An Bord Pleanála

Inspector's Report PL07.247582

Development	10-year permission for a windfarm
Location	Lisbeg, Muing, Coolcarta East, Annaghcorrib & Coolcarta West, Ballinasloe, County Galway
Planning Authority	Galway County Council
Planning Authority Reg. Ref.	15/1571
Applicant(s)	Frank O' Domhnaill & Richard Bourns
Type of Application	Permission
Planning Authority Decision	Grant – 23 conditions
Type of Appeal	Third Party
Appellant(s)	Jarlath McEvoy & Others
Observer(s)	Brian & Margaret Hanrahan
Date of Site Inspection	29th & 30th January 2017
Inspector	Karla Mc Bride

1.0 SITE LOCATION AND DESCRIPTION

The appeal site is located in East County Galway to the S of Ballinasloe, E of Laurencetown, W of Clonfert and N of Eyrecourt. The River Suck flows to the N of the site and it drains into the River Shannon which flows to the E and SE of the site. The surrounding low lying area is rural in character and the lands are mainly in agricultural use. The lands to the N and NE form part of a cutover raised bog which is connected by rail to the power station at Shannonbridge on the E side of the River Shannon. The historical enclave at Clonfert is located to the E of the site and there are several Recorded Monuments, Protected Structures, European Sites and Natural Heritage Areas in the area. There are several detached houses to the W, S and E of the site. The grid connection route runs c.12km W and NW from the site along the local road network via Laurencetown to the existing sub-station at Somerset.

The appeal site at Lisbeg comprises a series of agricultural fields that are located on the N side of the local road (L4305) along with a farm yard and buildings which are located in the SW corner of the site with a met mast in the E section. The roadside boundary is defined by mature hedges and trees and the field boundaries are mainly defined by fences. Two narrow linear wooded areas run through the site along an E-W axis and there is a more substantial coniferous woodland located in the N and NW section, and several small streams traverse the site. The vehicular access to the farm complex is off the local road at the SW corner of the site and there is a second access located in the SE corner in the vicinity of a sharp bed in the road. An internal access tracks runs N, E and S through the site to connect the two entrances.

Photographs & maps in Appendix 1 describe the site & surroundings in more detail.

2.0 PROPOSED DEVELOPMENT

2.1. A 10-year planning permission is being sought to construct a windfarm with a connection to the national grid comprising:

- 5 turbines with a blade tip height of 169m
- A wind anemometry mast up to 100m high
- New internal access roads and road upgrades
- 1 borrow pit
- 1 electricity substation with control buildings & associated equipment
- Underground cabling
- 1 temporary construction compound
- Upgrade of site access junction
- Underground grid connection along the road network

The planning application was accompanied by:

- Environmental Impact Statement
- Natura Impact Statement
- Revised Natura Impact Statement
- Further Information Response
- Route for underground cabling to the Somerset substation

3.0 PLANNING AUTHORITY DECISION

3.1. Decision

Following the receipt of unsolicited Further Information and Further Information the planning authority decided to grant permission subject to 23 standard conditions.

3.2. Further Information

The Unsolicited Further Information responded to concerns raised by the observers and it corrected typographical errors in relation to the names of nearby schools.

The Further Information related to:

- A revised NIS and EIS with regard to the zone of influence and bird surveys.
- Photomontages from the nearest dwelling houses.
- Clarification of the nearest habitable dwelling to the turbines.
- Amended typographical errors in the non-Technical Summary (unsol.FI)
- An integrated approach to the provision of community gain.
- Traffic data in relation to auto track route, sight distances, turbine delivery route, road safety audit, measures to address flooding along the L-4305, and proposed works along the road network.
- A map showing streams and watercourses bordering and site, a map for the grid connection route showing the direction of flow for watercourses and the resubmission of the EIS section that deals with water quality.

3.3. Planning Authority Reports

3.3.1. Planning Reports

The Planning Officer was satisfied with the applicant's response to the Further Information request and recommended a grant of planning permission.

3.3.2. Other Technical Reports

The **Roads and Transportation Department** had no objection to the proposed development (following the receipt of FI in relation to matters summarised in section 3.2 above) subject to compliance with conditions.

The **Environment Section** had no objection to the proposed development (following the receipt of FI in relation to matters summarised in section 3.2 above) subject to compliance with conditions.

3.4. Prescribed Bodies

The **DAH&G (DAU)** raised the following concerns in relation to the application:

Nature conservation:

- Project is located c.1.5km from 3 interconnected European sites (River Suck Callows SPA, Middle Shannon Callows SPA and River Shannon Callows SAC), and the Suck River Callows NHA overlaps with the River Suck Callows.

- These sites follow the river corridors, loop around the site to the N, E and S and are likely to be important for bird movement in general, including daily flight lines between roosting and foraging areas, and migratory routes.

- The SPAs include the rivers, floodplains and callows, birds often use lands outside the SPA boundaries for feeding and roosting and during flood events.

- Significant concerns regarding the approach to and scientific content of the NIS which contains little assessment/analysis to identify and classify the implications for the COs and integrity of the European sites.

- The AA Screening sets the Zone of Influence at 15km without explanation.

- Table 5.3 identifies the potential for disturbance to key species, habitat or species fragmentation and reduction in species density; Table 5.4 identifies the potential for disturbance to birds in the form of habitat and species fragmentation outside the European sites and subsequent population reduction within these sites; and disturbance to bird populations in the vicinity of the windfarm site; the main risks are for birds and the nearby SPAs.

- Following Screening, the potential effects on the SPAs are described in several tables; scientific data is not presented/analysed in any meaningful way; potential effects and the implications for the COs are not examined.

- The EIS bird surveys establish that the site is used and overflown by birds to a significant degree including Whooper Swan, Golden Plover and Lapwing, which are conservation interests for the SPAs.

- Based on the available information, the implications for the COs and integrity of the European sites are not fully known, an AA would have lacunae and would not contain complete, precise, definitive findings & conclusions capable of removing all reasonable scientific doubt as to the effects of the project.

Archaeology:

- Project is located within the Zone of Archaeological Potential around a Recorded Monument and the works could impact on subsurface remains and an Archaeological Impact Assessment should be prepared.

The **DAHG** raised the following additional concerns in relation to the FI submission:

- The key issue of AA concern is the likely significant effects during construction and operation, and in-combination with other plans and projects, on the COs of the nearby European site which seek to maintain or restore the favourable conservation condition of a combined list of special conservation interests (several bird species); and an additional CO is to maintain or restore the favourable conservation condition of the wetland habitat as a resource for the regularly-occurring migratory Waterbirds that use it.

- The revised NIS again presents summarised results rather than the details of surveys and assessments carried out, or of the scientific evidence, data and analysis on which the findings and conclusions are based.

- Unclear how the overall findings of “no significant impacts” are reached for the various species when some negative effects are also identified.

- The bird surveys established that the site is used for feeding and roosting, and that it is significantly overflown Whooper Swan, Golden Plover and Lapwing which are conservation interests for the SPAs.

- The implications of the project on the COs of the European sites are unclear & partly contradictory and the possibly of adverse effects on the integrity of one or more European site cannot be excluded.

Inland Fisheries Ireland raised the following concerns:

- Site drains into tributaries of the River Suck & the Fynagh and North Clonfert Streams which flow directly into the River Shannon to the NE of the site.

- The Suck is a mixed fishery which supports good trout stocks and it has a rating of Q3-Q4 (moderate status); the Shannon contains stocks of brown trout and supports good coarse fishery as well as salmon, lamprey and eel and it has a Q rating of Q4 (good status) and the resource must be protected.

- Nothing in the project should be contrary to the aims and objectives of the WWD or adversely impact the biological criteria set out in Annex V of the Directive and nutrient levels and Q values should be monitored.

- Appropriate mitigation measures should be implemented for all developments throughout the site and any impacts arising must not affect water quality.

- A method statement in relation to turbine and road construction activities should be agreed with IFI in advance of works commencing.

- Appropriate measures should be put in place to attenuate run off from roads and paved surfaces; a network of drains should be constructed to protect fish from silt and suspended solids; surface water from the site and access roads should pass through a silt trap and petrol interceptor before discharge; and cement and concrete are toxic to fish life.

- Consult the IFI in advance in relation to the clear felling of the site and all works should comply with the Forestry and Water Quality Guidelines.

- Excavated materials from trenches should be seeded to reduce run-off with no stockpiling close to streams or watercourses; and stockpiles should be seeded removed after construction is completed.

- A suitably qualified person should monitor day to day operations and ensure that the mitigation measures are adequate.

- The EIS mitigation measures are noted, monitoring should be undertaken to determine the risk of land slippages occurring during and after construction, and an emergency plan should be devised.

- Works with a high risk of suspended solids pollution should not be carried out between the end of September and the end of April without prior consultation with IFI in order to protect spawning and juvenile salmonids.

3.5. **Third Party Observations**

Approximately 40 submissions were received from people in the local area who raised concerns in relation to noise, visual impact, shadow flicker, health, traffic impacts, wildlife, telecommunications, property devaluation, tourism, wind speeds, nature conservation and archaeology.

4.0 PLANNING HISTORY

PL07. 246553 – Permission granted for a 160m high met mast on the appeal site

5.0 POLICY CONTEXT

5.1. National Spatial Strategy 2002-2020

This strategy sets out a national planning framework to co-ordinate future development and planning in a sustainable manner, and it promotes reliable and effective energy systems as key prerequisites for effective regional development.

5.2. Regional Planning Guidelines for the West Region 2010-2022

These Guidelines provide a long term strategic planning framework for the overall development of the western region which is consistent with the NSS.

Policy CP33: seeks to support the development of wind energy developments in suitable locations subject to normal technical and environmental considerations including Habitats Directive Assessment, where relevant.

5.3. Wind Energy Development Guidelines - Guidelines for PAs, June 2006.

The Guidelines advise that a reasonable balance must be achieved between meeting Government Policy on renewable energy and the proper planning and sustainable development of an area and provide advice in relation to the assessment of impacts on the environment, landscape, road network and residential amenity.

5.4. Other policy documents

- EU Directive on Electricity from Renewables and associated national targets for renewable energy by sector
- National Climate Change Strategy

- White Paper on Energy 2007
- Mid-West Energy Balance and Climate Change Strategy
- EU Final Draft Guidance (March 2010) Wind Energy Developments and Natura 2000
- EU Directives on Flooding and the Water Framework Directive
- The Planning System and Flood Risk Management, 2009

5.5. **Galway County Council Development Plan 2015-2021**

Objectives ER4 & 5: with wind energy developments.

County Galway Wind Energy Strategy (Appendix IV)

The WES provides a set of policies and objectives to guide the development of wind energy projects and support infrastructure in appropriate locations in a manner that capitalises on the substantial wind resources and avoids significant adverse effects on the environment, landscape or amenities in the County. The site is located within an area that has been designated as a Low Wind Speed Area (LW).

Objective WE5 states that these (LW) areas are generally not considered viable for wind farm development and in many cases may not be suitable due to their overall sensitivity and constraints arising primarily from amenity, settlement, infrastructural, recreational and/or cultural and built heritage resources. Any applications received for wind energy developments in these areas will be evaluated on a case by case basis subject to viable wind speeds, environmental resources and constraints and amenity, safety and cumulative impacts.

Heritage objectives:

Landscape character:	Class 1 (low sensitivity)
Views and prospects:	Several in the wider area and neighbouring counties.
Archaeology:	Recorded Monuments in the site and surrounding area
Built Heritage:	Several Protected Structures in the vicinity.

5.6. **Neighbouring Development Plans**

The current Offaly, Roscommon and Tipperary County Development Plans contain policies, objectives and standards for the protection of views, prospects, sensitive landscapes, and natural heritage sites.

5.7. **Natural Heritage Designations**

Site name	Designation	Site code	Distance
River Suck Callows	SPA	004097	c. 1.5km
Middle Shannon Callows	SPA	004096	c. 1.5km
River Shannon Callows	SAC	000216	c. 1.5km
River Little Brosna Callows	SPA	004086	c. 8.5km
Suck River Callows	NHA	000222	c. 1.5km

6.0 THE APPEAL

Two Third Party appeals were received from Jarlath McEvoy and the local residents group at Clonfert and the Department of Arts, Heritage and the Gaeltacht (NPWS).

6.1. **Grounds of first Third Party Appeal - Jarlath McEvoy & others**

- The submission was accompanied by the following Appendices:
    - Independent scientific review of the EIS, NIS and FI.
    - Review of Noise Assessment
    - Illustrations of turbines in the landscape
    - Windfarm Report by Mountaineering Council of Scotland

- The PA failed to properly assess the application, the grant of permission contravenes AA & EIA requirements.

- PA did not take account of concerns related to nature conservation, residential amenity and heritage; the site is located in an area of low wind capacity; the grid connection route runs for several km along a narrow country road; and there are 46 designated sites within a 15km radius of the site.

- Appendix 1 provides a detailed assessment of the methodology used in the applicant's bird survey and assessments, and the EIS, NIS & FI are not sufficient to allow an EIA and AA; weaknesses in the survey data for wintering birds limit the results of the collision risk modelling, the evaluation of impacts on wintering birds and the assessment of cumulative impacts on wintering birds; further weaknesses highlighted with regard to the assessment of survey data, the interpretation of survey results, and the assessment of impacts on Brown Long-eared Bats maternity roost and the Barn Owl nest site.

- Appendix 2 provides a critique of the EIS noise section; background noise measurement locations are badly located and the wind measurement location is uphill of the turbines; noise levels are over/under stated and the lowest background levels have been used; 23 out of 24 houses will suffer a negative impact under certain wind conditions, all 24 will suffer from night time noise.

- The site is close to St. Brendan's Cathedral at Clonfert and this relationship is illustrated in Appendix 3; this site has immense architectural, historical and heritage value and it is one of the oldest in the country; the adjoining woodlands contain sensitive habitats and species; and the turbines will be highly visible to locals and tourists from Clonfert and the approach roads.

- The Class 1 landscape sensitivity ignores the wider importance of the historical landscape character of the area; the turbines cannot be assimilated and will be highly visible over a wider area from the adjacent counties which have protected views and prospects; and this impact cannot be mitigated.

- The applicants have not assessed the impact of the windfarm on tourism and the knock-on effects for services; Appendix 4 contains a copy of a report by the Mountaineering Council of Scotland which analyses the negative impact of windfarms on landscape based tourism and these conclusions are supported by research undertaken other agencies in Scotland and Ireland.

- The cable route along has not be properly assessed in the EIS; the narrow roads and verges may not have the capacity to accommodate the cables and traditional stone walls might be affected; and landowners have not given their consent whist future developments on their land could be affected.

6.2. **Grounds of Second Third Party Appeal – DAHG (NPWS)**

- The main concerns are summarised in section 3.4 above and they relate to the potential adverse effects of the proposal on:
    - Flora and fauna, particularly birds.
    - The conservation objectives and integrity of European sites.
    - The findings and conclusions of the EIS & NIS.

- The PA has not demonstrated how these issues and concerns were addressed and resolved in the EIA or the AA of the proposed development.

- The primary ecological concern relates to the potential adverse effects on the COs and integrity of the River Suck and/or Middle Shannon Callows SPAs, and on populations of wintering and migratory birds in the area in general.

- These SPAs include the rivers and their floodplains or associated Callows, the river corridors are important for bird movement in general, including daily flight lines between roosting and feeding areas, and as migratory routes.

- Birds which are special conservation interests of the SPAs, and other Waterbirds and migratory species, commonly use and rely on lands outside the SPA boundaries for feeding and roosting and during extreme flood events.

- The COs seek to maintain or restore the favourable conservation condition of a combined list of special conservation interests and the wetland habitat as a resource for the regularly-occurring migratory Waterbirds that utilise it (Whooper Swan, Golden plover, Lapwing, Wigeon, Black-tailed Godwit, Black-headed Gull, Corncrake and Greenland White-fronted Goose)

- The EIS/NIS bird surveys established that site is well used by and/or overflown by Whooper Swan, Golden Plover and Lapwing in large numbers.

- The findings of the revised NIS are partly contradictory and lack the necessary and scientific justifications to demonstrate how the negative effects identified are not adverse on the effects on the COs and integrity of the SPAs.

- The key issues raised by NPWS of relevance to the AA have not been addressed by the PA in its AA as this was not carried out with respect to any specific European site(s), or with respect to the COs or integrity of any site.

- The PA has not identified, addressed or resolved the issues and concerns regarding the scientific uncertainties and deficiencies in the data and analysis of the EIS, NIS and FI; thus complete, precise, definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects on at least two of the European sites have not been reached.

- Condition no.13 requires further consultations with the NPWS and the IFI after the EIA and AA has been carried out which is inappropriate.

6.3. **Applicant Response to First Third Party Appeal (Jarlath Mc Evoy & Others)**

Birds:

- The NIS is adequate with regard to birds, the findings of Slight Negative Impacts on 4 bird species justifiably translate to No Adverse Effects on the integrity of any European Site.

- Bird surveys were tailored to the target species in line with Scottish Guidelines; surveys include over 240 hours of on-site VP watches, 72 hours of off-site VP watches and 40 hours of transect surveys during 2014/15/16; surveys conducted during the migration period on 15 dates; no GWFG recorded and no WS recorded on or flying over the site during migratory periods; the windfarm will not affect these species; and the collision risk model for WS was based on a robust survey and assessment of flight activity.

- The proposal is located within the core foraging range for WS; the extensive surveys during 2014/15/16 within a 500m buffer and habitat suitability surveys over a 1km area confirm that there is no suitable roosting habitat within this area, the site is not widely used by WS and there is no identified or regularly used commuting or migrating route over the site.

- The appeal site fields are located over 2.5km from the flood plain and separated by a cut over bog, and there are more proximate fields available.

- The transect surveys were undertaken to supplement information gained from VP surveys and to provide a better understanding of the use of the site by birds and the evaluation of impacts is based on these surveys; and the results of the hinterland watches are presented in s.4.2.2 of the BIA.

- Species were assessed as regularly occurring based on the number of visits that they were present on; highly relevant to demonstrate that the site is not used by nationally significant numbers of any species; none of the species are dependent on the site; WS overwinters but does not breed whilst Lapwing and Golden Plover breed in the area but not within the site; although Golden Plover uses the site it was not recorded during most of the surveys.

- The IWeBs data was ancillary to the actual bird surveys; the survey effort and timing for WS and other birds was wholly adequate to inform a robust collision risk modelling exercise; and the bird sensitivity mapping tool is only used as supporting information for the BIA.

- A robust and comprehensive assessment of the effects on wintering birds has been achieved; three other windfarms were considered in the cumulative assessment; the closest is c.12km away with no significant effects predicted.

- There is a Barn Owl nest within 2km of the site; sheds within a 500m radius of the site were surveyed; and there is no evidence of this species in the area.

- The Appellant states that Brown Long-eared Bats have been recorded on the site and there is a roost at Clonfert Abbey c.1.5km away along no support data is provided; a thorough survey was undertaken in the EIS and there will be only minor loss of hedgerow and tree line with no significant impacts on connectivity predicted; and the risk of collision has been mitigated for.

- Details of field surveys carryout along the cable route are contained in s.5.3.1 of the EIS and the manmade road side habitats that will be lost have no particular ecological significance.

Noise:

- The EIS noise surveys are accurate and the measurement locations are adequate; the issue of wind shear has been considered; the assessments were carried in accordance with the Wind Energy Guidelines, as opposed to the Appellants assessment which used BS4142 for industrial facilities; and a further noise assessment report is contained in Appendix 2.

Landscape:

- The EIS adequately describes the receiving landscape which has a low sensitivity rating; the landscape is flat and the roadside trees/field hedges will help screen the turbines from public view and from Clonfert; no long term visual impacts along the GCR predicted; the EIS describes views from various locations including local & regional roads, scenic routes and from protected views & high amenity areas in Galway and the neighbouring counties; and the photomontages were prepared in accordance with best practice guidance.

Tourism:

- The EIS adequately describes the local tourist attractions including the Hymany Way, Clonfert Abbey and the River Shannon which will not be affected; no adverse impacts on archaeological and architectural heritage predicted; Failte Ireland survey results indicate that most tourists are happy with wind farms; and the Scottish survey relates to mountainous areas.

Cultural heritage:

- The EIS adequately describes the cultural heritage in the area including the structures at Clonfert; the mature trees to the W would screen views of the turbines and the immediate setting of the Cathedral will not be affected.

Grid connection:

- Hymany Way is a walking route running N from Portumna to Ballygar which passes to the E of the site and adjacent to the N boundary and the GCR does not traverse the walking route; the cable will run underground along the local road for c.12km to the Somerset substation to the NW; the EIS adequately describes the route, assess its impact and anticipates 35 days of work.

6.4. **Applicant response to Second Third Party Appeal (DAHG)**

- Reject the conclusion of the DAHG, reasonable scientific doubt has been removed through thorough, robust and accurate survey and analysis.

- The **integrity** of the European sites has been assessed with regard to the guidance and methodology provided in Box 10 of "Assessment of Plans and Projects Significantly Affecting Natura 200 Sites" and a checklist is provided in Table 7.1 (page 66) of the rNIS that was submitted to the PA by way of FI, and the information allows the Board to reach the conclusion that the proposal will not result in adverse effects on the integrity of any European Site.

- In relation to the **Conservation Objectives**, section 5 of the rNIS assesses the potential for any impacts on the European Sites that were identified in the Screening Assessment and any potential for effects on their COs.

- The only potential for impacts are on Whooper Swan, Golden Plover, Lapwing and Black Headed Gull.

- The impact assessment methodology is set out in section 2.3 of the BIA which was submitted to the PA as FI; the methodology combines the EPA (2002) and the Percival Scheme (2003) guidance; and none of the impacts on any of the receptors are considered to be significant.

- The impacts identified in the BIA relate to birds using the project site rather than to the wider population within the surrounding SPAs, because no significant impacts were identified on the on-site populations, it is therefore follows that there will be no significant impact on the wider populations with a much smaller impact on the much larger population in the wider area.

- **Whooper Swan**:
    - **Habitat loss/fragmentation** on the site was identified in the BIA as Long Term Slight Negative Impact as this species was only recorded in 4 out of 27 visits; WS is not a regular user of the site which is not within the SPA; the site only forms a tiny fraction of the available foraging habitat in the wider area; the SPAs cover 9,000ha with a 5km buffer which includes potential core foraging range for WS; the project will cover c.7.25ha of an overall site of 445ha; and the habitat loss for WS outside the SPA would not represent a Long Term Imperceptible Negative Impact which does not represent an Adverse Effect on the Integrity of the European Site.
    - **Disturbance/Displacement** during construction was also identified as Slight Negative Impact as the WS does not regularly occur on the site with low number of flyovers; and no effect on the SPA as stated above.
    - **Collision risk** is predicted to occur once every 44.4 years (0.56 collisions during the lifetime of the project) which is a Slight Negative Impact; the assessment overestimates the risk which is imperceptible for the SPA.

- **Golden Plover:**
    - **Habitat Loss/fragmentation** was identified as having a Long Term Slight Negative Impact on the BIA; GP was recorded in 13 out of 36 visits, it does not regularly use the area in significant numbers, and there were fewer than 25 birds on 8 occasions; there are no regularly used or obvious flight lines between the SPAs and the site and only between 1 & 5% of the available habitat on the site would be lost; this represents a tiny fraction of the foraging area outside the SPA which does not represent an Adverse Effect on the Integrity of any European Site.
    - **Disturbance/Displacement** during construction was also identified as Slight Negative Impact as the GP does not regularly occur on the site with low number of flyovers and no effect on the SPA as stated above.
    - **Collision Risk** is predicted to occur 1.44 times per year (36 collisions during the lifetime of the project) which is a Slight Negative Impact; the

assessment estimates the collision risk to the wider population at 0.0012% which is imperceptible for the SPA.

- **Lapwing:**
  - **Habitat Loss/fragmentation** was identified as having a Long Term Slight Negative Impact on the BIA; LW was recorded in 13 out of 36 visits, it does not regularly use the area in high numbers, and there was only one occasion when a flock of national importance was observed (1,400 birds); there are no regularly used or obvious flight lines between the SPAs and the site and only between 1 & 5% of the available habitat on the site would be lost; this represents a tiny fraction of the foraging area outside the SPA which does not represent an Adverse Effect on the Integrity of any European Site.
  - **Disturbance/Displacement** during construction was also identified as Slight Negative Impact as the LW does not regularly occur on the site with low number of flyovers and no effect on the SPA as stated above.
  - **Collision Risk** is predicted to occur 17.5 times per year out of a population of 1, 443 birds (much higher flock number than other species) which represents a loss of 1.2% of the population per year which is a Slight Negative Impact; and the assessment estimates the collision risk to the wider population at 0.0010% which is imperceptible for the SPA.

- **Black Headed Gull:**
  - **Habitat Loss/fragmentation** was identified as having a Long Term Slight Negative Impact on the BIA; BHG was recorded in 4 out of 36 visits, it does not regularly use the area in significant numbers, and between 1 and 17 birds were recoded with the exception of a single flock of 130 birds on one occasion; there are no regularly used or obvious flight lines between the SPAs and the site and only between 1 & 5% of the available habitat on the site would be lost; this represents a tiny fraction of the foraging area

outside the SPA and the BHG is not dependant on the lands; this does not represent an Adverse Effect on the Integrity of any European Site.

- **Disturbance/Displacement** during construction was also identified as Slight Negative Impact as the BHG does not regularly occur on the site with low number of flyovers; with no effect on the SPA as stated above.
- **Collision Risk** is predicted to occur once every 98.5 years (0.25 collisions during the lifetime of the project) which is a Slight Negative Impact; the assessment estimates the collision risk to the wider population at 0.008% per year of 0.17% during the 25-year lifespan of the project which is imperceptible for the SPA.

- **Recorded Bird Activity:** WS was recorded for 0.01%, GP was recorded for 0.1% and LW was recoded for 0.3% of the total on-site watch time; none of the on-site bird activity recorded for the target species could be said to represent overflight to any significant degree.

6.5. **Further Responses**

The first Third Party Appellant (Jarlath Mc Evoy & others) adopted the position of the DAHG; submited a copy of a Bord na Mona map to illustrate the extent of the lands of conservation interest relative to the project site; and confirm that significant numbers of Whooper Swan have been observed grazing at the site in recent weeks and a further submission raised no new issues.

The second Third Party Appellant (DAHG) states that the Review of the ecological data submitted as Appendix 1 by Jarlath Mc Evoy contains a thorough scientific review and evaluation of the submitted ecological data and information and associated documentation.

6.6. **Observations**

One letter of observation received from Brian and Margaret Hanrahan and their concerns (not previously outlined by the Appellants) are summarised below:

- Inadequate sightlines and the proposed access arrangements will give rise to a traffic hazard and endanger public safety; this includes the original site entrance and the alternative access junction allowed by the Council.

- The Road Safety Audit omits vital information; inaccurate information in relation to collisions along the L4305; three houses are situated at the site entrance with two across the road; the Observer's farm and house run parallel to the proposed alternative access junction with an access on to the road at a sharp bend; the Audit has omitted a stone wall that separates two of the houses; no details of turning manoeuvres for construction vehicles; the inadequate traffic management system only deals with large components.

- The crushed stone for the access road will generate dust in the summer months which have health effects when combined with dust from construction vehicles; additional noise disturbance from delivery vehicles and construction.

- The local road network is unsuitable for use as a delivery route and its use would endanger public safety especially for walkers and cyclists; noise disturbance from traffic, and during construction and operational turbines phases; prohibit rock breaking/blasting; impacts on water quality.

- Impacts on amenity, property values, telecommunications and internet connections; site is not strategically suitable for a windfarm; safety & security issues; visually dominant; impact on Hymany Way and ecology.

6.7. **Planning Authority Response**

No response.

6.8. **Prescribed Bodies**

The Commission for Energy Regulation: No comment.

7.0 ASSESSMENT

The main issues arising in this case are:

1. Compliance with renewable energy and planning policy

2. Visual impact

3. Movement and access

4. Residential amenity

5. Water quality and aquatic ecology

6. Terrestrial ecology and birds

7. Cultural heritage and material assets

8. Grid connection

9. Other issues

Section 8 of this report deals with Environmental Impact Assessment

Section 9 of this report deals with Appropriate Assessment

7.1. Compliance with renewable energy and planning policy

The proposed windfarm would be compatible with European, national and regional planning and renewable energy policy as set out in section 5.0 above and it would contribute to the achievement of European and national renewable energy targets. The 2006 Wind Energy Development Guidelines advise that a reasonable balance must be achieved between meeting Government Policy on renewable energy and the proper planning and sustainable development of an area. Projects should not adversely affect the integrity of European sites or have an adverse impact on birds or give rise peat instability. Projects should not have a significant adverse impact on drainage patterns, cultural heritage, sensitive landscapes, the local road network or residential amenity as a result of noise, shadow flicker or general disturbance. These issues will be addressed in more detail in the following sections.

Objective ER 4 of the Development Plan seeks to support and facilitate the sustainable development and wind energy and Objective ER 5 seeks to promote and facilitate wind farm developments in suitable locations, having regard to the areas designated in the Wind Energy Strategy (Appendix IV). The site is located within an area that has been designated as a Low Wind Speed Area (LW) in this Strategy. Objective WE5 states that these areas are generally not considered viable for wind farm development and in many cases may not be suitable due to their overall sensitivity and constraints arising primarily from amenity, settlement, infrastructural, recreational and/or cultural and built heritage resources. Applications will be evaluated on a case by case basis subject to viable wind speeds, environmental resources and constraints and amenity, safety and cumulative impacts.

7.2. **Visual impact**

7.2.1 Project description:

The proposed windfarm would comprise the construction of 5 turbines, hard standings and access tracks; one met mast, one borrow pit, substation and temporary construction compound; along with an upgrade of the site entrance and works along the delivery and grid connection routes. The proposed development would be located within a low lying, rural area to the W of the River Shannon, and there are several dispersed houses and heritage features in the vicinity. The c.169m high turbines would be located in the E and N sections of the site on either side of the existing internal access road, and the separation distances between each of the turbines would be in excess of 600m. The c.100m high met mast in the E section is already in place.

7.2.2 Environmental Impact Statement:

Section 10 of the EIS dealt with landscape and potential visual impacts in Counties Galway, Offaly, Tipperary and Roscommon. A Zone of Theoretical Visibility (ZTV) was established for a 20km radius and visibility from a number of focal points and viewpoints within the ZTV were assessed, and a Landscape and Visual Impact Assessment (LVIA) was carried out.

The EIS states that although there are no focal points within the study area itself there are several focal points and views within the ZTV however most are directed away from the project. These viewpoints represented the local community, the nearest settlements, main transport routes, scenic routes, tourist facilities and heritage sites, protected views and high amenity areas, and the wider rural environment. The EIS concluded that there would be limited views into the site from tourist, scenic and heritage areas and that the position of the turbines behind trees would help minimise the visual impact. The EIS identified the Landscape Character Areas within a 20km radius and concluded that there are no sensitive landscapes within the study area and that the LCAs in the wider area in Galway and the neighbouring counties would not be affected because of the separation distances and the small area of the LCA within the 20km zone. The location and scale of other windfarms in the surrounding area were also factored into the assessment.

The EIS concluded that there is theoretical visibility over much of the area within the 20km radius however many of the views are obscured by vegetation; there would be none c.15-20km to the S and SE and c.10km to the SW at Redmound Hill; and the views are described in the EIS Photomontage Booklet.

The LVIA identified and assessed 11 viewpoints and concluded that the impacts would range from No Impact (1), Imperceptible (1), Slight (6) to Moderate (3). The Moderate impacts relate to views from the local road at Clonfert South (VP2) which is c.2km to the NE; views from the R357 in the townland of Raghrabeg near Shannonbridge (VP5) c.4km to the E; and views from local scenic roads at Raghrabeg (VP6) c.2.8km to the E. The EIS stated that the main area of visual impact would be from the local road and from within the site itself. The EIS did not predict any adverse impacts from the project, or any adverse cumulative impacts.

7.2.3 Assessment:

I surveyed the wind farm site, the surrounding area and wider regional and local road network in Galway and the surrounding counties over a 2-day period in January 2017. I had regard to the EIS visual impact studies which are summarised above and the concerns raised by the Third Party and Observer in relation to visual impact, heritage, protected views and prospects, scenic routes, and scenic amenity.

Wind turbines, by virtue of their nature, height and scale, will have an impact on the landscape. The proposed windfarm would be located within a low lying rural area which is not covered by any sensitive landscape designations, the site is far removed from any built up areas and the settlement pattern of one-off houses is mainly dispersed and low density. However, there are several heritage features, scenic routes and high amenity areas nearby, mainly to the E at Clonfert and in the vicinity of the River Shannon.

The 5 turbines would be highly visible from the local road along the S site boundary and to the rear of Lisbeg House which is a Protected Structure. However, there are no protected views across the site from this location and the visual impact would be slightly tempered by the presence of the wooded areas that run E-W across the site, and the proposed windfarm would not have an adverse impact visual amenity.

The proposed turbines would be periodically visible from the W when travelling along the road from Ballinasloe to Laurencetown. However, there are no protected views across the site from this location and the substantial separation distance would minimise the visual impact on views across the site from along this road.

The proposed turbines would be visible from the heritage enclave Clonfert c.2km to the E of the site which comprises a collection of historic features including Clonfert Cathedral and burial ground. The cathedral is located at the end of a long narrow road and it is surrounded by a boundary wall and wooded area. The turbines are visible to the W when travelling NE along this approach road towards Clonfert. However, the impact would not be overly dominant and the views from this location would not be adversely affected to any significant extent. The turbines would not be visible from within the cathedral grounds because of the surrounding trees although they would be visible over the tree tops from the Emmanuel Centre to the rear NE of the church, although the impact on the visual amenities of the area and the character and setting of the church would not be significant.

The proposed turbines would be intermittingly visible from the E side of the River Shannon, from along the R375 and the local roads that run W towards the river and from the Shannonbridge to the NE of the site. It was also noted that the power

station at Shannonbridge is clearly visible from the W side of the appeal site. There are no protected views across the site from any of these locations and the visual impact would be negligible having regard to the separation distances involved.

The proposed turbines would slightly visible from road junctions and bridges to the E and W of Ballinasloe along the M6 motorway. There are no protected views across the site from these locations and the visual impact would be negligible having regard to the separation distances involved.

Although the turbines could be slightly visible from certain sensitive locations further W in County Galway and from within the neighbouring counties, the visual impact would be negligible having regard to the separation distances involved.

The proposed turbines would highly visible from the houses located to the E, S and W of the site and this impact cannot be mitigated for.

The other elements of the project including the works associated with the substation, compound, vehicular access, and delivery and grid connection routes would give rise to any significant visual impacts on the surrounding area.

7.2.4 Conclusion:

Having regard to all of the above, I am satisfied that the most significant visual impact would be from within the site itself and from along the local roads to the S and E. The proposed development would not adversely affect the visual amenities of the area or interfere with any heritage features, protected views, prospects or scenic routes in the surrounding area, to any significant extent. Furthermore, the proposed windfarm would not give rise to any significant adverse cumulative impacts in combination with other windfarms, plans or projects in the surrounding area.

7.3. Movement and access

7.3.1 Project description:

The windfarm project includes three main elements of infrastructure:

(a) Alterations to the existing entrance off the local road (L4305) to the S.
(b) Works along the road network to the S of the site to facilitate the delivery of construction materials and wind turbine components.
(c) The upgrade of existing, and construction of new, internal access tracks.

7.3.2 Environmental Impact Statement:

Section 12 of the EIS and Section 6 of the Further Information Response dealt with roads, traffic and access. The junction of the site entrance in the SE corner of the site with the L4305 will require a temporary upgrade to accommodate large vehicles during the operational phase (two options provided). Short term impacts were predicted during construction along the c.20km delivery route from Birr and Banagher via the M6, N52, R439, R356 and L4305. The EIS assessed the impact of additional traffic along the road network and the route geometry with respect to large delivery vehicles and a Road Safety Audit was submitted by way of FI. The following impacts were predicted:

- During concrete delivery over 5 days, traffic volumes would increase by between 8.1% on the R439 N of Birr, and 30% on the L4305 on the approach to the site.
- During site preparation works over 83 days, traffic volumes would increase by between 1% on the R439, and 4% on the L4305.
- During turbine plant delivery would take place over 5 days when 7 abnormal loads will travel the network, the traffic impact of the project will be most significant (except is undertaken at night), and traffic volumes would increase by between 3.4% on the R439, and 11.4% on the L4305.

- For an additional 5 week days, an additional 55PCU's will be generated on the network with minimal traffic impact predicted.
- During the operation phases, the traffic impact generated by the 3 permanent employees will be negligible.

Section 3.4 of the EIS states that the c.2.9km of existing internal roads will be upgraded to accommodate construction and delivery vehicles and c.1.23km of new internal roads will be constructed. Section 3.83 states that a traffic management plan will be put in place prior to works on the c.12km grid connection route along the local roads. Traffic control measures and full road closures may be required (except for night time delivery of turbine components). The EIS did not predict any adverse impacts in relation to roads, traffic, access, internal roads and the grid connection.

7.3.3 Assessment:

Site entrance:

The existing vehicular entrance, which is located in the SE corner of site, would be upgraded to provide access to the windfarm site off the local road (L4305) to the S. This entrance is located on a sharp bend in the road and the planning authority requested the applicant to provide an alternative access in the interests of traffic safety. The alternative access is located c.120m to the W of the proposed/existing access and both options provide run over areas for turbine transport vehicles during the construction phase. Details of the proposed and alternative access options are described in Figures 6.1 and 6.2 of the FI Response.

The proposed/existing access provides two 3m x 160m sightlines whist the alternative access provides two 3m x 120m sightlines and any additional land required for the provision is in the applicant's ownership. Although the applicant states that both options are capable of providing safe and appropriate access for all phases of the development, based on my examination of the local road network and the surrounding area, I would consider the alternative access to be the safest option in terms of ensuring adequate visibility along the local road.

The concerns raised by the Observer in relation to the omissions in the Road Safety Audit and the potential for disturbance to residential amenity during the construction phase are noted. However, I am satisfied that the concerns raised in relation to traffic, construction, noise, dust and general disturbance could be addressed in the Construction Management Plan and by way of planning conditions.

The proposed (alternative) access arrangements would not give rise to a traffic hazard or endanger the safety of other road users, and any works to the public road should be at the developer's expense.

Delivery route:

The proposed delivery route for construction vehicles and turbine components along the M6 and then via Birr and Banagher to the windfarm site is considered acceptable subject to compliance with EIS mitigation measures and the traffic management plans should be agreed in advance with the relevant planning authorities. Any works to public roads along this route should be at the developer's expense. Local residents who live along the section of the local road (L4305) on the approach to the entrance to the site, and any schools located along the entire route from Birr to the site, shall be notified in advance of the impending arrival of abnormally large loads. This could be addressed by way of a planning condition in the interest of residential amenity and local educational interest.

Internal access roads:

The proposed network of upgraded and new roads (c.4.1km) to provide access to the turbines and other project elements would be acceptable. Any issues related to water quality and ecology will be addressed in the following sections. The access tracks would be located entirely located within the windfarm site and on lands that within the control of the developer.

7.3.4 Conclusions:

Having regard to all of the above, I am satisfied that the proposed development would not give rise to a traffic hazard or endanger the safety of other road users, subject to the full implementation of the mitigation measures and traffic management plans and compliance with planning conditions. The proposed development would not give rise to any significant adverse cumulative impacts in-combination with other windfarms, plans or projects in the area.

7.4. Residential amenity

7.4.1 Project description:

The project would comprise the construction of 5 turbines, 1 met mast and associated site works. The visual impacts have been assessed in section 7.2 above and the traffic impacts have been assessed in section 7.3. This section will deal the potential impacts of noise, vibration, shadow flicker and dust on residential amenity.

7.4.2 Environmental Impact Statement:

Sections 4, 8 and 9 of the EIS dealt with the human environment including shadow flicker, air and climate, and noise and vibration and these sections identified the potential impacts on residential amenity during the construction and operational phases. The EIS was supported by the Further Information Response which included a map (Figure 3.1) which described the proximity of the turbine locations to existing houses within 2km radius of the project.

Section 4 of the EIS dealt with the human environment, it described the nature of the site, population density, employment and economic activity in the surrounding area. Section 4.7 dealt with **shadow flicker**. The computer modelling examined the potential for shadow flicker occurrence at 14 houses. It concluded that there was potential for some level of shadow flicker at 7 houses. Under the worst case scenario, only 2 of the houses would experience daily shadow flicker in excess of the guideline threshold of 30 minutes per day (11 and 15) and 3 of the houses would

experience annual shadow in excess of 30 hours (11, 43 and 45). The EIS states that when the regional sunshine average of 26.6% is taken into account, the number of houses which exceed the 30-hour annual guideline is reduce to zero. The effects were not expected to be adverse however if it is not possible to control the problem locally then a wind turbine control system could be used to prevent operation at times when shadow flicker might cause a disturbance. The EIS did not predict any adverse impacts subject to mitigation measures.

Section 8 of the EIS dealt with **air and climate**. It stated that there would be no emissions from the wind farm project, and given the non-industrial nature of the project, there would be no adverse impacts on residential amenity or air quality. However, there would be a loss of carbon sequestration as a result of the excavation works and tree removal from within the site which would be balanced by the lack of carbon emission from the project over its 25-year lifespan.

Section 9 of the EIS dealt with **noise and vibration** and it concluded that there would be minimal construction and operational noise at noise sensitive locations. The assessment had regard to existing and future guidelines. The 3 monitoring locations were placed at the 3 most noise sensitive houses which are located over 750m from the nearest turbine and included A (H15) to the W, B (H20) to the S, and C (H49) to the E; background measurements were recorded over a c.3-week period in late 2015; and background noise levels for a variety of wind speeds were calculated for each location and the overall site.

- **Windfarm construction** noise levels were predicted for activities within 10m of an activity and 750m at the nearest house. The predicted noise levels for general construction ranged from 70 to 84 dBL at 10m and from 26 to 43 dBL at 750m. Vibration was not a concern because of the separation distances.
- **Blasting and rock breaking** activities at the borrow pit were predicted at 24 houses under 2 scenarios. The results range from between 29.3 dB and 38dBL at H49, to 34.2dBL and 44.1BL at H98, with most results coming in between 30.5dBL and 39.4dBL to 32dBL and 32.6dBL and 42.2dBL. It was acknowledged that blast events would be loud but controlled.

- **Operational noise** was predicted at 24 houses under various wind speed conditions. The results range from 37.5dBL at low wind speeds to 45dBL at high wind speeds during the day; and from 43dBL to 44.2dBL at night time and cumulative noise levels were also predicted. The EIS computer model predicted that operational limit values would not be exceeded at any noise sensitive locations, however a turbine curtailment strategy will be devised as a mitigation measure in the event that noise limits are exceeded.

Sections 4, 8 and 9 of the EIS did not predict any adverse impacts in relation to human beings, noise and vibration, shadow flicker and air quality, subject to the implementation of mitigation measures.

7.4.3 Assessment:

The proposed windfarm will provide significant employment opportunities during the construction phase although post construction employment would be limited to 3 positions related to ongoing maintenance. The project will give rise to financial benefits by way of commercial rates and the community gain benefits will be assessed in section 7.9 below. The potential impacts on residential amenity arising from the construction and operational phases are assessed below.

Noise and disturbance – construction phase:

Given the nature and scale of the proposed development, the proposed windfarm will give rise to noise disturbance during the construction phase. This disturbance would mainly relate to the delivery of large components along the local road network, road works which include local road and junction upgrades. It would also include excavation and construction works within the site, and the construction of access tracks throughout the site. Although these works would be short term and temporary, they have the potential to adversely affect residential amenities in nearby houses along the local roads to the W, S and E of the site and along the grid connection and delivery routes.

It is noted that the surrounding area is not densely populated, there are approximately 99 houses located within a 2km radius of the project and 24 are located within a 1.5km of a turbine location. There are substantial separation distances between most of the proposed works and the neighbouring houses with the nearest houses located 750m from the closest turbine. The construction work impacts would also be short term and temporary. The EIS noise control and monitoring measures are considered adequate and noise concerns could be addressed by way of conditions which place restrictions of delivery times and hours of construction. Local residents should be notified in advance of any major construction works including any blasting or mechanical extraction that may take place at the borrow bit, and of the transport of large pieces of plant and equipment along the local road network.

Noise and vibration - Operational phase:

The concerns raised by the Third Party appellant in relation to the noise assessment and conclusions are noted, as is the applicant's response to the issues raised. There are no dwellings located within 500m of the proposed turbines and the nearest dwellings are located c.750m away. The EIS operational noise assessment does not predict the exceedance of acceptable noise limits at any of the houses however the EIS nonetheless recommends a curtailment strategy in the event that noise levels are exceeded. This strategy should ensure that turbines operate in noise reduced mode to reduce levels at any affected houses in the event that acceptable noise levels are exceeded, particularly under extreme weather conditions. A night time curtailment strategy should also be put in place whereby the turbines would either operate at noise reduced modes or be shut down completely at night to mitigate the effects in the surrounding area. This could be addressed by a planning condition.

Shadow flicker:

There are c.24 houses located within c.1.5km of the site boundaries to the W, S and E and 14 of these houses have been assessed for the effects of shadow flicker in the EIS. None are located within 500m of any turbine structure and the nearest houses are located at a distance of c.750m. Around half of these houses are not likely to be

significantly affected by shadow flicker in the morning or evening given their orientation relative to the turbines, taken in conjunction with the substantial separation distances. I concur with the EIS conclusions that the remaining half will experience some minor level of shadow flicker, 2 could experience flicker in excess of 30 minutes per day, and 3 could experience annual shadow flicker in excess of 30 hours. It is acknowledged that when the regional sunshine average is factored into the equation, the level of annual impact would be reduced.

However, there is still potential for some of the houses to be adversely affected by daily shadow flicker in the mornings and evenings at certain times of the year. I do not accept the EIS suggestion that the installation of window blinds and tree planting at the affected houses would solve the problem as this places the burden of responsibility on the local residents. The applicant should be required to use a control system to pre-programme the turbines to prevent them operating at times of the day and year when shadow flicker could cause a nuisance at nearby houses. This could be addressed by way of a planning condition.

Dust emissions:

The proposed excavation and construction works, and the work associated with the junction and road upgrades could also give rise to dust emissions. However, it is not anticipated that this would have an adverse impact on residential amenity having regard to the separation distances between the proposed works and neighbouring houses. However stringent compliance with best construction practices would minimise any potential impacts on nearby houses, particularly in the vicinity of the upgraded entrance off the local road.

Other issues:

The proposed wind farm would contribute to the achievement of national targets to reduce greenhouse gas emissions. Although there would be some loss of carbon sequestration capacity as result of localised tree felling, this is considered to be acceptable when balanced against the overall renewable energy benefits.

7.4.4 Conclusions:

Having regard to all of the above, I am satisfied that the proposed development would not adversely affect residential amenities to any significant extent as a result of noise, vibration, shadow flicker or dust emissions, subject to the full implementation of mitigation measures and planning conditions. The proposed development would not give rise to any significant adverse cumulative impacts in-combination with other windfarms, plans and projects in the area.

7.5. Water quality and aquatic ecology

7.5.1 Project description:

The project would entail substantial excavation works for turbine construction and associated works, junction improvements and along the grid connection route.

7.5.2 Environmental Impact Statement:

Sections 5, 6, 7 of the EIS dealt with geology & soils, hydrology & hydrogeology, and aquatic ecology, several desktop studies and field surveys were undertaken.

Section 6 of the EIS dealt with soils and geology. It described the underlying bedrock as limestone which is mainly overlaid with coarse loamy drift. The turbines will require the removal of soil, subsoil and rock, and rock will be extracted from the borrow pit to provide material for the internal access roads and hard-standings, which would be a permanent adverse impact. The EIS states that sources of contamination will be stored in bunded areas to prevent spillages and leakage to bedrock; most refuelling will occur off-site and spill kits will be available; and subsoils and overburden will be stored in the borrow pit and used for landscaping. The grid connection excavation works along the c.12km of local roads will be backfilled. No adverse impacts predicted subject to mitigation measures.

Section 7 of the EIS dealt with hydrology and hydrogeology and this was supplemented by the Further Information Report. The site and grid connection route

are underlain by a locally Important Aquifer, ground water vulnerability is variable and there are 3 wells within 1km of the site. Potential groundwater impacts relate contamination from spillages and leakages which will managed and mitigated with no adverse impacts on wells predicted.

The site drains into several streams and the direction of surface water flow is described in Figure 7.2 of the FI Response. The W section drains to the Laurencetown Stream that discharges to the River Suck to the N which is an SPA and NHA; the E section drains to a steam that runs along the field boundaries to the North Clonfert Stream that discharges to the River Shannon to the E which is an SAC, SPA and NHA. Surface water run-off will be controlled during construction by two methods which will protect existing watercourses, and collect contaminated/ sediment laden drainage water for settlement prior to discharge. A water monitoring programme will be put in place during the construction stage and drainage control measures will be put in place during the operational phase to protect water quality.

No significant adverse impacts predicted subject to mitigation measures which also include the installation of silting ponds, filters and silt fences, the implementation of a Construction Management Plan and adherence to best construction practices.

The c.12km long grid connection route would cross 9 streams and drainage ditches which are already culverted with no adverse impacts predicted.

Section 5 of the EIS dealt with aquatic ecology. It states that no fish, amphibians or reptiles were recorded on site although there is suitable habitat for Common Frog. During the construction stage there is potential for sediment, nutrient and pollutant release to surface waters. This could adversely affect aquatic ecology including invertebrates, fish, otter and waterbirds downstream of the site by way of siltation, smothering and nutrient enrichment. The EIS does not predict any significant adverse impacts predicted subject to implementation of mitigation measures.

7.5.3 Assessment:

The site is drained by a network of streams that ultimately discharge to the River Suck to the N which is an SPA and NHA, and to the River Shannon to the E which is an SPA, SAC and NHA. The proposed works would be located within c.2km of the River Suck and c.4km of the River Shannon, although the works would be much closer to the boundaries of the European sites which are designated mainly for their bird and waterbirds. (Potential impacts on bird life are assessed in section 7.6)

The excavation works and movement of large quantities of soil to the on-site borrow pit have the potential to release fine sediments into the network of watercourses that traverse the site via surface water runoff. The unregulated release of sediments could have an adverse long term impact on water quality and aquatic ecology, including fisheries in watercourses downstream of the proposed works. Accidental fuel spillages from storage areas, machinery and vehicles also have the potential to contaminate surface water. Road improvement works along the grid connection route have the potential to release sediments into nearby watercourses and cause disturbance to wildlife. The EIS proposed a suite of management and mitigation measures to prevent water pollution (which are outlined in the previous section).

Inland Fisheries Ireland (IFI) raised concerns in relation to the impact of the proposed works on water quality and fisheries in the River Suck and River Shannon. The River Suck is a mixed fishery that supports good trout stocks and it has a rating of Q3-Q4 (moderate status) and the River Shannon contains stocks of brown trout and supports good coarse fishery as well as salmon, lamprey and eel, and it has a Q rating of Q4 (good status). The IFI state that water quality should be protected in both rivers by way of appropriate mitigation measures (Refer to section 3.4 above).

IFI requested that a method statement in relation to construction activities be agreed with IFI in advance of works commencing; IFI should be consulted in advance of any clear felling; monitoring should be undertaken to determine the risk of land slippages during and after construction and an emergency plan should be devised; a suitably

qualified person should monitor day to day operations to ensure that the mitigation measures are adequate; excavated materials from trenches should be seeded to reduce run-off with no stockpiling close to streams or watercourses, and stockpiles should be seeded removed after construction is completed; and works with a high risk of suspended solids pollution should not be carried out between the end of September and the end of April without prior consultation with IFI, to protect spawning and juvenile salmonids. This could be addressed by planning conditions.

7.5.4 Conclusions:

The proposed works have the potential to adversely affect water quality, aquatic ecology and fisheries by way of the uncontrolled release of sediments and hydrocarbons to surface water during the construction phase. However, I am satisfied that, subject to the implementation of the EIS mitigation measures including ongoing inspections and monitoring, in conjunction with planning conditions which address the concerns of the IFI, the proposed windfarm would not have a significant adverse impact on water quality, aquatic ecology or fisheries. The proposed development would not give rise to any significant adverse cumulative impacts in-combination with other windfarms, plans or projects in the surrounding area.

7.6. Terrestrial ecology and birds

7.6.1 Project description:

The proposed project would comprise excavation works associated with the construction of the 5 turbines, a met mast, substation, construction compound, access tracks and borrow pit within the site, as well the junction improvements at the entrance and works along the grid connection routes.

7.6.2 Environmental Impact Statement

Section 5 of the EIS dealt with terrestrial ecology and birds within the windfarm site and surrounding area, and along the grid connection route. Several desktop studies

and field surveys were undertaken to inform the conclusions of the EIS and the NIS, and these reports were supplemented by a revised NIS and a Further Information Report. Vantage Point Surveys and Collision Risk Modelling was carried out for several species of bird, and surveys for bats and other mammals were undertaken The EIS did not predict any adverse impacts subject to mitigation measures.

The EIS states that the site is not located within or immediately adjacent to any European sites although there are a large number of SPAs, SACS, NHAs and pNHAs nearby including those along the River Suck to the N and the River Shannon to the E. These nearby European Sites are designated for their importance to birds and a the EIS provides a description of the species for which the European sites are designated and other species which utilise these sites and the surrounding area.

Habitats and flora:

The c.445ha windfarm site is mainly in agricultural use (c.78%), with conifer plantation (c.17%) and broad-leaved woodland (3.5%). The c.12km grid connection route would not traverse any nature conservation sites although 3 invasive species were encountered along the route. The EIS did not predict any adverse impacts subject to mitigation by way of an Environmental Management Plan.

Birds:

The EIS carried out carried out bird surveys of the site between October 2014 and November 2015 for between 2 and 6 days each month, and along the River Shannon and parts of the SPA for the same period for between 1 and 2 days per month. A total of 58 bird species was recorded. Vantage Point surveys (at 2 VPS) were used to survey wintering birds of conservation interest for the nearby European sites flying through the study area over a combined total of 168 observer hours.

- Hen Harrier and Peregrine were sighted on one occasion; Common Buzzard was recorded on 31 occasions, although 1 pair was recorded on 3 occasions the site is not used for breeding; and Sparrow hawk and Kestrel were recorded on 4 and 16 occasions respectively.

- Whooper Swan was recorded on 4 occasions, including 124 on one day; 12 on another with 7 in flight at less than 10m; and 5 in flight at between 10 and 100m on a third day.
- Golden Plover was recorded on 12 occasions, mainly small flocks overflying the site but one flock of c.156 birds using grassland.
- Lapwing was recorded on 37 occasions overflying the site and grazing; flock sizes mainly ranged from 2 to 380 with 600 on one occasion; and 1400 flow over the site on another.
- Three species of gull (Herring, Lesser Black-backed and Black-headed) were recorded as occasional visitors.
- Mallard was recorded only once.

The EIS carried out a collision risk assessment for and the calculated risk for each species ranged from 0.13 to 0.99 over 25 years for most species including 0.28 for Whooper Swan; 27.41 for Golden Plover; and 154.27 for Lapwing. The EIS estimated that this would represent only a small fraction of the overall bird populations for which the European sites are designated with no significant adverse impacts predicted at species or population level.

The EIS also carried out Transect surveys over the same timeframe as the Vantage Point surveys and a total of 39 species were recorded, and only 5 species were not recorded during the VP surveys (Goldcrest, Coal Tit, Blackcap, Grasshopper Warbler, Whinchat and Curlew).

The EIS Vantage Point survey results for the River Shannon and adjacent bog land areas show that, while there are small numbers of resident breeding Waterbirds present during the summer, the area is mainly important for wintering waterfowl.

- Whooper Swan is regular but not numerous with a maximum of 13 seen together on one day (the threshold for national importance is 130); and the population at Mid-Shannon Callows SPA is 287 & the River Suck SPA is 124.

- Flocks of 2,000 Golden Plover and 1,000 Lapwing were recorded in the winter along the River Shannon and the major flight lines recorded were either up or down the river, with no regular flight lines from the SPAs to the windfarm site.

The EIS concluded that site does not contain suitable nesting or roosting sites for any species of conservation interest. The EIS and the FI response confirmed that the site is rarely used or overflown by species of conservation interest for the European sites and the collision is low. Although birds would be disturbed during the construction phase they will habituate after the works are complete. The EIS did not predict any adverse impacts subject to mitigation (Environmental Management Plan).

Bats:

The EIS carried out Bat activity surveys at dawn and dusk on six occasions between the Spring and Autumn of 2015 using Transect and Static Detector methods. No surveys were conducted during the winter as the site does not contain potential winter roosts (caves). The mixed woodlands and hedgerows within the site provide potential roost sites and offer suitable foraging and commuting corridors for bats.

Several species were recorded on site over the survey period including Soprano Pipistrelle, Common Pipistrelle and Leislers Bat, and Soprano and Common Pipistrelle were the most abundant, and the highest concentrations were detected in the vicinity of the woodlands and hedgerows. The Brown Long-eared Bat, which has a roost at Clonfert Cathedral c.1.5km to the E, was recorded occasionally throughout the survey period although it was recorded on 15 occasions during July and August.

The EIS concluded that site is used extensively for foraging and commuting bats with high activity in woodland edge habitats compared with the open areas, and no roosts were detected in the derelict buildings. Habitat connectivity will be maintained with only minor tree and hedgerow loss to provide access to the turbines. No replacement trees will be planted around the turbines to deter foraging and prevent collision. The EIS did not predict any adverse impacts subject to mitigation by way of an Environmental Management Plan.

Other mammals:

The EIS surveys recorded the presence of several species including Red Fox, Badger, Irish Hare, Hedgehog, Mink, Stoat, Red Squirrel and Pine Martin. It possible that Otter may commute across the site by way of the drainage ditches although there was no evidence of their presence. The EIS did not predict any adverse impacts subject to mitigation by way of an Environmental Management Plan.

Grid connection route:

The EIS states that the grid connection route would be located along public roads, it would not traverse any European sites or areas of nature conservation interest, although 3 invasive species were recorded along the route. No adverse impacts predicted subject to mitigation by way of an Environmental Management Plan.

EIS conclusion:

The EIS did not predict any adverse impacts for flora, birds, bats or other mammals within the windfarm site, the surrounding area or along the grid connection route.

7.6.3 Assessment:

The windfarm site is not covered any sensitive environmental or ecological designations. The site mainly comprises agricultural land, two small wooded areas and hedgerows, with a conifer plantation to the N and cutover raised bog beyond. The predominant land use and habitat type at the windfarm site is agricultural in nature and the grid connection route would mainly run along local roads. The proposed excavation and construction works would result in the inevitable loss of a proportion of these habitats. There several SACs, SPAs and NHAs to the N, E and S of the site along the River Suck and River Shannon which are designated for their importance to birds, wintering wildfowl and Waterbirds. The windfarm site is used by several species of mammal, it has foraging potential for bats, and it is frequented and/or overflow by several species of bird, some of which are designated as conservation interests for the nearby SPAs. The proposed works have the potential

to affect several protected species that frequent the windfarm site and the surrounding area during the construction and operational phases.

Birds:

The EIS carried out extensive bird surveys which are summarised in the section 7.6.2 (Birds) above. A total of 58 bird species was recorded including several species of raptor and gull which occasionally use the site, and many other species which use the overall lands for foraging. The proposed windfarm will undoubtedly cause a disturbance during the construction phase and some temporary species displacement may occur. Raptors rarely use the site as it does not contain good foraging habitat, the inland location renders the site less attractive to gulls and most other species will gradually habituate to the works after the construction phase is completed and the windfarm is operational. No significant adverse long term impacts are anticipated for the majority of bird species which use the windfarm site.

However, the windfarm site is located in close proximity to the River Suck and River Shannon which flow to the N, E and S of the site. These rivers and their Callows are designated as European Sites and/or NHAs because of their importance to birds, wintering wildfowl, and wetland and waterbirds.

The designated sites, their conservation interests and the separation distances between the windfarm site boundaries and the boundaries with the sensitive sites are summarised below.

Site name	Conservation interests	Distance
River Suck Callows SPA (& NHA)	Whooper Swan Wigeon Golden Plover Lapwing Greenland White-fronted Goose Wetland and Waterbirds	c. 1.5km

Middle Shannon Callows SPA	Whooper Swan Wigeon Corncrake Golden Plover Lapwing Black-tailed Godwit Black-headed Gull Wetland and Waterbirds	c. 1.5km
River Little Brosna Callows SPA	Whooper Swan Wigeon Golden Plover Lapwing Black-tailed Godwit Black-headed Gull Greenland White-fronted Goose Teal, Pintail & Shoveler Wetland and Waterbirds	c. 8.5km

The EIS bird surveys, which are summarised in the section 7.6.2 (Birds), above indicate that the windfarm site is frequented or overflown by several bird species that are listed as conservation interests for the nearby SPAs and these include Whooper Swan, Golden Plover and Lapwing. Whooper Swan was recorded grazing on 4 occasions and overflying on 2, and although most flocks were very small some 124 were recorded on one day. Small flocks of Golden Plover were recorded on grassland within the site on 12 occasions. Lapwing was recorded on 37 occasions overflying the site and grazing and although the flock sizes were recorded as small (c.380) around 600 were present on the site on occasion whist 1400 flew over on another. Bird activity in the vicinity of the River Suck and River Shannon was also surveyed. The EIS used the bird survey results to conclude that the sited is not regularly overflow by the bird species associated with the European sites which mainly fly along the river corridors. The bird survey results were used to calculate the collision risk for Whooper Swan, Golden Plover and Lapwing with the proposed

turbines. The EIS concluded that the risk of collision was minimal and that this would represent only a small fraction of the overall bird populations for which the European sites are designated. It also concluded that any loss foraging habitat would represent and even smaller fraction of the overall lands that support the SPA bird communities.

Both of the Third Parties disagreed with the EIS conclusions. The DAHG stated that river corridors are likely to be important for bird movement in general, including daily flight lines between roosting and foraging areas, and migratory routes, however birds often use lands outside the SPA boundaries for feeding and roosting and during flood events. Both Third Parties raised concerns that there is insufficient data to allow the Board to carry out an EIA and AA; and weaknesses in the survey data for wintering birds limit the results of the collision risk modelling, the evaluation of impacts on these birds and the assessment of cumulative impacts on them. Potential impacts on a Barn Owl nest had also not been assessed. The applicant responded with a further explanation of the survey results and collision risk model (refer to section 6.4 above) and they reiterated the fractional scale of any adverse impacts on bird populations in the area and nearby European sites. They also confirmed that although there is a Barn Owl nest within 2km of the site there is no evidence of that this species frequented the site on a regular basis. The first Third Party Appellant provided additional information on recent sightings of Whooper Swan on and over the site on several days during January 2017.

I carried out my site inspection over two days in January 2017. I visited the windfarm site and the surrounding area; sections along both sides of the River Suck and River Shannon and their Callows, including the cutover raised bog area c.1.5km to the E of the site that forms part of the European site; and the Little Brosna Callows at Banagher to the S of the site. The SE section of the site, which would accommodate the proposed compound, Turbine 5 and the met mast, was occupied by a large flock of grazing Whooper Swan (well in excess of 125 threshold for populations national importance). The NW section of the site, which would accommodate Turbine 1 was occupied by a large flock of Lapwings which took flight when disturbed (well in excess of 500).

I remained on site for several hours and during that time the flock of Whooper Swans continued to graze whist the Lapwings returned to forage. I did not observe any Whooper Swans at any of the another aforementioned sites during the course of my inspection and I did not get close enough to disturb any other smaller bird species. However, I did observe flocks of birds flying over the site and surrounding area during my travels around the local road network to examine other potential impacts over the course of my site inspection.

Based on the foregoing I would concur with the concerns raised by the Third parties in relation to the adequacy of the bird surveys. I am not satisfied that there is sufficient wintering bird data to justify the overall EIS conclusion of no significant, long term or permanent adverse impact on birds. In particular, the conclusions of the EIS Collision Risk assessment are based on low numbers and the assumption that there are few flight paths over the site.

The site is clearly used by a large number and wide variety of bird species. Some of these species are identified as Conservation Interests for the nearby European sites (including Whooper Swan, Lapwing and Golden Plover) and some are both rare and protected in their own right (including Barn owl which has a nest nearby at Clonfert).

The River Suck and River Shannon curve around the site to the N, E and S and this entire watercourse (in the vicinity of the site) is covered by European site designations for a variety of bird species. The EIS states that species such as Whooper Swan usually follow the course of a river when in flight. However, given the geographical relationship between the site and the nearby watercourses, the proximity of the proposed windfarm to these rivers and the narrow separation distances involved, and having regard to the fact that several bird species clearly fly in to the site from the N, E and S, I am satisfied that birds (including Whooper Swan) could fly over the windfarm site when travelling between the three SPAs. The collision risk for Whooper Swan (and other species) could be much greater than predicted in the EIS models, and the EIS also undervalues the importance of this site for several bird species and its integral relationship with the nearby SPAs.

Bats:

The site mainly comprises agricultural land with a coniferous plantation to the N, two linear broadleaved wooded areas and hedgerows within the site, and some derelict structures in the W section. The EIS carried out extensive bat surveys of the overall site and structures which are summarised in the section 7.6.2 (Bats) above. No bat roosts or suitable roosting habitat were recorded although several species of bat (including Soprano Pipistrelle, Common Pipistrelle and Leislers Bat) use the overall lands for commuting and foraging. The Third Parties raised concerns in relation to the EIS assessment of bats and in particular the potential impacts on a Brown Long-eared Bat maternity roost to the E of the site at Clonfert.

The proposed windfarm would undoubtedly cause a disturbance to bats during the construction phase and some temporary species displacement may occur. However, only a small proportion of trees and hedges would be removed to allow access to the turbine sites with minimal disturbance to commuting routes, the absence of trees and shrubbery around the turbine bases would deter foraging activity in the vicinity of the turbines, the rotor blades would be positioned well above the flight paths of foraging bats with minimal risk of collision, and there would little or no artificial lighting at night during the operational phase. I am satisfied that bats would gradually habituate to the works after the construction phase and when the windfarm is operational with no significant adverse long term impacts anticipated.

Other mammals:

The several species of mammal that frequent the windfarm site would be disturbed during the construction works, however it is likely they will habituate to the windfarm after the works are completed, and no significant adverse impacts are anticipated. Although it is possible that Otter (protected species) commutes across the site via the on-site watercourses, there is no physical evidence that they use the site on a regular basis, and given that narrow watercourses would not be affected by the proposed works, no significant adverse impacts are anticipated for this species.

Fisheries, amphibians and aquatic species:

Potential impacts are addressed in section 7.4 above.

Grid connection route:

The c.12km long underground grid connection route would be mainly located along existing roads although c.600 would cross agricultural land, however the route would not traverse or be located in the vicinity of any sites of nature conservation interest. The EIS identified three invasive species located along the route and appropriate measures should be put in place to prevent the spread of these species. This could be addressed by way of a planning condition.

7.6.4 Conclusions:

Having regard to all of the foregoing, I am satisfied that the proposed development, including the grid connection route, would not have any significant, adverse, long term, or permanent impacts on flora and fauna in the area, including mammals, bats, fisheries, amphibians, aquatic invertebrates and most species of bird. However, based on all of the information available, it is no possible to conclude that the proposed development would not have significant, adverse, long term or permanent impacts on several species of bird which are conservation interests for the nearby European sites either on its own or in-combination with other plans and projects in the area.

7.7. Cultural Heritage and material assets

7.7.1 Project description:

There is a substantial number of heritage features, several dwelling houses and a number of tourist and recreational attractions in the surrounding area. The windfarm project would comprise excavation works within the site and along the gird connection route during the construction phase which has the potential to affect archaeology and heritage. The presence and operation of the 5 turbines during the

operational phase has the potential to affect heritage, tourism and recreation, residential amenity with respect to electromagnetic interference, and aviation.

7.7.2 Environmental Impact Statement:

Section 11 of the EIS dealt with cultural heritage and several desk and field studies of the site and along the grid connection route were undertaken. The site contains 6 Recorded Monuments, 2 Protected Structures and 4 NIAM structures. Some 85 Recorded Monuments are located within a 2km of the site, 30 of which relate to St. Brendan's Cathedral Complex at Clonfert c.1.5km to the E. There are 9 Recorded Monuments within 50m of the grid connection route. The EIS concluded that none of the sites would be adversely affected however mitigation measures are recommended to address the possibility of potential impacts. A number of 19th and 20th features of cultural interest are also located within the windfarm site and along the grid connection route and there are 2 Protected Structures within the site and 8 in the vicinity. The EIS does not predict any significant adverse impacts.

Section 12 of the EIS dealt with material assets and section 4.3 dealt with tourism. The site is located within a heritage area as outlined above, the Hymany Way Walking Route runs to the N of the site, the surrounding area is attractive to tourists, and no adverse impacts are predicted. The EIS states that the wind farm project will contribute to energy supply, there would be no interference with air traffic, no electromagnetic interference is expected, and no adverse impacts are predicted.

7.7.3 Assessment:

Archaeology:

There are numerous Recorded Monuments and sites of archaeological interest located both within the windfarm site and within 2km of the site, including St. Brendan's Cathedral complex at Clonfert to the E of the site boundary, and it is possible that the site may also contain as yet undiscovered artefacts. The 6 Recorded Monument within the site include Earthworks, Enclosures and buildings including Lisbeg House which dates from the late 18th Century. These features are located in the W and SW sections of the site whist the 5 turbines and associated works would be located in the N and E

sections of the site. However, a section of the grid connection route located in the SW corner of the site would run in close proximity to 2 of these features (Earthwork and Enclosure) before joining the local road in close proximity to another feature located just outside the site boundary (Quarry). The 9 Recorded Monuments located within 50m of the c.12km long grid connection route include Quarries, a Ring Barrow, Graveyard and Churches. The numerous Recorded Monuments located within 2km of the site boundary are located a substantial distance from the proposed works.

The proposed development would not have a significant impact on archaeological heritage in the area having regard to the separation distance between the site of the proposed works and most of the Recorded Monuments. Compliance with standard archaeological conditions in relation to site investigation, recording and monitoring in respect of the overall lands should also be required by way of a condition. However, the Department of Arts, Heritage and the Gaeltacht raised concerns that some elements of the project would be located within the Zone of Archaeological Potential around one of the Recorded Monuments. Although the DAHG haven't specified which monument, I am satisfied that their concern relates to the features located in the SW section of the site in the vicinity of the grid connection route. The DAHG state that the works could have an impact on subsurface remains within this Zone and that an Archaeological Impact Assessment should be prepared. This could be addressed by way of a planning condition.

Protected Structures:

There are 2 protected structures located within the windfarm site, and several more in the surrounding area and within 50m of the c.12km grid connection route. These include Lisbeg House and Gate Loge in the SW and S sections of the site, the St. Brendan's Cathedral Complex at Clonfert to the E of the site, and a church and parochial hall at Laurencetown to the W along the grid connection route. The proposed works would not be located in close proximity to any of these structures and no adverse impacts are anticipated. Although the 5 turbines would be highly visible to the rear of Lisbeg House and Gate Lodge and moderately visible to the W of the approach road to the Clonfert Complex, the project would not have a significant adverse impact on the character or setting of these Protected Structures.

Other features of cultural and heritage interest:

There are also several features of interest located within the site, in the vicinity of the site, and along the along the grid connection and delivery routes. These include gates, gateposts, wells, walls and the cottages within the site, and buildings, bridges, demesne walls and a pet cemetery outside the site. Care should be taken to ensure that no damage occurs to any buildings, structures of features in the wider area.

Material assets:

The site is located in close proximity to the heritage enclave area at Clonfert, a cross county walking route along the Hymany Way, and the River Shannon which hosts a variety of recreational activities. The proposed windfarm has the potential to affect tourism and recreation in the wider area and Scottish research raises concerns that windfarms in mountainous areas could have an adverse impact on tourism. However, it is noted that the windfarm would be located within a low lying and flat landscape, and Irish based research (by Failte Ireland & others) found no evidence of significant adverse impacts on tourism and recreation as a result of windfarm.

Having regard to the scale of the proposed development, its setting within a landscape of low sensitivity and the absence of protected views across the site, and the separation distances with the aforementioned tourism and recreational

attractions, I am satisfied that the windfarm would not have an adverse impact on tourism and recreation in the surrounding area.

The proposed windfarm would not have a significant impact on aviation subject to compliance with standard aviation conditions. There would be no significant impacts from electromagnetic interference given the sparsely populated nature of the area. The operational windfarm project will contribute to the provision of renewable energy and contribute to a reduction in greenhouse gas emissions.

7.7.4 Conclusions:

Having regard to all of the above, I am satisfied that the proposed development would not adversely affect cultural heritage or material assets to any significant extent, subject to the full implementation of the archaeological mitigation measures and planning conditions. The proposed development would not give rise to any significant adverse cumulative impacts in-combination with other windfarms, plans or projects in the area.

7.8. Grid connection route

The applicant has submitted sufficient information with the planning application, EIS, NIS, revised NIS and FI Response Report to enable the Board to undertake a cumulative impact assessment of any potential impacts or effects of the windfarm in-combination with the grid connection route, and plans or projects in the area.

7.9. Other issues

Community benefit: The developer should enter into negotiations with the County Council in relation to securing benefits for the local communities. This issue could be addressed by way of a planning condition.

Environmental services: The arrangements are considered acceptable subject to compliance with the requirements of Irish Water and the planning authority.

Flood risk: The developer has addressed this issue in relation to the windfarm site and the L4305 and I am satisfied that the proposed development would not give rise to a flood risk subject to compliance with the requirements the planning authority.

Financial contributions and bonds: The standard development contribution and bond conditions should be attached.

Suggested conditions*:* The conditions suggested by IFI have been addressed the relevant sections of this report.

8.0 ENVIRONMENTAL IMPACT ASSESSMENT

8.1 Compliance with Articles 94 and 111 of the Planning and Development Regulations 2001, as amended

The application is accompanied by an EIS, as required for any application made under Section 37A. The EIS is laid out as follows:

- Non-Technical Summary
- Main Statement
- Photomontages
- Technical Appendices

I have reviewed the application documentation, including the EIS, the written submissions, and the legislative requirements in terms of Environmental Impact Assessment. In particular, I note the requirement of Article 94 of the Planning and Development Regulations 2001, as amended that the EIS shall contain the information specified in paragraph 1 and paragraph 2 of Schedule 6 of the Regulations.

The EIS describes the proposed development, including information on the site and the project size and design. A description of the main alternatives studied by the developer and alternative locations considered, is provided and the reasons for the

preferred choice. The impact of the proposed development was assessed under all the relevant headings with respect to human beings; noise; shadow flicker; terrestrial ecology; aquatic ecology; landscape; geology and soils; hydrology and hydrogeology; roads and traffic; air and climate; material assets; cultural heritage; and interactions of impacts, and mitigation measures were proposed The content and scope of the EIS is considered to be acceptable and in compliance with Planning Regulations. No likely significant impacts were identified in the EIS.

With regard to the requirements of Article 111 of the regulations, I consider that the submissions are generally in accordance with the requirements of Article 94 of the Planning and Development Regulations 2001, as amended. In-combination effects with other plans and projects in the area are not considered likely to be significant.

8.2 Likely significant effects arising from the proposed development

Section 7.0 of this report identifies and describes the main likely significant effects arising from the proposed development and section 8.0 should be considered in conjunction with the following environmental impact assessment which identifies and summarises the likely significant effects, proposed mitigation measures and residual impacts following mitigation.

Impacts: Human Beings	**Mitigation measures**
Health and safety: On-site accidents and off-site traffic accidents.	Health & Safety plan for construction phase and no public access to the site.
Residential Amenity: Construction activity could potentially impact on surrounding residential amenities by area with minor visual, noise, dust and shadow flicker intrusion.	Compliance with all relevant standards & guidelines for noise, vibration, dust & shadow flicker.
Tourism & recreational Impacts: The visual impact of the proposed turbines could have an adverse impact on Clonfert and the River Shannon and	None proposed.

nearby settlements.

Residual Effects: There will be some increase in noise emissions during the construction and operational phases however predicted levels are within guidance limit values. Shadow flicker impacts would be localised, temporary, seasonal and relative to the time of day however this could be addressed by way of pre-programming. The visual impact of the proposal could have a minor adverse impact on tourism. The residual impacts are not predicted to be significant.

Impacts: Landscape & visual	**Mitigation measures**
Scale, height and extent of visibility: The turbines will visible from within the site, around the local road network and from the wider area including Clonfert and the River Shannon to the E.	No realistic measures given the scale & height of the turbines and their location on low lying site.
Impact on landscape character: Potential impacts when viewed from outside the immediate area to the E at Clonfert and along the River Shannon and minor impacts when viewed from inside or nearby.	As above

Residual Effects: Impacts predicted to be moderate but not adverse. The residual impacts are not predicted to be significant.

Impacts: Ecology	**Mitigation**

Fisheries & aquatic life: Potential pollution of watercourses by suspended solids & building materials released during construction during and after construction on site and along GCR.	Suite of measures including buffer zones around water courses; silt traps; settlement lagoons; compliance with EU, EPA, NRA & IFI standards for water quality; construction practice methodologies; and monitoring.
Birds: Loss of foraging lands & potential collision risk impacts for several species of bird.	Mitigation measures include ongoing monitoring.
Bats: Minor loss of foraging and minor interruptions along commuting routes.	Mitigation measures include ongoing monitoring.
Other mammals: Disturbance during construction phase.	None proposed.
Residual Effects: Impacts predicted to be minor and reversible for fisheries, aquatic life, bats, other mammals and most birds with no residual impacts predicted following mitigation. Impacts on several species of bird could be adverse and significant with residual impacts predicted.	

Impacts: Geology & soils, hydrogeology & hydrology	**Mitigation**
Excavations: of turbine bases, access tracks & borrow pit, and the disposal of a significant amount of spoil could have potential impacts on water quality, fisheries and aquatic life.	Suite of measures including timing and sequencing of works; on-site drainage; buffer zones, silt traps, interceptors & settlement ponds; water treatment; approved storage & disposal sites; best construction practice methodologies; adherence to peat management plan; & ongoing inspection & monitoring.
Ground and surface water contamination: Leakage & spillages from construction vehicles and fuel stores & soil storage areas.	Suite of measures as above; bunding; & adherence to best construction practices.
Residual Effects: Residual impacts not predicted to be significant subject to the	

implementation of mitigation measures.

Impacts: Air, climate, noise & shadow flicker	Mitigation measures
Noise impacts: Potential for negative noise impacts on residential amenities from construction activities and minor intrusion during operational phase.	Compliance with guidance for noise and dust control during construction & operation; pre-programming; maximum feasible distance from houses; phasing and timing of construction works and deliveries; compliance with standard construction management measures; phased delivery of components; noise and dust monitoring.
Dust emissions: Dust and air quality issues from the construction phase.	
Increased emissions: Traffic volumes during construction have the potential for local air quality impacts.	
Shadow flicker: Potential minor disturbance at some houses.	Pre-programming proposed.
Electromagnetic interference: Minor potential for impacts on TV reception.	None proposed.

Residual Effects: Residual impacts are not predicted to be significant.

Impacts: Material assets & cultural heritage	Mitigation measures
Forestry: Potential impacts related to clear felling & surface water runoff, water quality and wildlife (aquatic life & fisheries)	Refer to previous tables for ecology, geology, soils, hydrology and hydrogeology.
Features of archaeological interest: Potential impacts on RMs & unrecorded artefacts within the site.	Compliance with relevant guidelines. buffers around RMs, advance testing & on-going monitoring.

Residual Effects: Residual impacts are not predicted to be significant

Impacts: Roads and traffic	Mitigation
Impact on road network: Potential for short term disruption during construction and deliveries.	Compliance with Council and NRA requirements in relation to road improvements permits and licences.
Road safety: Potential for short term disruption during construction.	Consult with local community prior to turbine delivery; sequencing of deliveries; use of appropriate vehicles.

Residual Effects: None predicted.

Summary of Interactions

Human Beings:

- Noise & shadow flicker
- Air Quality & climate
- Landscape & visual amenity
- Material Assets (electromagnetic interference)
- Cultural heritage
- Road and traffic (safety & disturbance)

Landscape & visual

- Human Beings (visual amenity)
- Cultural heritage

Ecology (terrestrial & aquatic):

- Hydrology (water quality & fisheries)
- Human Beings
- Material assets (tree felling)

- Landscape (visual amenity)
- Soils & geology (siltation and water quality)

Geology, Hydrogeology & Hydrology:

- Air quality
- Ecology (terrestrial & aquatic)
- Human beings

Air, Climate, Noise and Shadow Flicker

- Roads & traffic (noise, emissions & dust)
- Human Beings (noise, emissions & dust)

Material Assets & Cultural Heritage:

- Human Beings
- Landscape (visual)
- Roads and traffic (disturbance & safety)

Roads & Traffic:

- Noise, air quality & climate
- Human beings (road safety & disturbance).

8.3 Conclusions regarding the acceptability of the likely residual effects

The main environmental assessment is set out Section 7.0 of this report. It describes the proposed development, the receiving environment, the potential impacts and the mitigation measures. It mainly concludes that there would not be any significant

adverse impacts on the receiving environment or surrounding area after the mitigation measures are implemented and any residual impacts are not predicted to be significant. However, Section 7.0 also concludes that the possibility of the windfarm having significant adverse impacts on several species of bird, which are conservation interests for the nearby European sites, as a result of the loss of foraging grounds and collision risk with turbines cannot be ruled out to any satisfactory level.

9.0 APPROPRIATE ASSESSMENT

9.1 Compliance with Articles 6(3) of the EU Habitats Directive

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

9.2 Natura Impact Statement

The application was accompanied by a Natura Impact Statement (NIS) and a revised Natura Impact Statement. The main issues related to ecology and the concerns raised by the NPWS and others are summarised and addressed in Sections 6, 7.5 & 7.6 and 8.2 of this report. Sections 7.5, 7.6 and 8.2 should be read in conjunction with this assessment.

The NIS reports described the site and the proposed development, and they used the extensive data which was collected as part of the EIS desk and field surveys (summarised in sections 7.5 and 7.6 above). The NIS confirmed that the proposed development (including the grid connection route) would not be located within a

European site. The screening exercise identified the European sites within a 15km radius of the proposed works and screened out the sites which did not have the potential to be affected by the proposed development. The NIS then identified four European sites located within a closer radius (c.1.5km to 8.5km) of the proposed works along the River Suck and River Shannon. The NIS states that these sites have the potential to be affected by the proposed development because of their importance for several species of bird which may or may not use or fly over the windfarm site.

The NIS listed the conservation interests for the SPAs, the qualifying interests for the SACs, and the conservation objectives for each of the sites. The NIS identified the potential sources of direct and indirect impacts on these sites, assessed the potential impacts relative to the conservation objectives, attributes and targets for each site. The NIS had regard to the findings of the EIS bird surveys and Collision Risk Models for target European site species. It deduced that the collision risk for birds (including Whooper Swan, Lapwing and Golden Plover) was minimal, and that the risk factor would represent only a small fraction of the overall bird populations for which the European sites are designated. It also concluded that any loss of foraging habitat within the windfarm site would represent an even smaller fraction of the overall lands that support the European site bird communities.

The NIS formally concluded that the proposed wind energy development, comprising wind turbines and associated infrastructure, on-site interconnection cable route and grid connection route, in view of the best scientific knowledge and on the basis of objective information, either individually or in combination with other plans and projects, is not likely to have any significant adverse effects on the conservation objectives or overall integrity of any European Sites.

9.3 Appropriate Assessment

The proposed development would not be located within an area covered by any European site designations and it is not relevant to the maintenance of any sites, however the following European sites are located within a 15km radius of the windfarm site.

European site	Designation	Site code	Distance
River Shannon Callows	SAC	000216	1.5km - NE
Redwood Bog	SAC	002353	7.5km - S
Ardgraigue Bog	SAC	002356	9.8km - SW
All Saints Bog & Esker	SAC	000566	10.5km - SE
Fin Lough	SAC	000576	10.5km - NE
Glenloughaun Esker	SAC	002213	10.6km - NW
Mongan Bog	SAC	000580	11.1km - NE
Pilgrim's Esker	SAC	001776	11.3km - NE
Moyclare Bog	SAC	000581	12.0km - E
Ridge Road (Rapemills)	SAC	000919	14.2km - SE
River Suck Callows	SPA	004097	1.4km - N
Middle Shannon Callows	SPA	004096	1.5km - NE
River Little Brosna Callows	SPA	004086	8.5km - SE
All Saints Bog	SPA	004103	10.4km - SE
Mongan Bog	SPA	004017	13.3km - NE

I am satisfied that all but four of these sites can be screened out of any further assessment because of the nature of the European site and/or the absence of any connection between the European site and the windfarm site.

The relevant European sites are:

Site name	Designation	Site code	Distance
River Suck Callows	SPA	004097	c. 1.5km
Middle Shannon Callows	SPA	004096	c. 1.5km
River Shannon Callows	SAC	000216	c. 1.5km
River Little Brosna Callows	SPA	004086	c. 8.5km

The generic Conservation Interests for the SPAs are:

1. To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for the SPA.
2. To maintain or restore the favourable conservation condition of the wetland habitat at the SPA as a resource for the regularly-occurring migratory waterbirds that utilise it.

Site name	Conservation interests
River Suck Callows SPA	Whooper Swan Wigeon Golden Plover Lapwing Greenland White-fronted Goose Wetland and Waterbirds
Middle Shannon Callows SPA	Whooper Swan Wigeon Corncrake Golden Plover Lapwing Black-tailed Godwit Black-headed Gull Wetland and Waterbirds
River Little Brosna Callows SPA	Whooper Swan Wigeon Golden Plover Lapwing Black-tailed Godwit Black-headed Gull Greenland White-fronted Goose Teal, Pintail & Shoveler Wetland and Waterbirds

The generic Conservation Interests for the SAC is:

1. To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected.

Site name	Qualifying Interests
River Shannon Callows SAC	Molinia meadows Lowland hay meadows Limestone pavements Alluvial forests Lutra lutra (Otter)

I am satisfied that all but one of the Qualifying Interests for the River Shannon Callows SAC (Otter) can be screened out of any further assessment because of the nature of the QIs and the absence of any connection with the windfarm site.

Favourable conservation status of a habitat is achieved when:

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

The favourable conservation status of a species is achieved when:

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

The potential indirect impacts relate to:

- Transport of pollutants in surface water flowing into the SAC/SPA via on-site tributaries.

- Ex-situ impacts on qualifying species outside the SAC/SPA but which is an integral and connected part of the population of qualifying interest species such as otter.

- Possible interference with grazing lands and flight lines of bird species associated with the SPA or possible collision of birds from the SPA with the turbines.

Discussion:

River Suck Callows, Middle Shannon Callows and River Little Brosna Callows SPAs: are located along the River Suck and River Shannon which curves around the windfarm site to the N, E and S. The sites have been designated for their importance to several species of bird (including wintering, migratory, wetland and waterbirds) and the European site designations overlap with each other. The surrounding lands along the rivers, which are located outside the European site boundaries, also provide backup support for feeding and roosting birds, during flood events, and it is possible that birds commute over these lands when flying between the sites.

The EIS carried out extensive bird surveys which were used to inform the NIS and the survey data is summarised and assessed in the section 7.6.2 (Birds) and section 7.6.3 (Birds) above. A total of 58 bird species was recorded using or flying over the windfarm site including several of the species that are Conservation Interests for the nearby European sites. These include Whooper Swan, Golden Plover and Lapwing which were observed feeding on the site and/or flying over it on several occasions. It is noted that the other conservation interest species for the SPAs were not recorded on or over the site to any significant extent. Bird activity in the vicinity of the River Suck and River Shannon and the SPAs was also surveyed.

The EIS and NIS used the bird survey results to conclude that although the windfarm site is used for occasional foraging and grazing, it is not regularly overflow by the bird species associated with the European sites which mainly fly along the river corridors. The bird survey results were used to calculate the collision risk for Whooper Swan, Golden Plover and Lapwing with the proposed turbines. It was concluded that the risk of collision was minimal and that this would represent only a small fraction of the overall bird populations for which the European sites are designated. It also concluded that any loss foraging habitat would represent an even smaller fraction of the overall lands that support the SPA bird communities.

Both of the Third Parties disagreed with these conclusions, as summarised in sections 3.4, 6.1 and 6.2, and assessed in section 7.6.3 (Birds) above. The DAHG (NPWS) stated that although the river corridors are important, birds often use lands outside the SPA boundaries for feeding and roosting and during flood events. Both Third Parties raised concerns that there is insufficient data to allow the Board to carry out an Appropriate Assessment. In particular, weaknesses in the survey data for wintering birds limit the results of the collision risk modelling, the evaluation of impacts on these birds and the assessment of cumulative impacts on them.

As previously stated in 7.6.3 (Birds) above, I carried out my site inspection over two days in January 2017 and I visited the windfarm site, the surrounding area and parts of the aforementioned European sties. The SE section of the windfarm site was occupied by a large flock of grazing Whooper Swan (in excess of the 125 threshold

for national importance), the NW was occupied by a large flock of Lapwings (well in excess of 500), and I observed flocks of birds flying over the site.

I am not satisfied that there is sufficient wintering bird data to justify the conclusion of no significant adverse effects on birds which are Conservation Interests for the nearby European sites, particularly as the conclusions of the Collision Risk assessment are based on low numbers and the assumption that there are few flight paths over the site. It is possible that birds (including Whooper Swan) use the site in large numbers on a regular basis during the winter months, and fly over the windfarm site when travelling between the SPAs. The collision risk for Whooper Swan (and other species) could be much greater than predicted in the risk assessment models, and the importance of this site for several Conservation Interest species and the sites integral relationship with the nearby SPAs is undervalued in the NIS.

Having regard to the foregoing, I am not satisfied that there is sufficient scientific information before the Board to reach a conclusion that the proposed development would have no significant adverse effects on European sites in the vicinity of the windfarm site.

River Suck Callows, Middle Shannon Callows and River Little Brosna Callows SPAs: are located c.1.4km to the N, 1.5km to the NE and c.8.5km SE of the windfarm site boundary. The windfarm site is connected to these SPAs via on-site drainage ditches and watercourses which ultimately discharge to the River Suck and the River Shannon. Any fine sediments released during the course of the excavation and construction works would be contained within the windfarm site. Suspended sediments would not reach the SPAs with no knock-on effects for bird feeding grounds and the bird species and wetland habitats which are listed as Conservation Interests within this SPA. It is unlikely that these European site, their Conservation Objectives and Conservation Interests (wetland and water birds) would be affected by this element of the proposed works.

River Shannon Callows SAC: is located 1.5km to the NE of the windfarm site boundary. The site is connected to this SAC via on-site drainage ditches and

watercourses which ultimately discharge to the River Shannon. However, the nature of these watercourses is such that they are unlikely to provide a suitable commuting route for Otter. It is unlikely that this European site, its Conservation Objectives and Qualifying Interest (Otter) or would be affected by the proposed works.

Grid connection route: would extend c.12km along the local road network to the W of the windfarm site and it would not have an adverse effect on any European sites.

Conclusions:

1. I do not concur with the conclusions reached in the NIS that the proposed windfarm will have no significant adverse effects on the Conservation Objectives or Conservation Interests of the River Suck Callows SPA, the Middle Shannon Callows SPA, and the River Shannon Callows SPA or overall integrity of any European Site.

2. I concur with the conclusions reached in the NIS that the proposed windfarm will have no significant adverse effects (direct, indirect or cumulative) on the Conservation Objectives or Qualifying Interests for the River Shannon Callows SAC.

3. I concur with the conclusions reached by the NIS that the proposed grid connection will have no significant adverse effects (direct, indirect or cumulative) on the Conservation Objectives, Qualifying Interests or Conservation Interests of the European Sites.

Appropriate Assessment conclusion:

On the basis of the information provided with the application and appeal, including the Natura Impact Statement, and in light of the assessment carried out above, I am not satisfied that the proposed development individually, or in combination with other plans or projects would not adversely affect the integrity of European Sites No. 004097, 004096 and 004086, in view of the site's Conservation Objectives. In such circumstances the Board is precluded from granting approval/permission.

10.0 RECOMMENDATION

Arising from my assessment of the appeal case I recommend that planning permission should be refused for the proposed development for the reasons and considerations set down below.

11.0 REASONS AND CONSIDERATIONS

The proposed development would be located within 15km from an extensive range of European sites (Special Areas of Conservation and Special Protection Areas). It would also be located in close proximity to the River Suck Callows Special Protection Area, the Middle Shannon Callows Special Protection Area and the River Little Brosna Callows Special Protection Area, which are designated for their importance to wintering and migratory birds, wetland birds, and waterfowl. The windfarm site is potentially used and overflown by a range of bird species that are listed as conservation interests for the nearby Special Protection Areas, and the proposed development would cause a disturbance and pose a potential collision risk to these species which include Whooper Swan, Lapwing and Golden Plover, arising from the construction and operation of the wind farm.

On the basis of the information provided with the application and appeal, including the Natura Impact Statement, the Board is not satisfied that sufficient information has been submitted to enable the completion of an appropriate assessment in so far as it

cannot determine and rule out the likelihood of significant adverse effects of the proposed development individually or in combination with other plans or projects on the integrity of a range European sites (including Site nos. 004097, 004096 and 004086) in view of their conservation objectives. Having regard to the provisions of Article 6(3) of the EU Habitats Directive, the Board is therefore precluded from granting permission for the proposed development.

Karla Mc Bride (SPI)
16th March 2017