained and drained conditions at infrastructure locations. I acknowledge the proposed development includes the felling of approximately 34.11 hectares of commercial forestry.

8.5.4. I acknowledge the 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 that the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media requested that there should be a review of the applicant's Peat Stability Risk Assessment, arising from peatland landslides in County Leitrim and County Donegal. This was not done. I further note that Inland Fisheries Ireland is concerned about storage of peat in the borrow pits, construction of roads, and a landslide risk. It also submitted that the proximity of turbines 4, 8, 9, and 10 to watercourses is of concern. There were no meaningful material changes to the proposal in response to these concerns, with the further information response primarily being a repetition of proposals set out in the original planning application

8.5.5. Based upon the analysis carried out by the applicant and the findings gauged and the technical reports from the planning authority, as well as the reports received from Inland Fisheries Ireland and the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media, it would appear 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 and mitigation measures, and considered residual and cumulative effects.

8.6.2. My observations on water are as follows:

- In terms of regional hydrology, the proposed wind farm and grid connection would be located within the Annageeragh-Annagh-Creegh Coastal regional catchment.
- In terms of local hydrology, the northern section of the site (containing three of the proposed 10 turbines) is located within the Annageeragh River catchment while the southern section (containing 7 proposed turbines) is located within the Creegh River catchment. The Annageeragh River originates from Doo Lough 2.6km north-east of the site.
- The majority of the site drains in a south-westerly direction towards the Creegh River, which is some 3.5km downstream. Three first order streams emerge from the southern section of the site and flow towards the river. The northern section of the site is drained by a headwater stream of the Annageeragh River.
- The majority of the grid connection route is upstream of Doo Lough. There are several water crossings along the route.
- There are numerous manmade drains within the site, mainly to drain the forestry plantations.
- 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.

- The applicant noted a Q rating of 4 (Good Status) for the Annageeragh River approximately 5km downstream of the site in the most recent EPA data (2018). A Q rating of 4 (Good Status) for the Creegh River approximately 6km downstream of the site was also noted. The Doonbeg River downstream of the proposed cable route was also designated a Q4 rating.
- The Milltown Malbay GWB underlies the site and extends west as far as the coastline. It is assigned 'Good Status'. Due to low permeability of the bedrock, groundwater flow paths are likely to be short.
- Public water surface water abstractions in the area include Lough Naminna north-east of the proposed grid connection point at Booltiagh substation. The grid connection route would be downstream of this lake. There is also a public water abstraction from Doo Lough, which is the source of the West Clare Public Water Supply Scheme. The lake is 2.4km to the north-east of the site. The wind farm site is not located within the surface water catchment of this lake. Sections of the grid connection route are located within the lake catchment. An impact assessment and proposed mitigation have been provided.
- Given the remoteness of many of the houses in the area from the site, the bedrock geology type within the site, and the unproductive nature of the underlying aquifer, it is anticipated that there would be no hydraulic connection between any potential wells serving houses in the area and groundwater flow from the wind farm site.

8.6.3. The assessment of the issue of water is inextricably linked with the soils and geology of this location, the proximity to waterbodies throughout the site, the extent of peatland, and the potential to impact on waterbodies on and beyond this site. The applicant proposes a very complex scheme of drainage provisions and the deliverance of these, in practical terms, has been queried earlier given the very precise applications proposed, the unknown site conditions, and the reality of the construction environment and weather conditions that will prevail. 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 and which will likely 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 is evidently a distinct concern with a development of this nature.

8.6.4. I acknowledge that the applicant proposes an extensive range of drainage mitigation measures at the construction and operational phases. The complexity of the drainage management system has been referred to earlier in my planning assessment. The applicant's analysis, site investigations, and mitigation measures point to abatement and mitigation of significant pollution to waterbodies. I note the technical submissions to the planning authority on water-related matters.

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 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 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, with the nearest residential property being 700m from proposed Turbine 6.
- 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, 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, scenic routes, and from tourist and amenity locations and it would impact on scenic views.
- The height and scale 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.
- 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 as proposed turbines encroach further 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.

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 coniferous forestry mainly. The principal features of cultural heritage relevant to the site relate to archaeology. There are no features of architectural heritage on the site. The nearest structures on the Record of Protected Structures are in excess of 3km from the proposed development. 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 two recorded monuments within the EIAR primary study boundary for the site and that there are 43 recorded monuments within 2km of the study area. Proposed Turbines 6 and 10 are located in open grassland / blanket bog. The other proposed turbines would be located within and adjacent to established forestry. I note that the two recorded monuments within the study area (CL048-005 - ringfort and CL048-0051 – hut site) are both located 810 metres from proposed Turbine 10. I consider that there are substantial separation distances between proposed turbines and 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 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, which include archaeological monitoring of groundworks.

8.10.3 Overall, I conclude that the proposed development is not likely to have a significant environmental impact on cultural heritage.

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.
- There would be no impacts on telephone and broadband operators generally.
- The Department of Defence requested that turbines delineating corners of the wind farm should be illuminated by high intensity obstacle lights and requested provision of obstruction lighting elsewhere. The Irish Aviation Authority recommended a full instrument flight assessment procedure for Shannon Airport. Shannon Airport Authority recommended that a full aeronautical assessment should be requested from the applicant and submitted that, if permission is granted, lighting of the perimeter and tallest turbines would be required in the interest of flight safety. For reasons of public safety, it is apparent that an aeronautical obstacle warning light scheme would be required to be agreed if a development of this height and scope is permitted.

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 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.

8.13. **Interaction of Impacts**

8.13.1 Chapter 16 of the EIAR examined the interactions of the potential impacts arising. A matrix is presented to identify potential interactions (Table 16-1). 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 that the applicant's EIAR did not expressly deal with the issue of major accidents. I acknowledge that there is reference to the vulnerability of the project to natural disaster in Section 5.5.5 of the EIAR. 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. The other major potential accident that could result from the proposed development would relate to a landslide and peat slippage from excavation, handling and storage of peat in the development of roads and the proposed infrastructure in this upland area. This issue has been addressed in my planning assessment and the potential for a major accident resulting in significant adverse environmental impact arising from the development of this project is considered.

8.15. **Reasoned Conclusion**

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

- 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 is of concern. There are approximately 180 turbines operating, permitted and proposed within 20km of the 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. 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.

- The proposed development poses a significant risk to waterbodies arising from site drainage and spoil management provisions and the distinct uncertainty relating to both. A significant volume of waste material totalling 249,714m^3, including 87,992m^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 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 proposed development would result in a substantial number of noise exceedances in each wind direction. The functioning of the wind farm would be reliant upon a detailed 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 by all parties to the appeal that the potential exists for low frequency noise and for amplitude modulation. 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.

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 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 updated Natura Impact Statement (NIS) submitted to the planning authority following the further information request. 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:

"*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 Carrowmore Point to Spanish Point and Islands SAC (001021), Carrownore* (sic) *Dunes SAC (002250) and Mid-Clare Coast SPA (004182).*

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 than those listed above."

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

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:

- Construction of 10 no. turbines with a maximum overall blade tip height of up to 170 metres and associated hardstand areas;
- 1 no. permanent Meteorological Mast with a maximum height of up to 100 metres;
- 1 no. 38kv permanent electrical substation which will be constructed at one of two locations : Option A in Carrownagry South townland or Option B in Cahermurphy townland. It will have a control building with welfare facilities, all associated electrical plant and equipment, security fencing, all associated underground cabling, wastewater holding tank and all ancillary works;
- All associated underground electrical and communications cabling connecting the turbines to the proposed on-site substation;
- All works associated with the connection of the proposed wind farm to the national electricity grid via an underground cable to the existing Booltiagh 110kV substation, with two options provided relative to the choice of substation location;
- Upgrade of existing tracks, roads and provision of new site access roads and hardstand areas;
- Junction access road works;
- 2 no. borrow pits;
- A temporary construction compound;
- Site drainage;
- Forestry felling to facilitate construction and operation of the proposed development; and
- All associated and ancillary site development works.

9.1.3. ***European Sites***

I note that the applicant identified and examined six Special Areas of Conservation and two 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 Lower River Shannon SAC, Tullaher Lough and Bog SAC, Knockanira House SAC, Pouladatig Cave SAC, and the River Shannon and River Fergus Estuaries SPA. This is accepted and further assessment of the likely effects on these five European sites is not required.

Carrowmore Point to Spanish Point and Islands SAC is located 5.8km by land and 7.6km by water from the site. Carrowmore Dunes SAC is located 6.6km by land and 12.9km by water from the site. Mid-Clare Coast SPA is located 5.8km from the site.

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

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

Qualifying Features

Coastal lagoons [1150]
Reefs [1170]
Perennial vegetation of stony banks [1220]
Petrifying springs with tufa formation (Cratoneurion) [7220]

Conservation Objectives

To maintain the favourable conservation condition of the Qualifying Features.

Carrowmore Dunes SAC (Site Code: 002250)

Qualifying Features

Reefs [1170]

Embryonic shifting dunes [2110]

Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120]

Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]

Vertigo angustior (Narrow-mouthed Whorl Snail) [1014]

Conservation Objectives

To restore the favourable conservation condition of Embryonic shifting dunes, Shifting dunes along the shoreline with Ammophila arenaria (white dunes), and Fixed coastal dunes with herbaceous vegetation (grey dunes).

To maintain the favourable conservation condition of Reefs and Vertigo angustior (Narrow-mouthed Whorl Snail).

Mid-Clare Coast SPA (Site Code: 004182)

Qualifying Features

Cormorant (Phalacrocorax carbo) [A017]

Barnacle Goose (Branta leucopsis) [A045]

Ringed Plover (Charadrius hiaticula) [A137]

Sanderling (Calidris alba) [A144]

Purple Sandpiper (Calidris maritima) [A148]

Dunlin (Calidris alpina) [A149]

Turnstone (Arenaria interpres) [A169]

Wetland and Waterbirds [A999]

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 SPAs. As a result, there would be no direct loss of habitat within these European sites.

The following is observed:

- With regard to Carrowmore Point to Spanish Point and Islands SAC, there is no potential for indirect effect on Perennial vegetation of stony banks or Petrifying springs with tufa formation. The locations of petrifying springs within the SAC are associated with cliffs and rocky coast and there is no hydrological connectivity.
- With regard to Carrowmore Dunes SAC, there is no potential for indirect effect on Embryonic shifting dunes, Shifting dunes along the shoreline with Ammophila arenaria (white dunes), Fixed coastal dunes with herbaceous vegetation (grey dunes), or Narrow-mouthed Whorl Snail, which is associated with dunes, damp grassland, fen and marsh.
- With regard to Mid-Clare Coast SPA, the site of the proposed development does not provide suitable supporting habitat for any of the SCI bird species for which the SPA is designated.

Notwithstanding the above, it is acknowledged that the European sites are located hydrologically downstream of the proposed development. Thus, 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 reefs and coastal lagoons within the SACs and for Wetland and Waterbirds in the SPA. It is concluded that significant effects on the surface water dependent qualifying interests of these 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 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 Carrowmore Point to Spanish Point and Islands SAC (001021), Carrowmore Dunes SAC (002250), and Mid-Clare Coast SPA (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 Carrowmore Point to Spanish Point and Islands SAC (001021), Carrowmore Dunes SAC (002250), and Mid-Clare Coast SPA (004182). 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 application included a document entitled *Natura Impact Statement: Proposed Cahermurphy Two Wind Farm, Co. Clare*. This NIS was subsequently revised and resubmitted in response to the planning authority's further information request. The 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 cumulative effects. The NIS had due regard to the array 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 assesses the likely significance of all potential impacts arising from the proposed project on the integrity of the relevant European sites. It has been prepared taking into account the precautionary principle and is based on the best scientific knowledge in the field.*

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.

Accordingly, for the reasons set out in detail in this NIS, in the light of the best scientific knowledge in the field, all aspects of the proposed development which, by itself, or in combination with other plans or projects, which may affect the relevant European Sites have been considered. The NIS contains information which the competent authority may consider in making its own complete, precise and definitive findings and conclusions and upon which it is capable of determining that all reasonable scientific doubt has been removed as to the effects of the proposed project on the integrity of the relevant Natura 2000 sites.

In conclusion, in light of the conclusions of the assessment which it shall conduct on the implications for the European sites concerned, the competent authority is enabled to ascertain that the proposed project will not adversely affect the integrity of any of the European sits concerned."

I note the submissions received from Inland Fisheries Ireland and the Department of Culture, Heritage and the Gaeltacht 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 Carrowmore Point to Spanish Point and Islands SAC, Carrowmore Dunes 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:

- Carrowmore Point to Spanish Point and Islands SAC (Site Code: 001021)
- Carrowmore Dunes SAC (Site Code: 002250)
- Mid-Clare Coast SPA (Site Code: 004182)

A description of these sites and their Conservation and Qualifying Interests / Special Conservation Interests, including any relevant attributes and targets for these sites, are set out in the NIS. Details of these European sites' Conservation and Qualifying Interests / Special Conservation Interests are set out in the Screening undertaken earlier in this report.

Relevant Aspects of the Proposed Development

In terms of regional hydrology, the proposed wind farm and grid connection would be located within the Annageeragh-Annagh-Creegh Coastal regional catchment. In terms of local hydrology, the northern section of the site (containing three of the proposed 10 turbines) is located within the Annageeragh River catchment while the southern section (containing 7 proposed turbines) is located within the Creegh River catchment. The Annageeragh River originates from Doo Lough 2.6km north-east of the site. The majority of the site drains in a south-westerly direction towards the Creegh River, which is some 3.5km downstream. Three first order streams emerge from the southern section of the site and flow towards the river. The northern section of the site is drained by a headwater stream of the Annageeragh River. The majority of the grid connection route is upstream of Doo Lough. There are numerous manmade drains within the site which drain the forestry plantations.

I once again acknowledge 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. The site of the proposed development is approximately 7.6km upstream of Carrowmore Point to Spanish Point and Islands SAC and Mid-Clare Coast SPA and approximately 12.9km upstream of Carrowmore Dunes SAC. Lough Donnell is a coastal lagoon within Carrowmore Point to Spanish Point and Islands SAC and is approximately 8.4km downstream of the site via the Annageeragh River. The nearest mapped example of reefs within this SAC is approximately 9.1km downstream of the site, while the nearest mapped example of reefs within Carrowmore Dunes SAC is approximately 13.3km downstream of the site.

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.

The main aspects of the proposed development that could adversely affect the conservation objectives of Carrowmore Point to Spanish Point and Islands SAC, Carrowmore Dunes 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:

- A reduction in water quality by way of silt runoff, release of suspended solids, hydrocarbons, cementitious material and other pollutants during construction, operation and decommissioning which could affect the aquatic habitats 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.

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 is appended to the NIS.

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, 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.

9.2.6. **Reports from Prescribed Bodies**

I note the technical advice received by the planning authority, in particular from the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media and Inland Fisheries Ireland.

I acknowledge that the Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media requested that there should be a review of the applicant's Peat Stability Risk Assessment, arising from peatland landslides in County Leitrim and County Donegal. The Board will note that this was requested after the applicant had submitted its response to the planning authority's further information request. A review was not carried out.

The following is acknowledged from Inland Fisheries Ireland:

- IFI is concerned that any deterioration in water quality will impact on the long-term viability of the fisheries at this location, namely the Creegh and Annageeragh river catchments.
- There is concern about the potential impacts at the construction phase, with geotechnical details on proposed stone buttresses for borrow pits requested and note made that the borrow pits would receive significant volumes of peat.
- Serious concern was expressed about the construction of roads and upgrading of existing roads impacting on downstream fisheries habitat, noting 4.9km of new roads and upgrading of 6.6km of existing roads are proposed, with an intended width of 5m.
- Reference was also made to landslide risk.
- Detailed and site-specific drainage provisions were requested to be supplied before any grant of permission.
- The proximity of turbines 4, 8, 9, and 10 to watercourses was of concern.

I put it to the Board that the proposed development, including turbine locations, remains much the same as that which formed the original proposal to the planning authority. There have been no meaningful material changes to the proposal. In

addition, I submit that the response to the planning authority's request for further information on construction, site drainage, peat storage, and peat stability ultimately was mainly a repetition of proposals set out in the original planning application. I do not see how and where the concerns on the risk of landslide have realistically been addressed to meet the concerns of the prescribed bodies. The storage of peat and spoil in the borrow pits on hillsides is a particular concern. I have no record of the planning authority being in receipt of any further correspondence from Inland Fisheries Ireland which determines that the details provided addressed its concerns.

Finally, in my planning assessment above I have alluded to the highly complex and very precise range of drainage provisions proposed in this planning application and the concerning storage and management provisions for peat and spoil, as well as the issues relating to the development of roads and upgrading of existing roads. There is a number of watercourses within the site that provide connectivity with the Creegh and Annageeragh Rivers. I cannot reasonably determine that the proposed development does not pose a serious risk to watercourses within and beyond the site which connect to European sites. I do not have complete confidence in the applicant's drainage proposals and proposals to handle and store peat and spoil. Therefore, I cannot reasonably determine that there would be no adverse downstream effects on European sites.

9.2.7. **Determining Residual Impacts**

I submit to the Board that the reports from the above-referenced prescribed bodies, and the applicant's proposals to address the concerns raised, cast significant doubt on the delivery of a proposal which seeks to suggest that it would avoid significant effects on watercourses on the site and on watercourses and waterbodies downstream of this site. This leads me to conclude that it is extremely difficult to be in any way sure that all reasonable scientific doubt has been removed as to the effects of the proposed project on the integrity of the relevant Natura 2000 sites.

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 Carrowmore Point to Spanish Point and Islands SAC, Carrowmore Dunes SAC, and Mid-Clare Coast SPA. 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 Carrowmore Point to Spanish Point and Islands SAC, Carrowmore Dunes 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 Carrowmore Point to Spanish Point and Islands SAC, Carrowmore Dunes 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 Carrowmore Point to Spanish Point and Islands SAC, Carrowmore Dunes SAC, and Mid-Clare Coast SPA.

10.0 **Recommendation**

I acknowledge that the site of the proposed development is primarily located in an area designated a ‘Strategic Area’ in the Clare Wind Energy Strategy, with one turbine proposed to be located in an area designated ’Acceptable in Principle’. These designations do not mean that they would override significant environmental effects arising from the proposed development. The adverse ornithological impact arising from the proposed development (for Hen Harrier in particular), the drainage and spoil management concerns, and the adverse noise impacts for neighbouring residents 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 Carrowmore Point to Spanish Point and Islands SAC (Site Code: 001021), Carrowmore Dunes SAC (Site Code: 002250), 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 Reports for Appropriate Assessment, the Natura Impact Statements 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 Carrowmore Point to Spanish Point and Islands SAC, Carrowmore Dunes 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 authorities, 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:

- Habitat loss, displacement and collision risk arising from a development of this scale, height and location for birds of conservation value, particularly for Annex I species Hen Harrier, together with the cumulative ornithological impact arising with established wind farm development in the 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.

- A significant risk of pollution of waterbodies on and in the vicinity of the site from complex site drainage and spoil management provisions and the uncertainties associated with both, with due regard to the development occurring on a peat-dominated environment, the requirement for a significant volume of waste material to be handled, stored and managed on hillsides, the inadequacy of provisions to contain and store extensive volumes of peat and other spoil material on the site, the development of access tracks across deeper 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 and very precise drainage system, which is premised upon a lack of comprehensive understanding of site conditions.
- A significant risk of adverse noise impacts for neighbouring residents arising from a substantial number of noise exceedances in each wind direction from the proposed development, the reliance on a detailed 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.

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 to the local community, the impact on protected bird species, and the adverse environmental impacts on waterbodies. 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. The site of the proposed development is located within an area of national and international importance for Hen Harrier, an Annex I species, and an area of significant ornithological value, as evidenced by the applicant's bird surveys in support of the application. 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 bird species, in particular Hen Harrier, as well as significant risk of collision. 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 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.

2. Having regard to:

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

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

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

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

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

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

(g) The water crossings and crossing upgrades required;

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

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

(j) 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;

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

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

(m) 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;

(n) 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;

(o) The proposed highly complex system of drainage and the very precise nature of the application of many of the proposed measures required for their safe functionality; and

(p) 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 danger 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 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.

3. Having regard to:

(a) The predicted noise exceedances in each wind direction at residential properties in the vicinity of the proposed wind farm,

(b) 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,

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

(d) 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

(e) 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.

4. 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 nEuropean Sites Carrowmore Point to Spanish Point and Islands Special Area of Conservation (Site Code: 001021), Carrowmore Dunes Special Area of Conservation (Site Code: 002250), and Mid-Clare Coast Special Protection Area (Site Code: 004182). In such circumstances, the Board is precluded from granting permission for the proposed development.

Kevin Moore
Senior Planning Inspector

5th October 2022