UWF GRID CONNECTION

REFERENCE DOCUMENTS

UWF RELATED WORKS

VOLUME F3:

EIAR APPENDICES (PART 1 OF 3)

Volume A	Planning Application Documents – Application Form; Site/Newspaper Notice; Letters of Consent; Schedule of Submitted Documents etc.	
Volume B	Planning Drawings	
Volume C	UWF Grid Connection EIA Report (EIAR)	Volume C1: EIAR Non-Technical Summary Volume C2: EIAR Main Report Volume C3: EIAR Figures Volume C4: EIAR Appendices
Volume D	Environmental Management Plan for UWF Grid Connection	
Volume E	Appropriate Assessment Reporting	
VOLUME F	**REFERENCE DOCUMENTS FOR OTHER ELEMENTS OF THE WHOLE UWF PROJECT**	Volume F1 to F3: UWF Related Works EIA Report **VOLUME F3: EIAR APPENDICES (3 PARTS)** Volume F4: Environmental Management Plan for the UWF Related Works Volume F5 TO F7: 2018 UWF Replacement Forestry EIA Report Volume F8 to F9: Upperchurch Windfarm **DETAILS OVERLEAF**

Planning Application to An Bord Pleanála
by Ecopower Developments Limited, Zetec House, IDA Purcellsinch Business Park, Kilkenny.
Tel: 056-7750140. Email:office@ecopower.ie

Project Website: www.upperchurchwindfarmgridconnection.ie

Reference

REFERENCE DOCUMENTS DETAILS

Volumes F1 to F3: 2018 UWF Related Works EIA Report

Volume F1: EIAR Non-Technical Summary & EIAR Figures

Volume F2: EIAR Main Report (2 Parts)

Volume F3: EIAR Appendices (3 Parts)

Volume F4: Environmental Management Plan for the UWF Related Works

Volumes F5 to F7: 2018 UWF Replacement Forestry EIA Report

Volume F5: EIAR Non-Technical Summary & EIAR Figures

Volume F6: EIAR Main Report (2 Parts)

Volume F7: EIAR Appendices (3 Parts)

Volumes F8 to F9: Upperchurch Windfarm

Volume F8: 2013 EIS for Upperchurch Windfarm

Volume F9: 2013 RFI for Upperchurch Windfarm & 2014 ABP Inspector's Report for Upperchurch Windfarm & 2014 Grant of Permission & Conditions for Upperchurch Windfarm

Reference

UPPERCHURCH WINDFARM RELATED WORKS

(UWF RELATED WORKS)

VOLUME C4: REVISED EIAR APPENDICES

(PART 1 OF 3)

Volume A	Planning Application Documents – Application Form; Site/Newspaper Notice; Letters of Consent; Schedule of Submitted Documents etc.	
Volume B	Planning Drawings	
VOLUME C	**UWF RELATED WORKS REVISED EIA REPORT** **(Revised EIAR)**	Volume C1: Revised EIAR Non-Technical Summary Volume C2: Revised EIAR Main Report Volume C3: Revised EIAR Figures **VOLUME C4: REVISED EIAR APPENDICES (3 PARTS)**
Volume D	Revised Environmental Management Plan for UWF Grid Connection	
Volume E	Revised Appropriate Assessment Reporting	
Volume F	Reference Documents for Other Elements of the Whole UWF Project	Vol F1 to F3: UWF Grid Connection EIA Report Vol F4: Environmental Management Plan for the UWF Grid Connection Vol F5 to F7: 2018 UWF Replacement Forestry EIA Report Vol F8 to F9: Upperchurch Windfarm

Planning Appeal to An Bord Pleanála
by Ecopower Developments Limited, Zetec House, IDA Purcellsinch Business Park, Kilkenny.
Tel: 056-7750140. Email:office@ecopower.ie

Project Website: www.upperchurchwindfarm.ie

Upperchurch Windfarm Related Works (UWF Related Works)

UWF Related Works Revised EIA Report (EIAR)

VOLUME C4: REVISED EIAR APPENDICES

(Part 1 of 3)

EIA Report Authors:

EIAR Coordinator:

January 2019

Table of Appendices

Appendix No.	Appendix Title
Part 1 of 3	
Appendix 1.1	UWF Related Works Refusal from TCC 10.01.19
Appendix 1.2	UWF Related Works Planners Report 1 and 2
Appendix 1.3	UWF Related Works NPWS Submission 13.12.18
Appendix 1.4	UWF Grid Connection Board Order 17.12.18
Appendix 1.5	UWF Grid Connection ABP Inspectors Report 27.11.18
Appendix 1.6	UWF Related Works Response to Further Information 10.10.18
Appendix 2.1	Review of Compliance with Legislation
Appendix 2.2	Environmental Topic Authors Statements of Competency
Appendix 2.3	Scoping of Other Projects or Activities
Appendix 2.4	Completed EIA Report Checklist
Appendix 3.1	Consultation with Competent Authorities
Appendix 3.2	Consultation with Statutory Bodies and Other Parties
Appendix 3.3	Public Consultation Information Day Documentation
Appendix 3.4	Community Liaison & Consultation Strategy
Appendix 3.5	Reply to 3rd Party Submissions Post Application
Appendix 4.1	*Chapter 4 has no appendices*
Part 2 of 3	
Appendix 5.1	***See Volume C4: EIAR Appendices (Part 2 of 3)***
Appendix 5.2	
Appendix 5.3	
Appendix 5.4	
Appendix 5.5	
Appendix 5.6	
Appendix 5.7	

Appendix 5.8	
Appendix 6.1	
Appendix 7.1	
Appendix 8.1	
Appendix 9.1	
Appendix 9.1	
Appendix 10.1	
Part 3 of 3	
Appendix 11.1	
Appendix 11.2	
Appendix 11.3	
Appendix 12.1	
Appendix 12.2	
Appendix 12.3	
Appendix 13.1	
Appendix 14.1	
Appendix 15.1	
Appendix 15.2	
Appendix 15.3	
Appendix 16.1	
Appendix 16.2	
Appendix 16.3	
Appendix 16.4	
Appendix 17.1	
Appendix 18.1	
Appendix 19.1	
Appendix 20.1	***See Volume C4: EIAR Appendices (Part 3 of 3)***

Appendix to Chapter 1: Introduction

The data and descriptions in these appendices have informed Chapter 1: Introduction.

Appendices to Chapter 1	Section Heading
Appendix 1.1	UWF Related Works Refusal from TCC 10.01.18
Appendix 1.2	UWF Related Works Planners Report 1 and 2
Appendix 1.3	UWF Related Works NPWS Submission 13.12.18
Appendix 1.4	UWF Grid Connection Board Order 17.12.18
Appendix 1.5	UWF Grid Connection ABP Inspectors Report 27.11.18

Appendix to Chapter 1: Introduction

Appendix 1.1: UWF Related Works Refusal from TCC 10.01.19

The data and descriptions in this appendix have informed Chapter 1: Introduction of the EIA Report. The information presented in this Appendix 1.1 is outlined below and the relevant element(s) of the Whole UWF Project are also identified.

Appendix	Title	Relevant EIAR
Appendix 1.1	UWF Related Works Refusal from TCC 10.01.19	UWF Related Works

Appendix 1.1

TIPPERARY COUNTY COUNCIL

PLANNING AND DEVELOPMENT ACT 2000, (as amended)

NOTIFICATION OF DECISION TO REFUSE PERMISSION

Ref. No. 18/600913

Ecopower Developments Limited
Zetec House
Purcellsinch
IDA Business Park
Dublin Road, Kilkenny R95 WKK6

APPLICATION RECEIVED: 17/07/2018 & 09/11/2018

In pursuance of the powers conferred on it by the above mentioned Act, the Tipperary County Council has by Order dated 10/01/2019, decided to refuse to grant you PERMISSION for development of land namely:- **UWF related works. The development will facilitate the construction and operation of the already consented (but not built) Upperchurch Windfarm (UWF) Planning Ref 13/510003 which will consist of a) 17.9km of Internal Windfarm Cabling; b) 13 no. Haul Route Works, to facilitate the haulage of turbine components to the Upperchurch Windfarm site; c) 1 no Telecom Relay Pole, measuring 18m in height, with telecoms relay equipment attached; d) 3 no Realigned Windfarm Roads, to realign two lengths of consented Upperchurch Windfarm (UWF) Roads and to provide access to the telecoms Relay Pole; e) 1 no Change of use of an existing 'Agricultural' entrance to ' Agricultural and Forestry' entrance; and f) Ancillary Works. This application is for a 10 year permission, under Section 41 of the Planning and Development Act, 2000, as amended. An Environmental Impact Assessment Report and Natura Impact Statement (Stage 2 Appropriate Assessment) have been prepared in respect of this application at Graniera, Shevry, Gleninchnaveigh, Coumnageeha, Knocknamena Commons, Knocknabansha, Knockmaroe, Knockcurraghbola Commons, Knockcurraghbola, Crownlamds, Foilnaman, Grousehall, Co. Tipperary.**

for the reason(s) set out in the attached schedule.

An appeal against this decision may be made to An Bord Pleanala within the prescribed period - see footnote hereunder.

FOOTNOTE: An appeal against a decision of a Planning Authority under the Planning and Development Acts 2000 - 2010 may be made to An Bord Pleanala, 64 Marlborough Street, Dublin 1 (Tel. (01) 8588100). All Appeals either by the applicant or a third party must be received by An Bord Pleanala within four weeks beginning on the date of the making of the Decision by the Planning Authority. Appeals posted within the permitted period but received after the latest date will be invalid. (Note: Where the latest date for receipt of an Appeal falls on a day when the offices of the Board are closed (Week-Ends, Public Holidays, etc.), the latest date for receipt will be the next day on which the offices are open).

An appeal must be made in writing and be accompanied by (a) the name and address of the applicant, (b) the subject matter of the Appeal, (c) the full grounds of appeal and the reasons, considerations and arguments on which they are based, (d) the appropriate fee as set out on attached schedule, and (e) in the case of a third party appeal, the acknowledgement from this Planning Authority of receipt of submissions/observations made by the third party. Any appeal which does not meet all the legal requirements will be invalid and cannot be considered by the Board. Further details are available on the Board's Website **www.pleanala.ie**

A commercial development means development for the purposes of any professional, commercial or industrial undertaking, development in connection with the provision for reward of services to persons or undertakings, or development consisting of the provision of two or more dwellings, but does not include development for the purposes of agriculture.

N.B. An appellant is not entitled to elaborate upon or make further submissions in writing in relation to the grounds of Appeal unless requested to do so by the Board.

Signed on behalf of the said Council _____ **Date: 10th January, 2019**
for Director of Services

Appendix 1.1

Tipperary County Council

Schedule of Reasons – File Reference Number 18600913

1. Policy LH6: Natura 2000 Sites and Protected Species of the North Tipperary County Development Plan 2010-2016 as varied. The subject site is located in close proximity to the Slievefelim to Silvermines Special Protection Area (site code:004165) with the single conservation objective to maintain or restore the favourable conservation condition of the bird species namely the Hen Harrier. While the application has been accompanied by a Natura Impact Statement the Planning Authority considers notwithstanding the mitigation measures proposed, that the applicant has failed to demonstrate that the development on the site would not have an adverse impact on the site integrity of the nearby Slievefelim to Silvermines Special Protection Area having regard to the level of relevant survey information lodged with the application in relation to the baseline ecological conditions of the Hen harrier on lands contiguous to the Special Protection Area. On this basis, it is considered that notwithstanding the mitigation as proposed, it cannot be ruled out beyond all reasonable scientific doubt that the proposed development would not lead to a reduction or loss of suitable foraging habitat of the hen harrier. Accordingly the development as proposed would contravene materially the policy of LH6 for the conservation and preservation of the European Site insofar as the proposed development would adversely affect a species of bird or their habitat specified in Article 4 of the Birds Directive, which forms the basis of the classification of that site.

2. Environmental Impact Assessment (EIA) is the process by which the anticipated effects on the environment of a proposed development or project are measured and if the likely effects are unacceptable, design measures or other steps can be taken to avoid, reduce or mitigate against those effects.The Environmental Impact Assessment carried out on this application has considered the main direct and indirect effects of the proposed development on the environment. The Planning Authority, in the absence of clear and precise information in relation to all of the potential impacts is not satisfied that the proposed development alone or in combination with other projects would not result in significant residual negative impacts on the environment as a result of the proposed scheme with respect to biodiversity including namely the Hen Harrier and Bat species. The proposed development may, therefore, have an unacceptable effect on the environment and as such is contrary to the proper planning and sustainable development of the area.

Appendix to Chapter 1: Introduction

Appendix 1.2: UWF Related Works Planners Report 1 and 2

The data and descriptions in this appendix have informed Chapter 1: Introduction of the EIA Report. The information presented in this Appendix 1.2 is outlined below and the relevant element(s) of the Whole UWF Project are also identified.

Appendix	Title	Relevant EIAR
Appendix 1.2	UWF Related Works Planners Report 1 and 2	UWF Related Works

Planners Report No.1 (pre RFI)

TIPPERARY COUNTY COUNCIL

Planning Report

Planning & Development Acts 2000 as amended
Planning & Development Regulations 2001 as amended

Planning Ref.:	Pl. Ref. No. 18600913
Applicant:	Ecopower Developments Limited
Application Type:	Permission
Development Address:	Graniera, Shevry, Gleninchnaveigh, Coumnageeha, Knocknamena Commons, Knocknabansha, Knockmaroe, Knockcurraghbola Commons, Knockcurraghbola, Crownlamds, Foilnaman, Grousehall, Co. Tipperary
Proposed Development:	UWF related works. The development will facilitate the construction and operation of the already consented (but not built) Upperchurch Windfarm (UWF) Planning Ref 13/510003. Which will consist of a) 17.9km of Internal Windfarm Cabling; b) 13 no. Haul Route Works, to facilitate the haulage of turbine components to the Upperchurch Windfarm site; c) 1 no Telecom Relay Pole, measuring 18m in height, with telecoms relay equipment attached; d) 3 no Realigned Windfarm Roads, to realign two lengths of consented Upperchurch Windfarm (UWF) Roads and to provide access to the telecoms Relay Pole; e) 1 no Change of use of an existing 'Agricultural' entrance to ' Agricultural and Forestry' entrance; and f) Ancillary Works. This application is for a 10 year permission, under Section 41 of the Planning and Development Act, 2000, as amended. An Environmental Impact Assessment Report and Natura Impact Statement (Stage 2 Appropriate Assessment) have been prepared in respect of this application.
Date of Site Visit:	15/08/18 & 28/08/18
Site Notices:	Adequately displayed

Planning Application for Viewing Purposes Only

---

1. SITE LOCATION & DESCRIPTION:

The site (70.9ha) comprises upland rolling hillside and valleys to the North of the R503 and R497 regional roads. The site extends from Curraghnamore North West of Upperchurch village itself to Milestone in the South , Loughbrack to the South West and Grousehall to the North West. The area has a scattering of farm complexes and one off dwelling houses. The landscape is one of upland pasture, upland bogs, commercial forestry within a winding local road network. There are a number of existing wind farms operating within the vicinity of the site particularly to the South, East and West.

2. PROPOSED DEVELOPMENT:

Permission is sought for related works to serve the Upper Church Wind Farm The development will facilitate the construction and operation of the already consented (but not built) Upperchurch Windfarm (UWF) Planning Ref 13/510003 which was granted permission for 22 no turbines by An Bord Pleanala on appeal (ref PL 22.243040)

This application seeks permission for works to facilitate the above which consist of

a) 17.9km of Internal Windfarm Cabling
b) 13 no. Haul Route Works, to facilitate the haulage of turbine components to the Upperchurch Windfarm site;
c) 1 no Telecom Relay Pole, measuring 18m in height, with telecoms relay equipment attached;
d) 3 no Realigned Windfarm Roads, to realign two lengths of consented Upperchurch Windfarm (UWF) Roads and to provide access to the telecoms Relay Pole;
e) 1 no Change of use of an existing 'Agricultural' entrance to ' Agricultural and Forestry' entrance;
f) Ancillary Works.

The application is colour coded to allow for ease of comparison in terms of mapping; the green is permitted windfarm and the white is the proposed cabling.

Approximately 62% of the Internal Windfarm Cabling is located under Consented UWF Roads or Realigned Windfarm Roads, the remaining Cabling is located in the vicinity of the windfarm site.

The Internal Windfarm Cabling consists of electrical cables, communication cables and the copper conductor cables which are installed inside High Density Polyethylene (HDPE) ducting in underground trenches. The trenches are 600mm wide and 1.2m deep.

The Realigned Windfarm Roads are in two sections of the already consented windfarm roads which require realignment and one length of new road to link a telecoms mast to the windfarm road. These changes are proposed for windfarm roads in agricultural and forestry lands in the townlands of Shevry, Knockmaroe, and Grousehall, which are all within the Upperchurch Windfarm site.

The Haul Route Works are proposed for public road verges, roadside boundaries and grassland fields located adjacent to the L4139-0, L4138-12, L2264-50, L6188-0, L6185-13 and R503 roads in the following townlands: Shevry, Knockcurraghbola Commons, Knocknabansha, Knockmaroe and Grousehall. Works include the removal of soils and laying of crushed stone and hard-core in roadside verges; temporary removal or part-removal of roadside boundaries; opening of temporary entrances and the construction of temporary access roads on private lands.

The Telecom Relay Pole is an 18m wooden pole proposed for a location in Knockmaroe townland, close to the existing Foilnaman Mast. The Relay Pole will be contained within a small compound, and a low voltage power and communications supply will be provided from the existing Foilnaman Mast. A short length of access road, Realigned Windfarm Road will provide access to the Telecom Relay Pole from the Consented UWF Road network.

Permission is also being sought for 32 no. watercourse crossings at the UWF Related Works areas and the majority of these are located along the route of the Internal Windfarm Cabling. There will also be a requirement to construct 9 no. permanent watercourse crossing structures (culvert/bridge) along the UWF Related Works to allow access during the construction and operational phases.

This application is for a 10 year permission, under Section 41 of the Planning and Development Act, 2000, as amended. An Environmental Impact Assessment Report and Natura Impact Statement (Stage 2 Appropriate Assessment) have been prepared in respect of this application.

Permission is also currently being sought by the applicant for UWF related works to An Bord Pleanala by way of a Strategic Infrastructure Application which was lodged on the 28th of June 2018. The site in question is located to the West of the proposed development.

There are 38 landowners listed in the application form which relate to this development, names addresses and folio numbers have been submitted including letters of consent. Prospective lease and wayleaves are the basis of legal interest in the land.

3. RELEVENT PLANNING HISTORY:

On site:

13510003	(ABP ref 22.243040) conditional permission granted to erect 22 no. wind turbines, overall height up to 126.6 meters, 2 no. meteorological masts up to 80m in height with wind measuring equip attached, access roads, electrical substation compound & control buildings & ancillary site works at Graniera, Shevry, Knockcurraghbola, Upperchurch, Co. Tipperary.
17/600124	retention for an existing 30 metre telecommunications support structure carrying associated equipment, associated equipment shelters, fencing and access track. The development forms part of Vodafone Ireland Ltd's existing GSM and 3G Broadband telecommunications network. Conditional grant.
10/510462	retention of an existing 30 metre telecommunications support structure carrying associated equipment, associated equipment shelters, fencing and access track. The development forms part of Vodafone Ireland Ltd.'s existing GSM and 3G Broadband telecommunications network Conditional grant.
04/511727	permission for construction of a radio telecommunications mast and retention of an existing equipment portocabin and palisade fencing - development will consist of the construction of a 30 meter slimline lattice mast carrying 5 No. panel antennae; 1 No. dipole antennae; 3 No. microwave dishes, surrounded by a 2.3m high palisade fence, retention of an existing 5m x 2.4m portocabin and associated concrete base, retention of an existing 2.3m high palisade fence surrounding the existing portocabin and upgrading of an existing access track and extension of the existing route by 100m.
08/510505	permission for single storey house, domestic garage, septic tank, percolation area and entrance. Conditional grant.
06/510151	dwelling, garage, entrance, proprietary treatment plant and percolation area. Conditional grant.
08/510041	dwelling, garage, entrance, driveway and septic tank. Conditional grant.
08/510770	construct a storey and a half dwelling house, garage, entrance, septic tank, percolation area and associated site works. Conditional grant.
51/18608	Access onto R503 Regional Rd. Conditional grant.

planning information Office

Adjoining Lands:

18/601014	permission is currently being sought for one permanent meteorological mast 35m in height and associated infrastructure, decision is due 10/10/18.
06/511993	dwelling house, shared existing entrance, site boundaries and septic tank, permission refused
09/510680	domestic garage and all associated site works
08/510008	garage and new retaining wall and retention for reduction of ground levels on site
02/510566	Two-storey dwelling, garage, entrance/boundary fence, septic tank and percolation area.
08/511152	For change in location of dwelling and garage within site previously granted under planning ref 06/51/0385
06/511853	milking parlour, slatted dairy shed and extension to existing shed for calving boxes
07/511090	existing unauthorised general purpose shed
13/510019	dwelling house, domestic garage, proprietary effluent treatment system and percolation area, entrance and to carry out all associated site works
09/510114	two storey dwelling, garage, septic tank, percolation area, entrance and associated site works
05/510569	Single storey detached dwelling with septic tank, percolation area, demolition of derelict stone cottage/reuse of stone in new dwelling, and all associated site works

ABP -301959-18 A Strategic Infrastructure Development application for approval under Section 182A(1) of the Planning and Development Act 2000, as amended, has been made to An Bord Pleanala and includes Planning Drawings; the EIA Report, Non-Technical Summary; Figures and Appendices for each chapter; an Environmental Management Plan for a UWF Grid Connection

Enforcement: None on site

Pre-Planning: A meeting took place with Eco power on 4/07/18 outlining the nature of the development and the accompanying documentation to be submitted.

Discussions were held with the Municipal District road's engineer in relation to road related issues.

4. INTERNAL & PRESCRIBED BODIES REFERRALS

- An Taisce,
- Arts Council

- A/Senior Engineer Water Services Nenagh
- Chief Fire Officer

Planning Application Document
Not to scale - for viewing purposes only!

- Minister Culture Heritage & the Gaeltacht
- Office of Public Works
- Environmental Protection Agency
- Heritage Council
- Failte Ireland
- Southern & Eastern Regional Assembly
- Irish Water HQ Offices
- Commission for Energy Regulation

No observation have been received to date from above referrals .

- District Engineer (Internal)

Report received on 6/09/18 advising that further information should be sought.

- Environment Section (Internal)

The environment section have considered the application taking all of the relevant environmental concerns into account, and having considered the submitted EIAR, Natura Impact Statement and associated documentation in detail. The report advises that the main direct and indirect impacts on the environment of the proposed development (singularly and in combination) have been identified and fully described. Potential negative impacts of the development can be adequately mitigated against and therefore, is not likely to result in any significant impact on the environment; all subject, of course, to the implementation of such measures as per the recommended conditions:- Conditions are contained in the report.

- Inland Fisheries Ireland

Principle concern is the protection of Ireland's fishery resource, with particular reference to the instream and riparian habitat and the water quality of all watercourses on and bounding the proposed site.
Requirements of the Water Framework Directive to be adhered to.
Sets out controls and mitigation measures and requests that these be put in place by way of a planning condition. (see submission for full contents)

- Irish Aviation Authority

Response received confirming the IAA has no observations on this application

5. OTHER OBSERVATIONS/SUBMISSIONS

A total of 6 submissions were made. The contents of the submissions have been noted and considered in the assessment in section 8 of this report. The following is a summary of the issues raised. The issues identified in the submissions are wide ranging and have been considered in the assessment of the application in the relevant sections of the report.

James and Tanya Embleton, Seskin House, Upperchurch, Thurles,Co Tipperary

Project splitting and consideration of cumulative impact.
Creates a non productive industrial zone.
Environmental protection measures accepted with the UWF application need to be revisited.
Queries why the grid connection is a SID application.
Issues with decommissioning & reinstatement.
Proposal will not provide employment.
Reduction in tourism and tourism revenue.
Impact on water quality and human health.
Noise and disturbance.
Construction hours.
Proximity to Upperchurch School and associated noise impact.
Increased traffic and impact on existing roads.
Impact on freshwater pearl mussels, Hen Harriers, Marsh Fritillary and other fauna.
Impact of soil leaching and water runoff on flora and water ph.
Protection of local water supplies.
Proposal does not have a positive climatic effect.
Visual impact on landscape.
Other matters raised that require clarification ; internet, compensation, turbine quality and fire fighting.

Catherine Maher Monahila, Oola, Co Limerick

Project splitting.
Application 13510003 should have included current proposal.
Whole project and environmental impacts should be assessed as one application.
Negative impact on local environment and property values.

Peter Sweetman & Associates,113 Lower Rathmines Road,Dublin 6

Appropriate assessment must be in accordance with the findings of judgement of the CJEU In Case C-164117 (copy attached to submission).
The development requires compensatory measures to be adopted. Therefore Appropriate Assessment cannot be carried out under Article 6.3.

Ned & Carmel Buckley,

Consent not given for an application that concerns their land or near their property boundary.
Condition 1 of previous planning permission cannot be met and not addressed under current application.[Affected road omitted from current plan.]
Issue of TB and spread of disease.
Hen harrier plan is out-of-date and unsatisfactory.
Understands that the proposal of setting aside land to compensate for habitat loss is not allowed since the Keeper Hill case.
Submissions made in respect of previous planning application 13510003 included as part of submission.

Gerard and Mary Ryan Cooney Knockeravoola, Upperchurch, Thurles

Objects to number and proximity of turbines and proximity of substation to their house.
Amenity impacts including shadow flicker, noise, health and sleep.
Major concerns about the previous information submitted in respect of badgers and potential spread of T.B.

Planning Application Document
For Planning Purposes Only!

Bird, bat and other wildlife surveys are out of date.
Impact on hen harrier and understands that the proposal of setting aside land for hen harrier is not allowed since the Keeper Hill case.
Spread of Japanese Knotweed.
Issues surrounding proposed amendments to original proposal.
Impact on watercourses, hidden springs and wells.

Emer O Siochru &Toal O Muire Coumnageeha Coumnageeha, Upperchurch, Thurles.

Impact on commercial viability of their Eco Farm Visitor Centre and Accommodation.
Potential impact on pre-existing health condition and associated impact on farm viability.
Impact on tourism and associated economic impact.
Creation of further economic and social inequality. Supporting document enclosed with submission.
Environment and biodiversity impacts.
Previous submission and appeals in respect of planning application 13510003 included as part of the submission.

Paul and Edel Grace, Grousehall, Milestone, Thurles

Refers to case law and the judgment in O' Grianna and others V An Bord Pleanala.
Requirement for all aspects of project to be assessed as a whole, cannot spilt the projects (Appendix 1 of submission relates to this topic)
Refers to Guidelines for Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities and the Waddenzee judgement and the requirement for modifications to existing plans and projects to be captured by AA requirements. (Appendix 2 of submission relates to this topic)
Scoping Assessment should not screen out the windfarm itself as having been assessed previously (Appendix 3 of submission relates to this topic)
Refers to Dept of Arts Heritage and Gaeltacht submission in respect of the planning application 13510003 for the windfarm itself .The compensatory habitat appears to include replacement forestry. (Appendix 4 of submission relates to this topic)
Compensatory habitats cannot be taken into account in the assessment of implications of a project under Article 6(3). (Appropriate Assessment) A number of court cases are cited.
(Appendix 5 of submission relates to this topic)
Loss of habitat to marsh fritillary butterfly, golden plover and meadow pipit, no mitigation proposed in relation to habitat loss.
(Appendix 5 of submission relates to this topic)
Cumulative impact in relation to the EIS submitted has not been adequately described, reported or analysed.
Impact on climate does not take account of cost of wind energy in Ireland and the lack of significant reductions in emissions. (Appendix 6 &7 of submission relates to this topic)
Impact on Material Assets in particular provision of broadband has not been assessed in the EIA.
Precautionary approach to future wind energy developments advocated in CDP in relation to the Slievefelim to Silvermines Mountains SPA as the cumulative impact is not yet known.
Reference to refusal ref 15/601088 for two turbines and reasons for refusal namely the potential cumulative effect.
Issue of consent and reconfiguring of roads close to 4 no turbines.
Impact of noise on animals - Noise assessment in the EIS is based on outdated standards and does not taken changes into consideration particularly relevant for wildlife in the area(Appendix 10 of submission relates to this topic)
Refers to judgement (Sweetman v An Bord Pleanala) and the need for complete precise and definitive findings and conclusions in relation to assessments under Article 6(3) of the Habitats Directive. (Appendix 11 of submission relates to this topic)

Impact of noise and human health- Noise assessment in the EIS is based on outdated standards and assessments and does not taken changes into consideration acoustic standards have been updated (Appendix 12 & 13 of submission relates to this topic)

6. REPRESENTATIONS

None

7. PLANNING POLICY OVERVIEW

The North Tipperary County Development Plan 2010 (as varied) is the relevant plan for consideration of the application.

The site is located within area of the county designated as Secondary Amenity Area as set out in the North Tipperary County Development Plan 2010 (as varied)

Policy LH1: Landscape Management and Protection
It is the policy of the Council to facilitate new development which integrates and respects the character, sensitivity and value of the landscape in accordance with the designations of the County Landscape Character Assessments (or any review thereof).

Policy LH2: Protection of Visual Amenity and Character of Primary and Secondary Amenity Areas
It is the policy of the Council to ensure the protection of the visual amenity, landscape quality and character of designated Primary and Secondary Amenity Areas. Developments which would have an adverse material impact on the visual amenities of the area will not be permitted. New development shall have regard to the following:
a) Developments should avoid visually prominent locations and be designed to use existing topography to minimise adverse visual impact on the character of primary and secondary amenity areas.
b) Buildings and structures shall ensure that the development integrates with the landscape through careful use of scale, form, finishes and colour.
c) Existing landscape features, including trees, hedgerows and distinctive boundary treatment shall be protected and integrated into the design proposal.
d) Developments shall comply with the development standards set out in Chapter 10 and, as appropriate, the Rural Housing Design Guidelines contained in Appendix 5.

Policy LH3: Protection of Views of Scenic Value
It is the policy of the Council to protect and enhance views identified in Appendix 4 Listed Views in Tipperary, and views to and from lakelands and waterways. The Council will not permit development which would obstruct or have a significant adverse impact on these views.

Policy LH4: Biodiversity, Trees and Habitats
It is the policy of the Council to conserve, protect and enhance the county's bio-diversity, including trees and hedgerows, in accordance with the County Biodiversity Plans and the standards set out in this Plan (as proposed to be varied) and any review thereof.

Policy TI3 Strategic Road Network
It is the policy of the Council to avoid the creation of any additional access points from new development or the generation of increased traffic from existing accesses to Strategic Routes, subject to the following policy exceptions:

(a) New access to facilitate orderly urban development on Strategic Routes on appropriately zoned land on the approaches to or exit from, urban centres that are subject to a speed limit of 60 km before a lower 50 km limit is encountered may be

permitted subject to road safety audit carried out in accordance with the TII's requirements and avoidance of a proliferation of such entrances.

(b) New access to lands adjoining Strategic Routes within 50 km speed limits may be considered in accordance with normal road safety, traffic management and urban design criteria for built up areas.

(c) New accesses to Strategic Routes may be permitted in exceptional circumstances, in the case of developments of national and regional strategic importance58 which by their nature are most appropriately located outside urban areas, and where the locations concerned have specific characteristics that make them particularly suitable for the developments proposed.

(d) Proposals for new rural houses to access onto a Strategic Regional Road or a National Secondary Road will only be permitted where compliance is demonstrated with Policy SS5: Housing on Strategic Regional Roads59 and Policy SS6: Housing on National Secondary Roads.

(e) All development proposals shall demonstrate compliance with the development management standards set out in Chapter 10.

Chapter 10: Development Management Standards

Policy DM 1: Development Standards
It is the policy of the Council to require proposed development to comply with the relevant standards identified in Chapter 10 Development Management Standards.

10.9.1 Road Design and Safe Access
In the interest of safety for all road users, the following sight lines are the standard for all development which proposes vehicular access onto the public road network. Adequate sight visibility at new entrances is vital to enable oncoming traffic to be seen when using the entrance and also to enable other road users to see traffic emerging from the entrance.

Table 10.1- Sightline Requirements

Type of Road Minimum 'Y' Distance
Roads with 100 Kmph Speed Limits 215 m
Regional Roads 160 m
Local Roads Greater than 4.25m wide 90m
Local Roads 4.25m or less and all local tertiary roads 70m

Policy ED12: Forestry
It is the policy of the Council to support sustainable forestry development throughout the county subject to the protection of visually sensitive areas, ecology (both terrestrial and aquatic) and water resources and abstractions. Where forestry is proposed in areas not previously planted, the Council will require measures to be put in place, including an appropriate mix of tree species, forest configuration suitable to the landscape and appropriate techniques used to thin and harvest crop trees, to ensure that there will be a minimal impact on the environment.

Policy LH4: Public Rights of Way and Way-Marked Ways
It is the policy of the Council to preserve and protect existing public rights-of-way and way-marked ways which give access to lakeshores, mountains, riverbanks or other places of natural

Planning Application Document
for Planning purposes Only

beauty or recreational, tourism or heritage amenity, and to create new formal public rights-of-way as appropriate.

Policy LH5: Biodiversity, Trees and Habitats
It is the policy of the Council to conserve, protect and enhance the county's bio-diversity, including trees and hedgerows, in accordance with the County Biodiversity Plans (any any review thereof) and the standards set out in this Plan (as varied).

Policy LH6: Natura 2000 Sites and Protected Species
It is the policy of the Council to ensure the protection, integrity and conservation of existing and candidate Natura 2000 sites and Annex I and II species listed in EU Directives. Where it is determined that a development may independently, or cumulatively, impact on the conservation values of Natura 2000 sites, the Council will require planning applications to be accompanied by a Natura Impact Statement in accordance with 'Appropriate Assessment of Plans and Projects, Guidelines for Planning Authorities', (DEHLG 2009) or any amendment thereof.

Policy LH7: Natural Heritage Areas
It is the policy of the Council to ensure the conservation and protection of existing and proposed NHAs, and to require that proposed developments within or in close proximity to an existing or proposed NHA would not have a significant adverse impact on the ecological status of the site.

Policy LH11: Control of Invasive Species
It is the policy of the Council to protect plant and animal species and habitats as identified by the Habitats Directive, Birds Directive, Wildlife Act (1976) and Wildlife (Amendment) Act 2000 from invasive species and to seek control and manage the spread of invasive plant and animal species in the county.

Policy LH16: Archaeology and Cultural Heritage
It is the policy of the Council to safeguard sites, features and objects of archaeological interest, including monuments on the Sites and Monuments Record (SMR), the Record of Monuments and Places (as established under Section 12 of the National Monuments (Amendment) Act, 1994) and archaeological remains found within Zones of Archaeological Potential (ZAPs) located in historic towns and other urban and rural areas. In safeguarding such features of archaeological interest, the Council will seek to secure the preservation (i.e. preservation in situ or in exceptional circumstances preservation by record) and will have regard to the advice and recommendation of the Department of Arts, Heritage and the Gaeltacht.

Where developments, due to their location, size or nature, may have implications for archaeological heritage, the Council may require archaeological assessment to be carried out. This may include for a requirement for a detailed Visual Impact Assessment of the proposal and how it will impact on the character or setting of adjoining archaeological features. Such developments include those that are located at or close to an archaeological monument or site, those that are extensive in terms of area (1/2 ha or more) or length (1 kilometre or more), those that may impact the underwater environment and developments that require an Environmental Impact Statement.

The Wind Energy Strategy is contained in Appendix 6 of the North Tipperary County Development Plan 2010.

NTWIND1 Areas for Wind Energy
It is the policy of the Council to facilitate the exploitation of the natural wind energy resource available, provided that it can be demonstrated that such development, and associated infrastructure, is in accordance with the guidelines set out in the County Landscape Character Assessment and other development plan policies in respect of the protection of the environment, and complies with Wind Energy Development Guidelines, 2006, published

For Planning Purposes Only

by the DoEHLG or any future amendments to this document and the development conforms to the requirements of sustainable development as set out in the North Tipperary County Development Plan (as varied).

The vast majority of the site is located in an area open for consideration. The South Western corner of the site is located in an area deemed unsuitable for wind energy developments.

Tipperary Renewable Energy Strategy 2016

TWIND 1: General Policy Statement on Wind Energy Development
It is the policy of the Council to support, in principle and in appropriate locations, the development of wind energy resources in county Tipperary. The Council recognises that there is a need to promote the development of 'green electricity' resources and to reduce fossil fuel dependency and greenhouse gas emissions in order to address the global issue of climate change, and to comply with European and International policies with regards to renewable and sustainable energy resources.

TWIND 2: Government Legislation and Guidance
It is the policy of the Council to ensure that all wind energy development in the county complies with the provisions of all applicable government legislation and guidance on wind energy development and renewable energy resources (and any review thereof)

TWIND 3: General Considerations for Applications for Wind Energy Development
It is the policy of the Council that when assessing planning applications for wind energy development, to require compliance with the Wind Energy Development Guidelines, Guidelines for Planning Authorities (DoEHLG) 2006 or any revision thereof, and the policy and objectives of the County Development Plan (as Varied) and any review thereof.

TWIND 4: Policy Areas for Wind Energy Development
It is the policy of the Council to assess proposals for new wind energy development in accordance with the associated Wind Energy Strategy Map (Map 11) and the following parameters:

Areas 'Open for Consideration' – wind energy development in these areas may or may not be appropriate, depending on the character of the landscape and the potential impact of the proposed development. Any impact on the environment must be low and subject to proper planning and sustainable development, and the guidelines set out in this policy document.

Areas 'Unsuitable for New Development' – new wind energy development in these areas will not normally be considered, except as specified in policy TWIND 4.14. These areas have a special or unique landscape character where the main objective is conservation or are areas that may be risk from cumulative visual impact from wind turbines. Where there are existing wind energy developments in these areas, their repowering may be considered appropriate. Any impact on the environment must be low and subject to proper planning and sustainable development, and the guidelines set out in this Strategy.

8. PLANNING APPRAISAL

a) Policy Compliance

The application is for works to facilitate a permitted windfarm of 22 no turbines. The overall Upperchurch Windfarm project comprises 5 elements in its entirety. The permitted windfarm was

subject to both the EIA and AA process. An Bord PLeanala completed an Environmental Impact Assessment of the development and an Appropriate Assessment of that development and granted permission for the development subject to 25 conditions. A Board direction of 5/01/08 under reference 22.VC0098 determined that this application for associated works to the permitted windfarm should be made to the Planning Authority while the proposed substation and 110kv grid connection form Strategic Infrastructure. Both applications are running concurrently.

The policy of the North Tipperary County Development Plan was adopted in 2016, the formulation of the policy took both existing and permitted turbines into consideration. The site of the proposed development is largely within the areas open for consideration as identified in the adopted wind energy strategy which is an appendix to the CDP.

The site of the proposed development is not included within the boundary of the SPA the haul route (HW7) which is a regional road skirts the edge of SPA.

It is noted that this application relates to related works to facilitate an already assessed and permitted wind farm development.

b) Design/Layout

The proposed development does not consist of any substantial structural elements, the internal cabling will be located underground and the majority of the changes to roadside boundaries are temporary. The visual impact of the telecom relay pole is not considered significant as to detract from the visual or residential amenities of the area.

c) Services:

Roads: A Traffic management plan contained in Volume D of the EIAR. The 14 temporary entrances, are subject to demonstrating adequate sightlines to satisfy the district engineer. The district engineer advises further information in this regard.

Haul Routes -
2 no temporary access roads -5.3km.
13 no locations (widening).
2 no temporary site access (HW5 & MW11)
Culvert widening (WW31)
Temporary /permanent roadside boundary removal (1035/25)
A change of use from agricultural entrance to agricultural and forestry entrance (EW10)

Water Supply: N/A

Waste Water Treatment: N/A

Surface Water: A Surface Water Management Plan (SWMP) is contained in Volume D. It describes the existing geology and hydrology at the site, and then sets out the proposed measures required for surface water management during the construction of the UWF Related Works. A Sediment Control Plan, which includes a surface water drainage and attenuation network, forms part of the consented Upperchurch Windfarm development. Any runoff from the Related Works construction area will be contained and treated by the windfarm drainage. Key component of the SWMP are the Project Design Measures and the District Engineer has made no comment on proposals in this regard. Best Practice Measures (BPMs) have been prepared for each of the main construction activities that have the potential to impact on the surface water environment.

Planning Application Document
Not Viewable
Purposes Only!

d) Part V: Part V is not applicable.

e) Environmental Impact Assessment (EIA):

The following is summary of the EIAR as submitted which has been assessed under the new guidelines issued recently - Guidelines for Planning Authorities and An Bord Pleanala in carrying out Environmental Impact Assessment August 2018.

The applicant has submitted a detailed Environmental Impact Assessment Report which is divided up into various sections. The EIAR has examined the environmental effects of the development including cumulative impacts (which are highlighted in grey).

Scoping
The scoping chapter states that competent experts did not carry out a new evaluation of the Consented Windfarm, rather they relied on the effects of the Consented Windfarm (with all mitigation measures) as have been already established and deemed acceptable, by An Bord Pleanála. Impact information and impact significance is drawn from the Board's assessment, from the reasons and considerations and planning conditions as set out in the Board's Order and from the EIS, Reply to Further Information and additional information submitted during the planning process in 2013/2014. A compiled chapter has been prepared in the same format as the Description of the Development chapters for the UWF Grid Connection, the UWF Related Works and the UWF Replacement Forestry EIAR .

In the event of any new impact pathway being identified, during scoping for cumulative receptors, then this new impact pathway was examined for the Consented Windfarm also, so that the cumulative impact of the Whole UWF Project could be determined for this new impact.

Cumulative effects examined in two ways namely;
Cumulative Evaluation of UWF Related Works with the Whole UWF Project Elements and Cumulative effects with Other Projects and Activities.

Comment – The permitted windfarm has been subject to EIA process which was found to be in accordance with the proper planning and development of the area and granted permission by An Bord Pleanala. EIS submitted as part of the 2013 application and subsequent An Bord Pleanala EIA relied upon for wind farm development. A statement regarding impact of time required.

Reasonable Alternatives
The alternatives assessed relate to alternatives within the site and are project specific. The alternatives considered related to haul routes, locations for telecom pole, layout of internal cables, realigned wind farm roads. The alternative process and the comparison of environmental effect has been made.

Comment – The alternatives are considered reasonable.

Description of the Development

The description of the development relates to internal cabling, realigned windfarm roads and haul route works, telecom relay pole, rw ancillary works which relate to entrances, watercourse crossings. There are 45 Project Design Environmental Protection Measures which are fundamental to the project. The timeframe for all elements of the Upperchurch Windfarm Project will be constructed at the same time and take approximately 12months. It is stated that the works subject to this application are not vulnerable to major accidents ~~of~~ or disasters, land slippage or flooding.

Comment – Description of development is considered acceptable.

Population

This has been separated from human health. It describes and examines the impact on the Local Economy. It is considered that there is no likely significant effects to the population , cumulative impact was also considered.

Comment – Chapter is noted and considered acceptable.

Human Health

In the assessment of the impact on human health, three sensitive aspects were examined namely Local Residents & Community , Kilcommon National School and Transient People (walkers, road users, farm workers etc) Measures to avoid prevent or reduce impacts have been identified including protection of local water supplies, limiting hours of construction (7am to 7pm mon – Fri , 8am to 4,30 on Sat) and road safety measures. The impacts of all 5 elements of the project were examined, it is considered that there will be no likely significant effects.

Comment – Chapter is noted, considered acceptable

Biodiversity

This chapter examines the plants and animals and the describes the receiving environment. The UWF Related Works are located within the Slievefelim to Silvermines mountains area. The receiving environment is representative of typical upland habitats, and includes lands under active management for agriculture and forestry. uropean Sites such as the Slievefelim to Silvermines Mountains SPA, the Lower River Shannon cSAC, and the Lower River Suir cSAC, are found in the surrounding area.

There are 10 sensitive aspects of the receiving environment which are assessed in terms of impacts these include Marsh Fritillary butterfly, hen harrier and bats. As well as European sites in general.

Sensitive Aspect No.1	European Sites	Section 8.2
Sensitive Aspect No. 2	National Sites	Section 8.3
Sensitive Aspect No. 3	Aquatic Habitats & Species	Section 8.4
Sensitive Aspect No.4	Terrestrial Habitats	Section 8.5
Sensitive Aspect No.5	Hen Harrier	Section 8.6
Sensitive Aspect No.6	General Bird Species	Section 8.7
Sensitive Aspect No.7	Bats	Section 8.8
Sensitive Aspect No.8	Non-Volant Mammals	Section 8.9
Sensitive Aspect No.9	Amphibians & Reptiles	Section 8.10
Sensitive Aspect No.10	Marsh Fritillary	Section 8.11

Surveys were carried out including breeding season surveys on the hen harrier and on the Marsh Fritlliary (butterfly) amongst a list of surveys related to plants and animals , details of surveys are contained in appendix 8.1 Volume C4. It is stated that the study area includes habitats which may be used occasionally by foraging hen harrier. No suitable breeding habitat is present and no suitable winter roost. In terms of habitat for the marsh Fritillary the four locations recorded are outside of the construction works area boundary. Meadow pipit was recorded in the area (red listed species)

No works will occur within the River Suir SAC, nearest point is 3km from the works. One of the haul routes is located Slieve Felim toSilvermines Mountains SPA.

Pending application for viewing purposes Comment

A total of 25 Project Design Environmental Protection Measures are provided for in the proposed works to avoid prevent or reduce negative effects on biodiversity: including confirmatory surveys ahead of construction and control of construction close to breeding or resting places or these animals. The chapter states the reduction or loss of suitable habitat for hen harrier is slight. In terms of the Marsh Fritillary the surveys have confirmed the existence of the habitats the presence or absence of larval webs is not a primary consideration or indicator of the quality of the habititat, the habitat loss is stated as slight because if the habitat extent to be lost 5-20% of total suitable habitat.The conclusion is that no likely significant negative effects to biodiversity will occur. In terms of cumulative impact on European sites; the 5 elements of the project are included in the scoping of cumulative impact along with a list of projects including - Bunkimalta Windfarm, Castlewaller Windfarm, Gortnahalla Wind Turbine, Newport Distributor Road, Killuragh Digester Plant, Housing Developments in Doon and Annacotty, along with minor agricultural developments.

The Silvermines to slievfelim SPA is adjacent to the western boundary of turbines T17 to T21 (in the permitted wind farm) The UWF Replacement Forestry is located in its entirety outside the Slieve Felim to Silvermine Mountains SPA.

This proposed development includes Project Design Measures relevant to European Sites are proposed with specific measures relating to the hen harrier. The hen harrier as a sensitive receptor is examined in the chapter on biodiversity in terms of the gird connection, the wind farm, the replacement forestry and this proposed development and in terms of broader projects. The Upperchurch Windfarm is the subject of a Hen Harrier Management Plan as part of the 2014 Grant of Permission, this Hen Harrier Management Plan is described in the 2013 RFI and sets out to enhance and promote habitat on lands close to the windfarm site to benefit foraging Hen Harrier. The Hen Harrier Management Plan is evaluated in this application as part of the UWF Other Activities and referred to as the 'Upperchurch Hen Harrier Scheme'.

With regard to the Upperchurch Windfarm Hen Harrier were not recorded as breeding within the study area for the 2013 EIS and the habitat was evaluated as sub-optimal for nesting. The Upperchurch Windfarm is outside the Slievefelim to Silvermines Mountains SPA. Foraging at low frequency during the summer months has been described in the 2013 EIS. Similarly habitats may be utilised for foraging during the winter months, however no suitable winter roost habitat is present. The Upperchurch Hen Harrier Scheme is located in Knockcurraghbola Commons, Coumnageeha, Foilnaman, Knockmaroe and Grousehall townlands on agricultural lands between the Slievefelim to Silvermines SPA and the Upperchurch Windfarm.

Haul Route Activities are also located outside the SPA. By their nature these locations are located on existing public roadways and roadside verges and do not comprise or include foraging or breeding habitat for Hen Harrier. HW7 is the only location where the construction works boundary overlaps the Hen Harrier SPA, comprising 0.027Ha of scrub adjoining an existing yard at this location. All other UWF Related Works lands are located outside the SPA. No land use change will take place at this location, in line with the precautionary principle, to avoid effects on habitats possibly suitable for Hen Harrier.

UWF Replacement Forestry -Available foraging habitat for Hen Harrier currently within the land folio boundary comprises improved agricultural grassland (3.54Ha); Wet Grassland (0.44Ha) and Scrub (0.01Ha); in total 3.99Ha. This entire area will undergo landuse change to UWF Replacement Forestry (deciduous forestry) to be managed specifically for the use of Hen Harrier, including the incorporation of 'tried and tested' management measures which facilitate Hen Harrier foraging and usage. Significance of the Impact: **very significant (positive)** As per the 2013 RFI the magnitude of foraging habitat loss was calculated as 95Ha (actual loss plus effective loss through displacement effects). For completeness, given that the estimate of total displacement was based on 2017 as the construction year, an upwardly revised total estimate of

98.11Ha has been extrapolated from data provided in the RFI (Table 7 of the UWF Ecological Management Plan). Overall significance of the impact is neutral residual and impact rationale for impact evaluation has been provided.

In summary it can be concluded that in light of the conservation objectives and rationale for designation of the European Sites under consideration; the potential for significant effects exists as a result of the Whole Upperchurch Windfarm Project. These potentially significant effects have been evaluated, and with the implementation of Additional Mitigation Measures AMM-01 in respect of Otter, it is concluded that neither the Other Element, UWF Grid Connection, nor the Whole Upperchurch Windfarm Project, nor any other Element of the Whole UWF Project, alone or in combination, will result in any effects that will adversely affect the integrity of the European Sites under consideration, having regard to their respective conservation objectives, in circumstances where "no reasonable scientific doubt" remains.

Comment: chapter is noted and considered acceptable. The direct and indirect effects of habitats protected under the habitats and birds directive have been provided including residual impacts in respect of biodiversity.

Land

The main effects to both Agricultural Lands and Forestry lands relates to a loss of connectivity between parcels of lands due to the presence of works and associated works area boundaries, and the temporary loss of use of the lands within construction works areas during construction works. It is considered that no likely significant impacts will occur as a result of proposed development or cumulatively as part of the whole upperchurch windfarm project. Further Information on the land take should be provided.

Comment – chapter is noted

Soils

Project Design Environmental Protection Measures (mitigation measures), that have been incorporated and are listed in the EIAR to ensure there is no potential for impacts due to the location of UWF Related Works construction works areas which at least 1.5km outside the boundary of the Lower River Shannon SAC. There is also an overall conclusion of no significant negative effects on Lower River Suir SAC from the works.

Comment – chapter is noted, considered acceptable

Water

A number of fieldwork elements were carried out including a site specific Flood Risk Assessment was undertaken for the Whole Upperchurch Windfarm Project area which include adequately sized culverts . There is a list of the Project Design Environmental Protection Measures, which are built into the design of UWF Related Works in order to avoid, prevent or reduce negative effects to Water. In order to prevent in-combination sedimentation effects from the main potential sediment sources during construction works: a phased approach will be undertaken in relation to watercourse crossing works, earthworks, forestry felling and excavation dewatering, where these works occur within 50m of a Class 1 orClass 2 watercourse. The phased approach will only permit one of these potential sediment producing activities, to be carried out within 50m of a Class 1 or Class 2 watercourse, at any one time.

In terms of drainage of Marsh Fritillary habitat the impact is considered *Imperceptible, due to the*

- The Project Design Environmental Protection Measures (mitigation measures), that have been built into the design of the development, lessen the risk of negative effects.

Planning Application Documents
Not to be viewed for Decision Purposes Only

- The suitable habitat for the Marsh Fritillary is upslope of the two relevant cable trench sections; the works will be shallow and temporary in nature; the cable trench will be backfilled and the Internal Windfarm
- Cabling in these locations is within the permanent windfarm access roads, any effects on drainage will be temporary and reversible.

Air (Air Quality, Noise, Vibration, EMF)

The Project Design Environmental Protection Measures, which are built into the design of the proposed UWF Related Works, in order to avoid, prevent or reduce such negative effects oon Air. The increase in dust is considered slight impact on Local Residents & Community in relation to dust caused by construction works. The impact of the increase in noise levels is considered moderate due to construction along the public road network close to the public road, crossing points of the Internal Windfarm Cables or close to Haul Route Works the effect is considered reversible. The Increase in electromagnetic fields and Interference with Electronic Equipment is considered an Imperceptible impact, reasons are outlined.

Comment – chapter is noted, considered acceptable.

Climate
The consideration of climate change has been included in this chapter in addition to climate. (As required under 2011 directive) The summary impact is that the overall project will have positive impact from the renewable electricity produced by Upperchurch Windfarm which will have significant and positive effect.

Comment - chapter is noted, considered acceptable.

Material Assets - Built Services
A list of the Project Design Environmental Protection Measures, which are built into the Design of the proposed UWF Related Works project, in order to avoid, prevent or reduce such negative effects on Built Services has been provided. The evaluation considered that there was ~~neural~~ neutral impact to Local Residents & Community and no significant cumulative effects. (8)

Comment - chapter is noted, considered acceptable.

Material Assets - Roads
Local and Regional Roads which will be used to transport construction traffic (mainly Thurles to Limerick Road, R503). Roads used to access construction works areas (mainly local roads north of the R503). Fourteen temporary entrances off the public road for the Internal Windfarm Cabling trenching works, ten of which will be newly opened, and four will comprise widening of existing farm gateways. This will involve small sections of verge being removed and overlaid with hardcore. Temporary entrances will be reinstated, including reinstatement of verges and roadside drainage. The Internal Windfarm Cabling requires nine separate cable crossing of public roads, which will all be completed within one day. The Haul Route Works will involve the temporary removal of 1035m and the permanent removal of 25m of road boundaries. Verges will be trimmed and hardcore will be laid and compacted on these verge areas, and following construction, soil and planting will be reinstated over the hardcore. A list of the Project Design Environmental Protection Measures, which are built into the Design of the proposed UWF Related Works, in order to avoid, prevent or reduce such negative effects on Roads and Road Users has been provided.A Traffic Management Plan (TMP) for the public roads will be a key construction contract document, this plan will control and minimise the traffic impacts of construction through measures to maximise the safety while keeping traffic flowing as freely as possible. The effects are considered to be Neutral or having no potential or likelihood to occur.

Comment - chapter is noted, considered acceptable

Cultural Heritage (Archaeology)

There are fifteen Recorded Legally Protected Sites within 500m of construction works areas and a further nine within 2km of the Telecoms Mast. The evaluation considers that there is a Slight Impact from removal of small sections of townland boundaries. The construction will involve the temporary removal of c.55m of boundary at twelve townland boundaries and the permanent removal of c.15m at three townlands boundaries along the route of the Internal Windfarm Cabling, Haul Route Works and Realigned Windfarm Road locations.

Mitigation measures were incorporated into the UWF Related Works project design, including the Project Design Measures. No additional mitigation measures are required as no significant adverse impacts are concluded as likely to occur to Unrecorded Subsurface Sites as a consequence of the UWF Related Works.

Comment chapter is noted, considered acceptable

Landscape
Two Project Design Environmental Protection Measures, which are built into the Design of the proposed UWF Related Works project, in order to avoid, prevent or reduce such negative effects on Landscape: The evaluation of the cumulative impact on the landscape which includes the permitted windfarm considered the significance of the impact as slight and imperceptible. When the effects of UWF Related Works on Landscape are considered with the effects of UWF GridConnection, UWF Replacement Forestry, Upperchurch Windfarm, Milestone Windfarm, Foilnaman Mast, Cummermore Communications Pole, Forestry and Agricultural activities - summary result is that thecumulative effects will not be significant The comments of An Bord's report in relation to the landscape effect of the permitted windfarm is considered relelvant in consideration of cumulative impact of the windfarm and the related works under consideration in this application.

Comment- chapter is noted, considered acceptable

Interaction of the Foregoing
The likely direct and indirect effects are presented in terms of the interaction of environmental factors. It is considered that there are no effects on one Environmental Factor likely to cause significant indirect effects on another Environmental Factor.

Comment- chapter is noted, considered acceptable

Monitoring Arrangements

An Environmental Management Plan (EMP) has been prepared for the UWF Related Works and describes the approach to environmental management during the construction and early operational stages. The environmental protection measures identified in this EIA Report form the Environmental Commitments in the UWF Related Works Environmental Management Plan. There are a number of plans required to carry out the environmental commitments including Traffic Management Plan., Surface Water Management Plan, Invasive Species Management Plan and Waste Management Plan. Best practise measures as listed throughout will also be implemented. The competent persons have been identified.

Construction contractors will be contractually obliged to carry out the works in accordance with all of the Environmental Commitments monitored on the ground by a full time Environmental Clerk of Works and team of environmental experts.

Planning Application Not for Viewing purposes Only

Comment - chapter is noted, considered acceptable

The EIAR relies upon the EIS and EIA of the 2013 application in the presentation of the cumulative impacts. The applicant should be requested to consider the impacts of the time since its collation and assessment of same and provide any updates and revisions accordingly. The applicant should also be requested to provide the following :
Schedule of features /measures to avoid, prevent or reduce adverse effects on the environment
Schedule of monitoring measures the PA cannot complete its EIA pending receipt of the above.

f) Appropriate Assessment (AA):

The proposed development has been screened as to the requirement for AA and it has been determined that AA is required. See Screening Report attached.

A NIS (Natura Impact Statement) for the purposes of appropriate assessment has been submitted with the application. This is contained in volume E and comprises the main volume along with 5 other supporting volumes (A total of 6 volumes)

The applicant has submitted a Natura 2000 Stage 2 report Natura Impact Statement with the application. It considers all Natura 2000 sites within 15km of the application site, however only 3 European Sites in view of their respective conservation objectives are subject to impact assessment Lower River Shannon SAC (002165), Lower River Suir SAC (002137) Slievefelim to Silvermines SPA (004077), the others are screened out which is considered reasonable.

Table 5.1 of the Appropriate Assessment Screening identifies the source impact pathways and the evaluation required in stage 2. The Upper church windfarm have not been included in the list of project elements which are screened in as part of assessment of the effect of the development on the Slievefelim to Silvermines SPA (004077) and its qualifying species of conservation interest namely the Hen Harrier. Other elements have been screened in depending on the potential source of impact alone or in combination with other project elements, plans or projects. e.g. grid connection is screened in for all potential impact pathways.

The consented Upperchurch Windfarm includes planning permission conditions and a number of protective and management Environmental measures which are to be implemented through two separate Environmental Management Plans for the UWF; one for the construction stage and one for the early operational stage. The relevant planning permission conditions, in respect of European Sites, are listed in AA. The tabular assessment provides for in combination effect of all 5 elements, however the windfarm has been screened out.

The evaluation of cumulative impacts includes two consented windfarms (Castlewaller and Bunkilalta), together with forestry, agriculture and turf cutting in the scoping and evaluation. However if the windfarm and replacement forestry are screened out, the cumulative impact assessment is in complete.

In terms of significant impacts the Disturbance of the Otter is considered as likely to be significant in relation to the grid connection (the subject of the SID application) additional mitigation measures are recommended within the AA .

The conclusion of the NIS states that it can be concluded that in light of the conservation objectives and rationale for designation of the European Sites under consideration; the potential for significant effects exists as a result of the Whole Upperchurch Windfarm Project. These potentially significant effects have been evaluated, and with the implementation of Additional Mitigation Measures AMM-01 in respect of Otter, it is concluded that neither the UWF Grid Connection, nor the Whole Upperchurch Windfarm Project, nor any other Element of the Whole

UWF Project, alone or in combination, will result in any effects that will adversely affect the integrity of the European Sites under consideration, having regard to their respective conservation objectives, in circumstances where "no reasonable scientific doubt" remains as to the absence of such adverse effects.

However, the NIS has excluded by the process of screening both the UWF replacement forestry and the Upperchurch windfarm itself from the stage 2 of the appropriate assessment. Excluding theses elements of the overall project at stage 1 in close proximity to the SPA does subsequently not allow for cumulative impacts of these projects to be adequately assessed. Table 5.14 states the whole windfarm project elements have been considered however this not possible having regard to the screening.

The NIS describes the UWF Replacement Forestry lands are located in two adjoining parcels of agricultural lands in Foilnaman townland, near the village of Upperchurch in County. Tipperary. UWF Replacement Forestry will comprise **six hectares** (6ha) of agricultural grassland which will be planted with native woodland species, set in clusters of well-matched native species, and will be managed as permanent forest cover. The Scheme also includeslong-term farm management practices such as management of rush coverage, livestock grazing and the control of the use of lime, fertilizers and burning of gorse, amongst others. Nine local landowners are signed-up to the Scheme. The EIAR states the area is 3.99ha.

The Upperchurch Hen Harrier Scheme is also referred but not included as it is consisted other activities. The aim of the scheme is to protect habitat for hen harrier in the vicinity of Upperchurch Windfarm, in order to fulfil planning condition No.18, attaching to the windfarm. The Upperchurch Hen Harrier Scheme is located in Knockcurraghbola Commons, Coumnageeha, Foilnaman, Knockmaroe and Grousehall townlands on **128ha** of agricultural lands between the Slievefelim to Silvermines SPA and the Upperchurch Windfarm.

However the submitted AA is inconsistent in terms of the consideration of impacts. The whole project is stated as being considered in some tables whilst it was stated as being screened out in the first instance. The Upper church windfarm has been subject to the Appropriate Assessment process, however it is directly relevant to the cumulative assessment for the purposes of carrying out an comprehensive assessment of this development and the potential effects on the integrity of the SPA site and its conservation objectives namely the hen harrier.

It should be noted that the EIAR provides for a comprehensive assessment of impacts on protected sites and the integrity of same.

It is considered that the applicant should be required to addresses the issue of screening out of the UWF replacement forestry and windfarm itself and provide for adequate assessment of the cumulative impact and submit an amended NIS if so required.

g) Flood Risk; A flood risk assessment was carried out (contained in volume C4, Appendix to Chapter 11 : Water . No risk has been identified.

h) Archaeology and Cultural Heritage;

The site contains or adjoins a number of national monuments.

TN039-008, Megalithic wedge tomb
TN039018, Megalithic tomb
TN039 028, Redundant record
TN03950, Megalithic wedge tomb
TN03951, Fulachta fia
TN039009, Megalithic wedge tomb

TN039046, Ring barrow
TN039047, Enclosure
TN039048, Ring barrow

TN040-001, Ringfort
TN040042, Standing stone
TN040002, Ringfort

9. DEVELOPMENT CONTRIBUTIONS

Development Contributions will be levied in accordance with Tipperary County Council Development Contribution Scheme 2015-2019.

10. FURTHER INFORMATION

Further information is required to address the following;

- Deficiency in the EIAR
- Deficiency in the NIS, justification of screening out of 2 elements of the UWF project,
- Other matters including requirements of the District Engineer.

Upon receipt of a response to the further information request, the response should be referred to the following for comment;

- **Environment, DAU , District Engineer – Nenagh , IFI,**

11. CONCLUSIONS/RECOMMENDATION

Having examined the plans and particulars submitted with the planning application and the foregoing matters, it is recommended that;

Further Information be requested as set out below;

Request Further Information in accordance with Article 243(1) of the Planning & Development Regulations, 2001, (as amended), as follows:

1. The Natura Impact Assessment and associated appendices have been noted, however, the applicant is requested to address apparent inconsistencies in terms of the consideration of potential impacts including cumulative impacts. The NIS has excluded through the process of screening, both the UWF replacement forestry and the Upperchurch Windfarm itself from Stage 2 of the Appropriate Assessment. Excluding these elements of the overall Windfarm project at stage 1 in close proximity to the SPA does not subsequently allow for cumulative impacts of these projects to be adequately assessed. The applicant is requested to address this issue. In the event that a modified NIS is required to address this issue the revised Appropriate Assessment should consider the characteristics of existing, proposed and other approved plans or projects which may cause interactive or cumulative impacts with this project and which may affect all Natura 2000 sites in the vicinity of this project namely the UWF replacement forestry and Windfarm itself.

The NIS should be undertaken in accordance with the guidance document, Appropriate Assessment of Plans and Projects in Ireland – Guidelines for Planning Authorities (2009).

Planning Application Document
Public Inspection purposes only!

In accordance with the above guidelines the NIS must be prepared by a person or persons with the requisite ecological expertise and experience, supplemented as necessary by additional expertise and experience (e.g. geology, hydrology, civil engineering or planning), and produced in a scientifically complete, professional and objective manner together with any other input legal or otherwise.

Note:

(a)It accordance with Article 238 of the Planning and Development Regulations 2001, as amended, it will be necessary for you to submit 10 hard copies and one electronic copy of any revised NIS. In accordance with Article 240 of the Planning and Development Regulations 2001, as amended, where an NIS is required by the Planning Authority under 177T(5) of the Act, the applicant shall, no more than two weeks before submitting the NIS, publish notice of the intention to submit the revised NIS in at least one newspaper approved under article 18(2). An NIS submitted in under Section 177T(5) shall be accompanied by a copy of the relevant page of the newspaper in which the notice referred to above was published. Attached are the relevant details which must be included in the public notice.

(b) You are advised that if a revised NIS is not provided within six(6) months from the date of this notice, the application shall be declared to be withdrawn.

Request Further Information under S.172 (1D) of the Planning & Development Act, 2000, (as amended) as follows:

1. The applicant is advised that the Planning Authority is not satisfied as to the completeness of the EIAR submitted as the EIAR relies upon the EIS and EIA of the 2013 application in the presentation of cumulative effects. The applicant is requested to consider the impact of time since the collation and assessment of same and provide any update and revisions accordingly within six months of the date of this request.

Request Further Information under S.172 (1E) of the Planning & Development Act 2000, (as amended), as follows:

1. The applicant is requested to submit a comprehensive:

    - Schedule of features/measures to avoid, prevent or reduce/offset adverse effects on the environment
    - Schedule of monitoring measures
    - Schedule of compensatory measures

Request Further Information under Article 33 of the Planning & Development Regulations, 2001, (as amended) as follows:

1. The applicant is requested to provide:

    (a) A schedule and accompanying road network map of public roads by road number identifying all roads impacted by haulage operations and construction traffic associated with the development. Same shall set out the length, width and grid co-ordinates of the start and finish point of each section of road together with facilitation and remedial works proposed.

Planning Application Document for viewing purposes only

(b) A schedule and accompanying map of all new entrances/amendments to existing entrances together with a layout plan for each entrance demonstrating appropriate sightlines, setbacks and forward stopping distances to satisfy the North Tipperary County Development Plan 2010, as varied. Pavement construction specifications and surface water measures for each entrance are to be detailed.

(c) Proposals for contribution or upgrade of the junction of the R497/L2264-50/R503 to accommodate the proposed development. A proposed upgrade may require revised site boundary and public notices.

District Planner: _____ **Date:** 6/09/18.

Senior Executive Planner: _____ **Date:** 7.9.18.

Planning Application Document for Viewing purposes Only!

HABITATS DIRECTIVE ASSESSMENT SCREENING REPORT FOR PLANNING APPLICATIONS

Planning Application Ref. No.: 18600913

(A) DESCRIPTION OF PROJECT AND LOCAL SITE:	
Site location:	Graniera, Shevry, Gleninchnaveigh, Coumnageeha, Knocknamena Commons, Knocknabansha, Knockmaroe, Knockcurraghbola Commons, Knockcurraghbola, Crownlamds, Foilnaman, Grousehall, Co. Tipperary
Proposed development:	UWF related works. The development will facilitate the construction and operation of the already consented (but not built) Upperchurch Windfarm (UWF) Planning Ref 13/510003. Which will consist of a) 17.9km of Internal Windfarm Cabling; b) 13 no. Haul Route Works, to facilitate the haulage of turbine components to the Upperchurch Windfarm site; c) 1 no Telecom Relay Pole, measuring 18m in height, with telecoms relay equipment attached; d) 3 no Realigned Windfarm Roads, to realign two lengths of consented Upperchurch Windfarm (UWF) Roads and to provide access to the telecoms Relay Pole; e) 1 no Change of use of an existing 'Agricultural' entrance to ' Agricultural and Forestry' entrance; and f) Ancillary Works
Site size:	70.9 h
Floor Area of Proposed Development:	N/a
Is the application accompanied by EIS	Yes
(B) IDENTIFICATION OF THE RELEVANT NATURA 2000 SITE(S):	
Natura 2000 site(s) within 15km and distance to same:	SPA 004165 SLIEVEFELIM TO SILVERMINES MOUNTAINS SAC 000939 Silvermine Mountains SAC 002165 Lower River Shannon SAC 001197 Keeper Hill SAC 002258 Silvermines Mountains West SAC 002137 Lower River Suir SAC 002125 Anglesey Road SAC 002124 Bolingbrook Hill
Sites within the zone of influence:	SPA 004165 SLIEVEFELIM TO SILVERMINES MOUNTAINS SAC 002137 Lower River Suir SAC 002165 Lower River Shannon

Planning Application Document for planning purposes Only

Conservation objectives/qualifying interests of the site and the factors that contributes to the conservation value of the site: (which are taken from the Natura 2000 site synopses and, if applicable, a Conservation Management Plan: (all available at www.npws.ie) (*ATTACH INFO if necessary)*	SPA 004165 SLIEVEFELIM TO SILVERMINES MOUNTAINS Hen harrier – To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA Conservation objectives of the Lower River Shannon SAC 002165 can be found at npws.ie and in the Appropriate Assessment submitted with this application Conservation objectives of the Lower River Suir SAC 002137 can be found at npws.ie and in the Appropriate Assessment submitted with this application
Key Environmental conditions to support site integrity.	

(C) POSSIBLE IMPACTS ARISING FROM THE PROJECT:		
Consider the potential for direct impacts on habitats *Consider proposed developments within 200m of the SAC/SPA*		**Y/N and Comment**
1.1	Could the proposed project give rise to direct loss of habitats for which the SAC/SPA is designated, or other habitats occurring within the SAC/SPA?	Yes potentially
1.2	Could the proposed project give rise to increased human usage/access to the site, which could potentially cause deterioration of certain habitat types eg woodlands, wetlands or riverbanks. Consider proposals for development of a large scale within 1km of sensitive woodlands eg large scale residential development or hotels. Consider proposals for the development of paths or cycleways along the river.	Yes potentially
1.3	Does the proposed project involve development of drainage systems? If yes, could this cause drying out of wetland or woodland habitats within the SAC/SPA?	Y- unlikely to have direct impact.
Consider the potential for impacts on water quality within the SAC/SPA *Consider all proposed developments within the catchment of the SAC/SPA*		**Y/N and Comment**
2.1	Are there any rivers, streams or drains connecting the proposed development site and the SAC/SPA? If yes, consider whether there is potential for construction related impacts on water quality.	N

Public Information Document
For Information Purposes Only

2.2	Would the proposed project result in surface water or other discharges to rivers, streams or drains directly connected to the SAC/SPA? If yes, consider whether the discharges could give rise to increased eutrophication or other pollution risk within the cSAC/SPA. Consider whether increased surface water discharge could give rise to increased risk of downstream storm water surges.	Surface drainage plan in place
2.3	Would the proposed project require an industrial waste water discharge license? If yes, consider the potential impacts of the discharge on water quality in the SAC/SPA.	N
2.4	Is the proposed project located within a flood zone? If yes, consider whether there is potential for construction or operational related impacts on water quality in the SAC/SPA; consider whether the proposed project increases flood risk elsewhere in the catchment and particularly the cSAC/SPA; or increases the risk of stormwater surges downstream.	N
2.5	Are the proposals for waste water treatment in compliance with EPA requirements?	N/A
2.6	Could the proposed project contribute to cumulative negative impacts on water quality? Consider the current status of the freshwater system (see www.wfdireland.ie).	N
2.7	Would the proposed project involve dredging (construction or ongoing maintenance related)?	N
Consider potential for impact on species		**Y/N and Comment**
Freshwater Pearl Mussel		
3.1	Protection of this species will be achieved by the protection of water quality (see section 2 above), by the protection of river habitats (see section 1 above), and by the maintenance of free passage for fish.	N/A
Freshwater Crayfish		
3.2	Protection of this species will be achieved by the protection of river habitats (see section 1 above).	N/A
Fish species including Salmon, Lamprey spp. and Twaite Shad		
3.3	Protection of these species will be achieved by the protection of water quality (see section 2 above), by the protection of river habitats (see section 1 above), and by the maintenance of free passage for fish.	N/A
Otter		
3.4	Would the proposed project result in any interference with river banks within the SAC/SPA?	Y
3.5	Would the proposed project result in increased levels of disturbance to the habitat of the Otter?	N
Bats		
3.6	Would the proposed project involve the removal of trees, hedgerow or woodland?	Y
3.7	Does the proposed project involve the repointing of old bridges or the restoration or demolition of old buildings or other structures?	N

D) NPWS ADVICE:

Pre-decision document not for circulation outside TCC

Planners Report No.1 (pre RFI)

Summary of advice received from NPWS:	

(E) SCREENING CONCLUSION: Screening concludes that : (Tick [√] the appropriate box A, B or C)	
A) Appropriate Assessment is not required because the project is directly connected with or necessary to the nature conservation management of the site.	
B) No potential for significant effects therefore Appropriate Assessment is not required.	
C) Significant effects are certain, likely or uncertain. (In this situation seek a Natura Impact Statement from the applicant or reject the project. Reject if too potentially damaging or inappropriate.	x

Name:	Rose Conroy		
Position:	Exec Planner.	Date:	6/09/18

Planning Application Document for Viewing purposes Only!

Appendix 1.2

Planners Report No.1 (pre RFI)

Planning Application Document
for Viewing purposes Only!

Appendix 1.2

Planners Report No.2 (post RFI)

Planning Ref.:	Pl. Ref. No. 18600913
Applicant:	Ecopower Developments Limited
Application Type:	Permission
Development Address:	Graniera, Shevry, Gleninchnaveigh, Coumnageeha, Knocknamena Commons, Knocknabansha, Knockmaroe, Knockcurraghbola Commons, Knockcurraghbola, Crownlands, Foilnaman, Grousehall, Co. Tipperary
Proposed Development:	PERMISSION for UWF related works. The development will facilitate the construction and operation of the already consented (but not built) Upperchurch Windfarm (UWF) Planning Ref 13/510003. Which will consist of a) 17.9km of Internal Windfarm Cabling; b) 13 no. Haul Route Works, to facilitate the haulage of turbine components to the Upperchurch Windfarm site; c) 1 no Telecom Relay Pole, measuring 18m in height, with telecoms relay equipment attached; d) 3 no Realigned Windfarm Roads, to realign two lengths of consented Upperchurch Windfarm (UWF) Roads and to provide access to the telecoms Relay Pole; e) 1 no Change of use of an existing 'Agricultural' entrance to ' Agricultural and Forestry' entrance; and f) Ancillary Works. This application is for a 10 year permission, under Section 41 of the Planning and Development Act, 2000, as amended. An Environmental Impact Assessment Report and Natura Impact Statement (Stage 2 Appropriate Assessment) have been prepared in respect of this application

Decision maker's written statement on EIA and AA

It is noted that the environmental impact assessment carried out by the Fehilly Timoney & Company in December 2018 and reported on in the report dated 10/01/19 has been carried out giving full consideration to the environmental impact assessment report submitted with the application, the additional information submitted on 09/11/18 pursuant to a request under section 172 (1D) of the Planning and Development Act, 2000, as amended, all submissions and observations validly made in relation to the environmental effects of the development (and the views provided by the Department of Culture, Heritage & the Gaeltact under section 174 of the Planning and Development Act 2000, as amended). It is considered that the Planner's Reports of 06/09/18 and 10/01/19 appended with the EIA prepared on behalf of Tipperary County Council by Fehily Timoney & Company contains a fair and reasonable assessment of the likely significant effects of the development on the environment. The assessment as reported is adopted as the assessment of Tipperary County Council.

It is noted that the natura impact assessment carried out by the Fehilly Timoney & Company in December 2018 and reported on in the report dated 10/01/19 has been carried out giving full consideration to Natura Impact Statement submitted with the application, the additional information submitted on 09/11/18 pursuant to a request under Article 243(1) of the Planning and Development Regulations, 2001, as amended, all submissions and observations validly

made in relation to the effects of the development on the qualifying interests and conservation objectives of relevant Natura 2000 sites (and the views provided by the Department of Culture, Heritage & the Gaeltact under section 174 of the Planning and Development Act 2000, as amended). It is considered that the Planner's Reports of 06/09/18 and 10/01/19 appended with the NIA prepared on behalf of Tipperary County Council by Fehily Timoney & Company contains a fair and reasonable assessment of the likely nature conservation implications of the development on the Natura 2000 sites. The assessment as reported is adopted as the assessment of Tipperary County Council.

Signed;

A/Director of Services

Date 10 January 2019

Planning Application Document for Viewing purposes Only

Appendix 1.2

Planners Report No.2 (post RFI)

TIPPERARY COUNTY COUNCIL

Planning Report

Planning & Development Acts 2000 as amended
Planning & Development Regulations 2001 as amended

Planning Ref.:	Pl. Ref. No. 18600913
Applicant:	Ecopower Developments Limited
Application Type:	Permission
Development Address:	Graniera, Shevry, Gleninchnaveigh, Coumnageeha, Knocknamena Commons, Knocknabansha, Knockmaroe, Knockcurraghbola Commons, Knockcurraghbola, Crownlamds, Foilnaman, Grousehall, Co. Tipperary
Proposed Development:	UWF related works. The development will facilitate the construction and operation of the already consented (but not built) Upperchurch Windfarm (UWF) Planning Ref 13/510003. Which will consist of a) 17.9km of Internal Windfarm Cabling; b) 13 no. Haul Route Works, to facilitate the haulage of turbine components to the Upperchurch Windfarm site; c) 1 no Telecom Relay Pole, measuring 18m in height, with telecoms relay equipment attached; d) 3 no Realigned Windfarm Roads, to realign two lengths of consented Upperchurch Windfarm (UWF) Roads and to provide access to the telecoms Relay Pole; e) 1 no Change of use of an existing 'Agricultural' entrance to ' Agricultural and Forestry' entrance; and f) Ancillary Works. This application is for a 10 year permission, under Section 41 of the Planning and Development Act, 2000, as amended. An Environmental Impact Assessment Report and Natura Impact Statement (Stage 2 Appropriate Assessment) have been prepared in respect of this application.
Date of Site Visit:	15/08/18 & 28/08/18
Site Notices:	Adequately displayed

This report should be read in conjunction with report dated 6/09/18, the original planning report. Furthermore two reports were prepared by external consultants (Fehily Timoney) following receipt of the further information response which are appended to this report. The consultants were engaged by the Planning Authority to provide sufficient expertise to examine and assess the EIAR and NIS on behalf of the Planning Authority. The EIA prepared on behalf of Tipperary County Council was prepared by competent experts within Fehily Timoney, John Cronin and Associates and Deirdre Black and Associates.

Also relevant is the recent decision by An Bord Pleanala (ABP -301959-18) in relation to the Strategic Infrastructure Development application which the applicants sought approval for under

Section 182A(1) of the Planning and Development Act 2000, as amended. The Bord's conclusion is discussed in section 5 of this report.

1. FURTHER INFORMATION REQUEST AND RESPONSE

The following outlines the request for further information and the response received. The assessment is contained section 3.

1. *The Natura Impact Assessment and associated appendices have been noted, however, the applicant is requested to address apparent inconsistencies in terms of the consideration of potential impacts including cumulative impacts. The NIS has excluded through the process of screening, both the UWF replacement forestry and the Upperchurch windfarm itself from Stage 2 of the Appropriate Assessment. Excluding these elements of the overall Windfarm project at stage 1 in close proximity to the SPA does not subsequently allow for cumulative impacts of these projects to be adequately assessed. The applicant is requested to address this issue. In the event that a modified NIS is required to address this issue the revised Appropriate Assessment should consider the characteristics of existing, proposed and other approved plans or projects which may cause interactive or cumulative impacts with this project and which may affect all Natura 2000 sites in the vicinity of this project namely the UWF replacement forestry and Windfarm itself.*

The response submitted sets out the 5 elements of the overall project including the layout of the NIS in terms of its sections. The screening assessment concluded that the UWF related works proceeded to Stage 2 Appropriate Assessment. The response states than an evaluation of the effects on the SPA in stage 2 include all elements of the project (5 elements) included Castlewaller Windfarm (consented) and Bunkimalta Windfarm forestry (the subject of judicial review in the supreme court) , agricultural and turbury activities. The evaluation examined reduction in or loss of suitable or potentially suitable hen harrier foraging habitat. Inadvertent mortality or hen harrier in or at nest or roost sites. disturbance /displacement of nesting/ roosting hen harrier. It is stated that section 5.3.5 and section 5.3.6 of the NIS contains the evaluation and is presented in tabular form. It also states that supporting information on biodiversity and supplementary information are contained in appendences.

The response submitted does not provide any new information. It highlights sections of the original NIS. The conclusion of the response states that Ecopower respectfully submits that there is adequate information provided to facilitate the competent authority to carry out AA including an assessment of in combination effects in relation to the UWF related works project. No revised NIS has been submitted.

2. *The applicant is advised that the Planning Authority is not satisfied as to the completeness of the EIAR submitted as the EIAR relies upon the EIS and EIA of the 2013 application in the presentation of cumulative effects. The applicant is requested to consider the impact of time since the collation and assessment of same and provide any update and revisions accordingly within six months of the date of this request.*

The response states that use of previous assessments is established in the EIA Directive where it states that with a view to avoiding duplication of assessments the results of other assessments should where relevant and available be taken into account. It is stated that there have been no significant material changes in the baseline environment for any of the EIA topics over the interviewing years since the Bord carried out an EIA for the Upperchurch Windfarm application.

This permission is for 10 years and therefore it is assumed that the competent authority considers all assessments are relevant for the period up to 2024. The previous assessments were reviewed by the same experts that prepared the 2018 UWF related works. The response states that the impact of time was considered by the experts and any new impact pathways or new environmental topics were considered. Additional matters included new environmental factors of human health and land, new sensitive environmental receptors and an additional turbine to Milestone windfarm also electromagnetic fields as source of effects was considered.

3. *The applicant is requested to submit a comprehensive:*

- *Schedule of features/measures to avoid, prevent or reduce/offset adverse effects on the environment*
- *Schedule of monitoring measures*
- *Schedule of compensatory measures*

The response states that 43 Project Design Environmental Protection Measures are included in the application that constitute features/measures to avoid, prevent or reduce /offset adverse effects on the environment. A schedule of measures has been collated.

The response states that monitoring measures are included throughout the EIA report and EMP. A schedule of monitoring measures has been collated.

There is only one compensatory measure proposed as described by the applicant. This relates to bat boxes to replace trees felled suitable for bats. (Project Design Environmental Protection Measure PD41) The other Protection measures are described as monitoring measures.

4. The applicant was requested to provide:

(a) A schedule and accompanying road network map of public roads by road number identifying all roads impacted by haulage operations and construction traffic associated with the development. Same shall set out the length, width and grid co-ordinates of the start and finish point of each section of road together with facilitation and remedial works proposed.

(b) A schedule and accompanying map of all new entrances/amendments to existing entrances together with a layout plan for each entrance demonstrating appropriate sightlines, setbacks and forward stopping distances to satisfy the North Tipperary County Development Plan 2010, as varied. Pavement construction specifications and surface water measures for each entrance are to be detailed.

(c) Proposals for contribution or upgrade of the junction of the R497/L2264-50/R503 to accommodate the proposed development. A proposed upgrade may require revised site boundary and public notices.

The response provides a schedule of public roads impacted by haulage operations and construction traffic and a description of haul route works including maps and photographs of the proposed entrances. It is stated that pre planning discussions were held with District Engineer, flagmen will be used at temporary entrances. It is stated that no works are required at the junction of the R697/L2264-50/R503. Temporary traffic sign removal will be required.

2. INTERNAL & PRESCRIBED BODIES REFERRALS

- Minister Culture Heritage & the Gaeltacht – DAU (NPWS)

Planning Decision Document for Public Consultation Purposes Only

A response was received from the Department of Applications Unit expressing their concern regarding the exclusion of the Upperchurch Windfarm from the appropriate assessment given the proximity of windfarm to the Slievefelim to Silvermines SPA. They acknowledged that while the turbines of the permitted windfarm are greater than 250m outside the SPA boundary, the current NIS does not consider '*whether hen harriers which breed within the SPA require to use the hunting habitat outside the SPA boundary (such as the habitat within the proposed wind farm) and if so, they might not effectively maintain the population of the SPA.*' They state that the NIS has not sufficiently considered this scenario and therefore in the opinion of the DAU it is incomplete.

The DAU outline the following three questions as outstanding information needed to enable a sufficiently informed conclusion to the AA process:

1. Were any of the hen harrier nests recorded within 1km of the windfarm boundary located within the SPA?
2. Is there sufficient hunting habitat with the adjacent parts of the SPA to provide for any nearby nesting pair of hen harrier within the SPA, or is it likely that one or more nesting pairs within the SPA will need to rely on hunting habitat for which mitigation is required, within the windfarm?
3. If a summary of the recorded use by hen harriers of the hunting habitat within the proposed windfarm is complied, does it indicate significant use by hen harriers on the western side of the proposed windfarm which may indicate some dependency on the hunting habitat available there?

- District Engineer – No report received at the time of writing of this report.

3. OTHER OBSERVATIONS/SUBMISSIONS

A total of 2 submissions were made on the response to further information received. The contents of the submissions have been noted and considered in the assessment section of this report. The following is a summary of the issues raised.

Paul and Edel Grace, Grousehall, Milestone, Thurles

Previous submission referenced an opinion in relation to case C-461/17, a final ruling has been made, a copy of same has been submitted. The submission states it has a direct bearing on the planning issues. A summary of the ruling is as follows;

There are 5 elements;

1. An appropriate assessment (AA) must catalogue the entirety of habitat types and species for which a site is protected.

2. The AA must also identify and examine the implications of the proposed project for the species present on that site and for which that site has not been listed – as well as the implications for habitat types and species outside the boundaries of that site, insofar as those implications are liable to affect the conservation objectives of the site.

3. Where the competent authority rejects the findings in a scientific expert opinion recommending that additional information be obtained, the 'appropriate assessment' must include an explicit and detailed statement of reasons capable of dispelling all reasonable scientific doubt concerning the effects of the work envisaged on the site concerned.

4. Under Article 5(1)&(3) of the 2011 EIA Directive, the developer was obliged to supply information that expressly addressed the significant effects of the proposed project on all species identified in the environmental statement.

Planning Application Document
Not to Scale
For Planning Purposes Only

5. Under Article 5 of the 2011 EIA Directive, the developer was required to supply information in relation to the environmental impact both of the proposed project and of all the main alternatives studied by the developer (including any such alternative that had been rejected at an early stage), together with the reasons for his choice taking into account of the environmental effects.

James and Tanya Embleton, Seskin House, Upperchurch, Thurles,Co Tipperary

The submission states is difficult to see how proposal complies with current legislation.

4. EXTERNAL CONSULTANT REPORTS

The following is a summary of points contained within the EIA and NIA prepared by qualified and competent expertse on behalf of the Tipperary County Council following receipt of the further information received.

Environmental Impact Assessment

The recommendation from the EIA process was that further clarification is required in order to determine whether the proposed development and project will have a significant effect on the environment or not. The parameter or factor which required additional information was biodiversity.

Biodiversity:

• No details of the dates on which badger surveys were carried out are provided within the EIAR including Appendix 8.1 and therefore clarity is required on the dates of these surveys to assess if the data provided in sufficient. All other survey work for non-volant mammals is sufficient.
• The applicant is requested to confirm whether they used bat activity / transects as part of their assessment as recommended in the Bat Conservation Trust Guidelines (2016). Clarification is also sought on the methodology for screening out bridges along the cable route for potential bat roosts.
• Clarification is required in relation to the location of roosting sites in proximity to the future site office including any potential mitigation measures and whether a derogation licence for bats is required from NPWS.
• The details of the bat boxes (i.e. height from ground, what direction they will face) proposed shall be provided within the habitat management plan for application should be included as condition of planning. The development of the final habitat management plan will be in consultation with NPWS. Design measures are insufficient.
• The details of hedgerow planting proposed shall be provided within the habitat management plan for application should be included as a condition of planning. The development of the final habitat management plan will be in consultation with NPWS. Design measures are insufficient.
• The provision of a habitat management plan for the grid route application should be included as a condition of planning. The species lists for individual habitat must be provided within this plan and all species must be native and sourced within Ireland. The development of the final habitat management plan will be in consultation with NPWS.
• The use of "should" in relation to best practice measures, and project design measures does not oblige the developer to follow through on the measures. This could lead to a negative impact on biodiversity. As a condition of planning all measures recommended in the EIAR and NIS must be carried out in full.
• Further clarification is required to address whether Hen Harrier use lands outside of the SPA but

within the Whole UWF Project boundary as hunting habitat. The three points raised by the DAU will need to be addressed to determine the significance of impact on the integrity of the Slievefelim to Slivermines SPA due to cumulative impacts of the Whole UWF Project.

General:
• It is noted that the quantum of residential receptors referred to in the population, air quality and human health chapters conflict with those identified on the mapping submitted. Clarity in relation to the number of residential receptors within the study areas.

Archaeological potential impacts not assessed adequately.

Natura Impact Assessment

The recommendation form the appropriate assessment process was for further clarification in order to determine whether the proposed development and project will have a significant effect on European sites in particular the Slievefelim to Silvermines SPA.

The assessment states that although the Upperchurch Windfarm was screened in regarding in combination effects on the Slievefelim to Silvermines SPA, this element of the project is not listed in Table 5.1 for SPA. The Upperchurch Windfarm is subsequently assessed at stage 2 in relation to the SPA, therefore this exclusion in Table 5.1 is inconsistent.

The replacement forestry which was excluded from assessment in Stage 2 was none the less included in the assessment for incombination effects. If it considered in stage 2 it should have been screened in at stage 1.

The Castlewaller Windfarm has been precluded from further evaluation as it "Outside the Timeframe boundary, no potential for in combination effects". As stated both windfarms may be operational over the same period and therefore it is considered that Castlewaller Windfarm should be included for cumulative assessment regarding loss of foraging habitat /disturbance for the Hen Harrier during this period.

The NIS concludes that there will not be significant effects on the Hen Harrier due to project design and best practise measures. However, the assessment is focused on lands and habitats solely within the SPA.

Clarification is recommended having regard to the points raised by the DAU in relation to use of habitats by Hen Harrier outside of the SPA and within the whole Upperchurch Windfarm Project footprint by Hen Harriers nesting within the SPA.

5. RELATED APPLICATION / DECISION

As stated An Bord Pleanala have stated that they are precluded from granting a Strategic Infrastructure Development application for 10-year permission for an 110kV electrical substation in the townland of Mountphilips, near Newport, County Tipperary and 110kV underground electrical cabling from the proposed substation in Mountphilips to the already consented (but not constructed) Upperchurch Windfarm consisting of 27.5km of underground cables which traverse agricultural and forestry lands including some public roads (1.7km).

The reasons and considerations are set out Board's order ABP-301959-18. In summary, the reasons and considerations relate to Environmental Impact Assessment and the Natura Impact Statement.

The Board was not satisfied that the information contained in the Environmental Impact Assessment Report complies with the provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU or Section 172 of the Planning and Development Act, as amended, with regard to providing an adequate or robust description of the **reasonable alternatives** studied, which are relevant to the proposed development and its specific characteristics.

The Board was not satisfied that sufficient consideration has been provided regarding the routing of the cable in the local road network or consideration of alternative grid connection technologies such as overhead line alternatives. It was considered that lesser damaging alternatives are available that could avoid negative impacts on the environment with regard to biodiversity.

The Board was not satisfied that, following mitigation, no significant residual negative impacts on the environment would remain as a result of the proposed development with respect to the hen harrier species. The proposed development may, therefore, have an **unacceptable indirect effect on the environment.**

In relation to the Appropriate Assessment the Board considered that having regard to the scale and nature of the proposed development, in particular, the proposal to develop an underground cable through part of the Slievefelim to Silvermines Mountains Special Protection Area (site code: 004165) (with the single conservation objective to maintain or restore the favourable conservation condition of the hen harrier) and, notwithstanding the mitigation measures proposed by the applicant, there **remains reasonable scientific doubt that the proposed development would not lead to a reduction or loss of suitable foraging habitat or to the disturbance of the hen harrier within its sensitive roosting and breeding areas.**

6. ASSESSMENT

The application is for 17.9km of underground cabling, 11.1m of which are to be installed under consented windfarm roads or realigned roads. The remainder will be installed in agricultural lands, forestry and crossings under 6 no public roads. It will require felling of 0.5ha of forestry, temporary and permanent watercourse crossings works to facilitate haul routes and a relay pole.

With the exception of the impacts on the road and entrance the assessment of the further information response is largely confined to environmental impacts and potential effects , therefore the assessment section forms two parts namely EIA and AA.

Environmental Impact

The EIAR was prepared by Inis consultants and multidispinary team which includes expertise in environmental issues. All submissions received ~~to~~ and the response to the further information request have been considered in conjunction with assessment of the EIAR.

It is acknowledged that considerable environmental assessments have been carried out to date, however it is a requirement that there are no gaps and that the statement on the significant effect on the environment is up to date at the time of taking the decision. This application is seeking consent and is separate to the parent permission, whilst the ecological baseline may not be dissimilar over the last few years the sensitivity rating of the hen harrier is very high and as such up to date surveys are required to assess the potential level of impact to a high degree of certainty. Therefore the applicant's response to the request in relation to consideration of time does not address the concerns to the satisfaction of the Planning Authority.

The schedule of measures to avoid, prevent reduce or offset the effects remain unchanged from that previously submitted. The Environmental Protection Measures relate generally best practise measures, two relate specifically to the conservation objectives of the SPA (PD26 and PD27)

which relate to the hen harrier. The two measures state that if works are to begin during the hen harrier breeding season (March to August) surveys will be carried out in advance etc This measure provides for pre construction surveys and the recording of hen harriers within 2km, works will not take place within 500m. PD 27 relates to confining works to one hour after sunrise and one hour before sunset for roosts within 1000m which is a limited time period during the day which is a larger separation. These measures are sufficient to prevent mortality, however disturbance is also a consideration as hen harriers are known to be sensitive to disturbance and foraging habitat loss up to 2km of nesting which can have a negative effect.

Also of note is the PD28 This measure states that hedgerow removal will take place outside bird season where possible. It is a requirement under national legislation (Wildlife Act 1975) that hedgerows are not cut or removed during the bird nesting and breeding season (March to August). This measure should be strengthened to provide meaningful effect.

The potential impacts on the biodiversity in particularly the sensitive aspects (10 identified in the EIAR) are not fully examined to fully determine the level of impact. The assessment carried out by the external consultants has outlined the shortfalls in relation to badgers, bats and the hen harrier.

There are also lacunae in terms of the management of run off in the water chapter. Management of surface water during construction is important as this has the potential to create pollution with machinery, excavation etc. These effects have the potential to be result in a *significant impact on the current water status of the bounding Rivers* (extract from submission of the Inland Fisheries Ireland 21/18/18) Stringent controls and measures are required to ensure impacts are short term and not significant.

The carrying out of survey work is of particular relevance having regard to the emphasis on biodiversity with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC. (EIAR Regulations 2018) In terms of surveys carried out in relation to this application it is stated in Appendix B of the EIAR that survey efforts were concentrated on the UWF Grid Connection, in particular areas of high habitat suitability within 2km, and which by default coincide with the SPA designation present through a process of scoping. The lands outside the SPA were not a priority for surveys.

The NPWS in their report have commented on the proximity of the development to the SPA and the potential for hunting hen harrier to use the lands. The timing of the breeding season for Hen Harrier is approximately Late February to September (NWPS, The National Survey of Breeding Hen Harrier in Ireland 2015) Therefore having regard to requirement for additional surveys the optimum survey season is the summer months. Therefore clarification as recommended by the EIA carried out by the consultants is not possible within the timeframe of the application. In the absence of all survey information the EIAR is deficient, the Planning Authority is not satisfied that the development will not adversely affect the Conservation Objectives of the SPA and consequently the proposed development may, therefore have an unacceptable indirect effect on the environment.

The EIA carried out on behalf of Tipperary County Council states that the in combination or cumulative effect has not been adequately assessed in relation to the effects for the purposes of Environmental Impact Assessment. A full consideration of the cumulative impact between the UWF Project and the Castlewaller Windfarm is required. The proposed development is within the windfarm site unlike the grid connection which stretches from the consented windfarm and travels East to West towards Newport. It is acknowledged that cumulative assessments have been carried out however the assessment is incomplete having regard to the incomplete information on potential hen harrier hunting /foraging grounds and based on the the precautionary principle the in combination effects have not been adequately considered in relation to the Hen Harrier.

Likely Direct and Indirect Significant Effects

The EIA examines the potential effects of the project on the following (a) population and human health; (b) biodiversity with particular attention to the species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; (c) land, soil, water, air and climate; (d) material assets, cultural heritage and the landscape. In the examination of potential effects biodiversity is highlighted as the parameter with the most likely for significant effects having regard to deficiencies identified.

The effects in relation to Bats has not been accurately evaluated and the methodology used has been questioned in particular the screening out of bridges as potential for bat roosts in the EIAR. Only three of the 32 bridges were surveyed. It states "those with suitability for bats were surveyed", but not how this suitability was determined has not been clearly outlined in the methodology. It cannot be determined if a bridge is suitable without inspecting it. Also in relation to the location of identified roosting sites in proximity to the future site office and the potential mitigation measures and whether a derogation licence for bats is required from NPWS has not been fully addressed. Therefore the effects cannot be fully determined, the compensatory measure relates only to trees and not to bridges or the potential site office. Therefore proposed development may have a significant direct or indirect impact on the bat populations, existing or potential roosts.

Impacts to badgers may arise from disturbance and displacement during the construction phase, there are gaps in the information regarding badger surveys.

Having regard to the preceding assessment there is potential for direct and likely to be indirect effects on the Hen Harrier due to the reduction and/or loss of foraging habitat outside the SPA from disturbance/displacement of nesting/roosting from noise and human activity during the construction and operational phase without adequate assessment of lands on the Western boundary close to the SPA.

The potential effects on the hen harrier cannot be considered *slight (negative)* as per the EIAR submitted. This evaluation was based on the high sensitivity rating of the hen harrier, the reduction in or extent of permanent Loss of Suitable Foraging Habitat, the long term duration of permanent habitat loss and the reversibility of the impact with the replanting and management of lands for the use of the Hen Harrier over the life time of the project element. (EIAR, Chapter 8 , Biodiversity). In the absence of the the information particularly in relation to the potential use of lands outside of the SPA by the Hen Harrier indirect and potentially direct significant effects cannot be ruled out. The evaluation of the reduction in the loss of suitable foraging habitat contained within the EIAR is considered incomplete. It is acknowledged that the SID application (grid connection) had a greater quantity of permanent habitat loss (3.14ha) This impact was evaluated as moderate in the EIAR submitted with that application. However the Board were not satisfied with the basis of the assessment and analysis as set out in the EIAR submitted.

There may also be in combination effects with other elements of the project which are not fully evaluated having regard to the deficiencies identified within this report.

There is a section on mitigation and monitoring measures in each of the parameters contained within the EIAR to reduce, offset and mitigate any potential impacts on the environment either direct, indirect or cumulative impact. However based on information submitted and the lack of any additional information by way for further information response it can be concluded having regard to the assessment of the potential impacts that there is potential for significant indirect effects on the environment.

Reasoned Conclusion on the likely Significant Effects

Having regard to the examination of environmental information contained above, and in particular to the EIAR and supplementary further information provided by the applicant and the submissions from the prescribed bodies, submissions received from the public, external consultant reports and internal reports in the course of the application, it is considered that the **main significant direct and indirect effects** of the proposed development on the environment are as follows:

- Water Quality

Impacts to aquatic habitats and species are likely to arise during the construction phase particularly in terms of decrease to water quality, changes in flow in watercourses, disturbance/displacement of fish, riparian habitat degradation and spread of aquatic invasive species. These impacts would be mitigated against by implementing a range of Project Design Environmental Measures set out in the EIAR. These include measures to prevent contamination of water and prevent sedimentation release to water. However design of drainage infrastructure to manage contaminated run off from temporary access road is additional mitigation measure required which has not been submitted. These effects have the potential to be result in a *significant impact on the current water status of the bounding Rivers* (extract from submission of the Inland Fisheries Ireland 21/18/18) Stringent controls and measures are required to ensure significant impacts are avoided.

- Biodiversity-

Impacts to *bats* could occur from destruction or disturbance of bat roosts in trees, severance of commuting routes or feeding areas and disturbance or displacement due to lighting. Significant effects can be mitigated by measures detailed. However the majority of bridges which will be affected have been screened out and, as a result there is potential for direct impact on bat species. Of particular importance is the existing roosts including a number of species in the proposed site office and the potential impact on the species protected under the Wildlife Act 1975 and later amendments.

Impacts to *hen harrier* will arise from a reduction in or permanent loss of suitable foraging habitat. The significance of this impact is considered to be slight (negative) and the significance of the cumulative impact for the all element is considered neutral. The Planning Authority is not satisfied that the information within the EIAR is adequate in terms of surveys and mitigation measures, the Planning Authority is not satisfied that the development will not adversely affect the Conservation Objectives of the SPA and consequently the proposed development may, therefore have an unacceptable effect on the environment.

The EIAR has considered that the main direct and indirect effects of the proposed development on the environment would be primarily mitigated by environmental management measures. However it is considered that in the absence of clear and precise information in relation to all the potential impacts that significant residual negative impacts on the environment would remain as a result of the proposed scheme with respect to biodiversity and the Hen Harrier species. The proposed development may, therefore, have an unacceptable indirect effect on the environment. Having regard to the above, the request for further information that did not provide sufficient information by way of a response , and the Order of An Bord Pleanala in relation to the associated SID application is it considered that the Planning Authority is not satisfied that the proposed development would not have a direct impact on the environment.

Appropriate Assessment (AA):

The response received in relation to the screening out of the windfarm itself in the first instance is not considered acceptable. Although the Upperchurch Windfarm was screened in regarding in combination effects on the Slievefelim to Silvermines SPA, this element of the project is not listed in Table 5.1 for SPA. The Upperchurch Windfarm is subsequently assessed at stage 2 in relation

to the SPA, therefore this exclusion in Table 5.1 is inconsistent. Table 5.1 of the Appropriate Assessment Screening identifies the source impact pathways and the evaluation required in stage 2. The Upper church windfarm was not included in the list of project elements which are screened in as part of assessment of the effect of the development on the Slievefelim to Silvermines SPA (004077) and its qualifying species of conservation interest namely the Hen Harrier. Other elements have been screened in depending on the potential source of impact alone or in combination with other project elements, plans or projects. e.g. grid connection is screened in for all potential impact pathways. Also if the replacement forestry is considered in stage 2 it should have been screened in at stage 1. It is also recommended in the appended that the overlap between hen harrier foraging habitat and UWF Replacement Forestry should be addressed.

The AA guidelines (DoEHLG (2009) Appropriate Assessment of Plans & Projects - Guidance for Planning Authorities) mentions " precautionary areas outside the site where development will have to be carefully screened and managed in order to ensure that there are significant effects on the Natura 2000 site". This would apply to the lands that may be used by the harrier (this was also commented on by the NPWS). Failure to adequately assess the potential use of these lands by the hen harrier and possible effects on the birds use of these lands means that the full extent of effects of the development remain unknown.

Hen Harriers will forage up to c. 5km from the nest site, utilising open bog and moorland, young conifer plantations and hill farmland. There is potential for indirect impacts to this highly sensitive receptor of international importance from the reduction or loss of foraging habitat. Construction impacts on the Hen harrier have been understated as there will be disturbance to prey species (meadow pipit) activity on site.

Permanent loss of foraging habitat through land take or land use change may result in the permanent exclusion of birds from potentially viable habitat which forms the constitutive characteristic of the SPA. This may result in long term knock on effects on breeding success of birds within the SPA, through the reduced availability of foraging resources. The submission of the NPWS states that the NIS has not considered whether hen harriers which breed within the SPA require to use the hunting habitat outside the SPA boundary (such as the habitat within this site) if so they might not be able to feed their young and without it may not effectively maintain the population of the SPA. Appendix B of the EIAR states that several hen harrier nests were within 1km of the construction boundary of the wind farm (three in 2016, two in 2017)

It is important to highlight if mitigation is required in terms of a replacement of a hunting habitat within the proposed development as a result of habitat loss, regard must also be had to ruling of the Court of Justice , Grace and Sweetman v An Bord Pleanála case (C-164/17) in which the opinion states that where a project is being carried out on a site designated for the protection and conservation of certain species and the temporary or permanent effect of the project be such that it will no longer be able to provide suitable habitat for the species in question, the fact that the project includes measures to ensure that, after an appropriate assessment of the implications of the project has been carried out and throughout the lifetime of the project, the part of the site that is in fact likely to provide a suitable habitat will not be reduced and indeed may be enhanced may not be taken into account for the purpose of the assessment that must be carried out in accordance with Article 6 (3) of the directive. It is only when it is sufficiently certain that a measure will make an effective contribution to avoiding harm, guaranteeing beyond all reasonable doubt that the project will not adversely affect the integrity of the area that such a measure may be taken onto consideration when appropriate assessment is carried out.

It is a requirement having regard to case law for (Sweetman v An Bord Pleanala) the need for complete precise and definitive findings and conclusions in relation to assessments under Article 6(3) of the Habitats Directive.

The consented Upperchurch Windfarm includes planning permission conditions and a number of protective and Environmental measures which are to be implemented through two separate Environmental Management Plans for the UWF; one for the construction stage and one for the early operational stage. The relevant planning permission conditions, in respect of European Sites, are listed in AA. The tabular assessment provides for in combination effect of all 5 elements, however the windfarm was been screened out at the outset and so, the approach is inconsistent.

Overall Conclusion

Under Article 6 of the Habitats Directive, which applies to SPAs, the Planning Authority are obliged to only consent to projects where there is clear scientific evidence that such projects will not lead to an adverse impact on the integrity of the SPA or qualifying features. The Court of Justice of the European Union, in a number of its findings regarding the interpretation of these Directives, has emphasised the importance of scientific understanding of the impact of proposed interventions, and where there is scientific doubt as to the potential impacts on the species, the precautionary principle must apply.

The NIS submitted does not address the potential for permanent loss of habitat outside the SPA. Only the reduction in or loss of suitable or potentially suitable Hen Harrier Foraging Habitat within the Slievefelim to Silvermines Mountains SPA is evaluated. In the absence of such information and assessment, it is not possible to fully assess the potential impacts of the development on the Conservation Objectives of the SPA and in this regard, it is not possible to complete a full Appropriate Assessment as to whether the development will adversely affect the integrity of the European site.

The submitted AA is inconsistent in terms of the consideration of impacts. The whole project is stated as being considered in some tables whilst it was stated as being screened out in the first instance. The Upper church windfarm has been subject to the Appropriate Assessment process, however it is directly relevant to the cumulative assessment for the purposes of carrying out an comprehensive assessment of this development and the potential effects on the integrity of the SPA site and its conservation objectives namely the hen harrier.

I consider it reasonable to conclude on the basis of the information on the file, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the European Site No. 002165 (Lower River Shannon SAC) and European Site no. 002137 (Lower River Suir SAC)

On the basis of the information provided with the application, including the Natura Impact Statement, and in light of the assessment carried out on behalf of and by the Planning Authority, 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 site no. 004165 Slievefelim to Silvermines Mountains SPA, in view of the site's Conservation Objectives. Accordingly refusal of permission is recommended.

7. DEVELOPMENT CONTRIBUTIONS

Development Contributions will not be levied in accordance with Tipperary County Council Development Contribution Scheme 2015-2019.

8. CONCLUSIONS/RECOMMENDATION

Planners Report No.2 (post RFI)

Having examined the plans and particulars submitted with the planning application and the foregoing matters, it is recommended that;

Permission be **refused** for the reasons set out below and the reasons and considerations as set out in this report and appended reports prepared on behalf of the Planning Authority.

1. Policy LH6: Natura 2000 Sites and Protected Species of the North Tipperary County Development Plan 2010-2016 as varied. The subject site is located in close proximity to the Slievefelim to Silvermines Special Protection Area (site code:004165) with the single conservation objective to maintain or restore the favourable conservation condition of the bird species namely the Hen Harrier. While the application has been accompanied by a Natura Impact Statement the Planning Authority considers notwithstanding the mitigation measures proposed, that the applicant has failed to demonstrate that the development on the site would not have an adverse impact on the site integrity of the nearby Slievefelim to Silvermines Special Protection Area having regard to the level of relevant survey information lodged with the application in relation to the baseline ecological conditions of the Hen harrier on lands contiguous to the Special Protection Area . On this basis, it is considered that notwithstanding the mitigation as proposed, it cannot be ruled out beyond all reasonable scientific doubt that the proposed development would not lead to a reduction or loss of suitable foraging habitat of the hen harrier. Accordingly the development as proposed would contravene materially the policy of LH6 for the conservation and preservation of the European Site insofar as the proposed development would adversely affect a species of bird or their habitat specified in Article 4 of the Birds Directive, which forms the basis of the classification of that site.

2. Environmental Impact Assessment (EIA) is the process by which the anticipated effects on the environment of a proposed development or project are measured and if the likely effects are unacceptable, design measures or other steps can be taken to avoid, reduce or mitigate against those effects.The Environmental Impact Assessment carried out on this application has considered that the main direct and indirect effects of the proposed development on the environment. The Planning Authority, in the absence of clear and precise information in relation to all of the potential impacts is not satisfied that the proposed development alone or in combination with other ~~plans~~ projects would not result in significant residual negative impacts on the environment as a result of the proposed scheme with respect to biodiversity including namely the Hen Harrier and Bat species. The proposed development may, therefore, have an unacceptable effect on the environment and as such is contrary to the proper planning and sustainable development of the area.

District Planner: Rosmell **Date:** 10/1/19

Senior Executive Planner: [signature] **Date:** 10.1.19

Planning Officer Report Document
Not for Viewing on Public Access

Planning Application Document
for Viewing purposes Only!

Appendix to Chapter 1: Introduction

Appendix 1.3: UWF Related Works NPWS Submission 13.12.18

The data and descriptions in this appendix have informed Chapter 1: Introduction of the EIA Report. The information presented in this Appendix 1.1 is outlined below and the relevant element(s) of the Whole UWF Project are also identified.

Appendix	Title	Relevant EIAR
Appendix 1.3	UWF Related Works NPWS Submission 13.12.18	UWF Related Works

Appendix 1.3

An Roinn Cultúir,
Oidhreachta agus Gaeltachta
Department of Culture,
Heritage and the Gaeltacht

13 December 2018

TIPPERARY CO. COUNCIL
RECEIVED
13 DEC 2018
PLANNING SECTION
FILE NO. 18600913

18/600913

Director of Services - Planning
Tipperary County Council
Civic Offices
Nenagh
Co Tipperary

18/600913 - Development to facilitate the construction and operation of the already consented (but not built) Upperchurch Windfarm (UWF) - consist of a) 17.9km of Internal Windfarm Cabling; b) 13 no. Haul Route Works, to facilitate the haulage of turbine components to the Upperchurch Windfarm site; c) 1 no Telecom Relay Pole, measuring 18m in height, with telecoms relay equipment attached; d) 3 no Realigned Windfarm Roads, to realign two lengths of consented Upperchurch Windfarm (UWF) Roads and to provide access to the telecoms Relay Pole; e) 1 no Change of use of an existing 'Agricultural' entrance to ' Agricultural and Forestry' entrance; and f) Ancillary Works in Co. Tipperary

A Chara,

I refer to your correspondence of 13 November 2018, and to the further information received in relation to the above planning application. The following submission is concerned with Request for Further Information item No. 1, specifically the need for the Natura Impact Statement (NIS) to avoid the exclusion of the Upperchurch wind-farm itself from the appropriate assessment, because the wind-farm is in close proximity to the Slieve Felim to Silvermines Mountains Special Protection Area[1] (SPA) (Site Code: 4165).

The proposed development forms part of a larger project (Upperchurch wind farm), the generating wind farm part of which was granted planning permission by An Bord Pleanála in 2014 (PL22.243040), and the external cable part of which has been submitted to An Bord Pleanála for approval (PL92.301959; decision due on 4 January 2019). There is also a forestry felling component to the project. For clarity, there are two NISs referred to below – one being the original NIS (revised for the appeal) for the wind-farm (2003), and the other the NIS for the present application (2018); these are distinguished in the text.

[1] Designated under the European Communities (Conservation of Wild Birds) (Slievefelim to Silvermines Mountains Special Protection Area 004165)) Regulations 201 (S.I. No. 587 of 2011) for the conservation of hen harrier. Conservation objectives and a Site Synopsis are available at www.npws.ie.

Planning Application Documentation
Set Viewing Purposes Only

At the outset, it is noted that all turbines of the permitted[2] wind farm part of the project are more than 250m outside of the boundaries of the SPA (p. 78 of the revised NIS for the original PL22.243040 planning application). As a consequence, this NIS concludes (p. 188 of the NIS for this 17/600913 application) that all hunting habitat loss occurs *outside* the SPA. Note that any suitable hunting habitat (heath/bog, rough grassland, pre-thicket forestry, etc.) within 250m of an operational turbine is considered to be avoided by hunting hen harriers due to disturbance displacement, based on an interpretation of the available scientific evidence.

However, the NIS (of the current application) has not considered whether hen harriers which breed within the SPA require to use the hunting habitat outside the SPA boundary (such as the habitat within the proposed wind farm), and if so, they might not be able to feed their young without it, and consequently not effectively maintain the population of the SPA. As the NIS (of the current application) has not considered this sufficiently, this Department is of the opinion that it does not yet have sufficient information to enable a definitive appropriate assessment to be concluded[3].

The conservation objective for the SPA is to maintain or restore the favourable conservation condition of the hen harrier for this SPA[4]. As the wind-farm is outside of, but near to, the SPA, the key question is the extent to which the hen harriers breeding within the SPA are dependent upon any suitable hunting habitat within the site of the proposed wind-farm. In Subsection A8-1.2.4.3 (Appendix 8) of the EIAR, it is stated that several hen harrier nest locations were within 1km of the construction boundary of the wind-farm (three in 2016, two in 2017). The following three questions remain outstanding in the further information received:

(1) Were any of the above nests within the SPA?

(2) Is there sufficient hunting habitat with the adjacent parts of the SPA to provide for any nearby nesting pair of hen harriers within the SPA, or is it likely that one

[2] PL22.243040.
[3] See also Court of Justice of the European Union Case C-164/17, *Edel Grace and Peter Sweetman v. An Bord Pleanála*, which may have implications here.
[4] NPWS (2018) *Conservation objectives for Slievefelim to Silvermines Mountains SPA [004165]*. Generic Version 6.0. Department of Culture, Heritage and the Gaeltacht. https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004165.pdf

or more nesting pairs within the SPA will need to rely on the hunting habitat, for which mitigation is required, within the wind-farm?

(3) If a summary of the recorded use by hen harriers of the hunting habitat within the proposed wind-farm is compiled, does it indicate significant use by hen harriers on the western side of the proposed wind-farm which may indicate some dependency on the hunting habitat available there?

Kindly forward any further information received; or in the event of a decision being made a copy of same should be forwarded to the following address as soon as it issues:

The Manager,

Development Applications Unit,

Department of Culture, Heritage and the Gaeltacht,

Newtown Road,

Wexford Y35 AP90

Is mise le meas,

Michael Murphy,
Development Applications Unit
Tel: (053) 911 7516

Planning Application Document
for viewing Purposes Only!

Appendix 1.3

Appendix to Chapter 1: Introduction

Appendix 1.4: UWF Grid Connection Board Order 17.12.18

The data and descriptions in this appendix have informed Chapter 1: Introduction of the EIA Report. The information presented in this Appendix 1.4 is outlined below and the relevant element(s) of the Whole UWF Project are also identified.

Appendix	Title	Relevant EIAR
Appendix 1.4	UWF Grid Connection Board Order 17.12.18	UWF Grid Connection

An Bord Pleanála

Board Order
ABP-301959-18

Planning and Development Acts, 2000 to 2018

Planning Authority: Tipperary County Council

Application for permission under section 182A(1) of the Planning and Development Act 2000, as amended, in accordance with plans and particulars, including an Environmental Impact Assessment Report and a Natura Impact Statement, lodged with An Bord Pleanála on the 28th day of June, 2018 by Ecopower Developments Limited of Zetec House, Purcellsinch IDA Business Park, Dublin Road, Kilkenny.

Proposed Development: 10-year permission for an 110kV electrical substation in the townland of Mountphilips, near Newport, County Tipperary and 110kV underground electrical cabling from the proposed substation in Mountphilips to the already consented (but not constructed) Upperchurch Windfarm 110kV electrical substation in the townland of Knockcurraghbola Commons, near Upperchurch, County Tipperary. The electrical cabling is proposed for a route through the townlands (west to east) of Mountphilips, Coole, Freagh, Oakhampton, Newross, Castlewaller, Killeen, Knockacappul, Knockacullin, Bealaclave, Baurnadomeeny, Goulmore, Laghile, Churchquarter, Knocknabansha, Knockmaroe, Knockcurraghbola Crownlands and Knockcurraghbola Commons, County Tipperary. The proposed 110kV electrical substation in Mountphilips consists of:

(a) One number electrical substation compound and palisade fencing, measuring 95 metres x 94 metres.

(b) One number electrical substation control building measuring 19.1 metres x 10.7 metres and 6.9 metres in height.
(c) Three number lightning protection monopoles measuring up to 18 metres in height.
(d) Two number end masts measuring up to 16 metres in height.
(e) Temporary and permanent drainage systems.
(f) Associated electrical apparatus, plant and equipment, overhead and underground electricity cabling and ancillary works.

The proposed 110kV underground electrical cabling from the proposed substation in Mountphilips to the already consented Upperchurch Windfarm substation in Knockcurraghbola Commons consists of:

(a) 27.5 kilometres of underground 110kV electrical cabling.
(b) 38 number joint bays.
(c) 4.4 kilometres of new permanent access roads, measuring 3.5 metres wide.
(d) Three number temporary compounds.
(e) Permanent widening of three number existing farm entrances.
(f) Temporary access roads and temporary site entrances.
(g) Temporary and permanent watercourse crossings.
(h) Temporary and permanent drainage systems.
(i) Forestry felling.
(j) Associated ancillary works.

Decision

Refuse permission under section 37G of the Planning and Development Act 2000, as amended, for the above proposed development based on the reasons and considerations set out below.

Determine under section 37H(2)(c) the sum to be paid by the applicant in respect of costs associated with the application as set out in the Schedule of Costs below.

Matters Considered

In making its decision, the Board had regard to those matters to which, by virtue of the Planning and Development Acts and Regulations made thereunder, it was required to have regard. Such matters included any submissions and observations received by it in accordance with statutory provisions.

Reasons and Considerations

In coming to its decision, the Board had regard to the following:

(a) EU legislation including, in particular, Directive 92/43/EEC (Habitats Directive) and Directive 79/409/EEC as amended by 2009/147/EC (Birds Directive) which set the requirements for conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union.

- The relevant provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU (EIA Directive) on the assessment of the effects of certain public and private projects on the environment.
- The EU Renewable Energy Directive 2009/28/EC which aims to promote the use of renewable energy.

(b) National Legislation including, in particular:

- Section 182A of the Planning and Development Act 2000, as amended, which sets out the provisions in relation to electricity transmission lines.

(c) National Policy including, in particular:

- The National Planning Framework (NPF) published in February 2018.
- The Government Policy Statement on the Strategic Importance of Transmission and Other Energy Infrastructure issued in July 2012.

(d) Regional Policy including, in particular:

- The Mid-West Regional Planning Guidelines 2010-2022.

(e) Local Planning Policy including, in particular:

- The provisions of the North Tipperary County Development Plan 2010-2016.

(f) The following matters:

- The likely consequences for the environment and the proper planning and sustainable development of the area in which is it proposed to carry out the proposed development and the likely significant effects of the proposed development on European Sites.
- The conservation objectives, qualifying interests and special conservation interests of the Lower River Shannon Special Area of Conservation (site code: 002165), the Lower River Suir Special Area of Conservation (site code: 002137) and the Slievefelim to Silvermines Mountains Special Protection Area (site code: 004165).
- The documentation and submissions of the applicant, including the Environmental Impact Assessment Report and the Natura Impact Statement and associated documentation submitted with the planning application, and the range of mitigation and monitoring measures proposed.
- The submissions and observations made to An Bord Pleanála in connection with the planning application and the submission from the local authority.
- The nature and extent of the proposed development as set out in the application for approval.
- The report and recommendation of the Inspector, including the examination, analysis and evaluation undertaken in relation to appropriate assessment and environmental impact assessment.

Proper Planning and Sustainable Development:

It is considered that the proposed development would be in accordance with European, national, regional and local planning policy and is generally in accordance with the strategic policy in relation to provision of such infrastructure.

Environmental Impact Assessment:

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

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

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

(c) the submissions from the local authority, the observers and the prescribed bodies in the course of the planning application, and

(d) the Inspector's report.

The Board considered that the Environmental Impact Assessment Report, supported by the documentation submitted by the applicant, provided information which was reasonable and sufficient to allow the Board to reach a reasoned conclusion on the significant effects of the proposed development on the environment, taking into account current knowledge and methods of assessment. The Board is satisfied that the reasoned conclusion is up to date at the time of making the decision. The Board, however, is not satisfied that the information contained in the Environmental Impact Assessment Report complies with the provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU or Section 172 of the Planning and Development Act, as amended, with regard to providing an adequate or robust description of the reasonable alternatives studied, which are relevant to the proposed development and its specific characteristics.

The Board agreed with the summary and examination, set out in the Inspector's report, of the information contained in the Environmental Impact Assessment Report and associated documentation submitted by the applicant and submissions made in the course of the planning application. The Board is satisfied that the Inspector's report sets out how these submissions were addressed in the examination and recommendation and are incorporated into the Board's decision.

Reasoned Conclusion on the Significant Effects:

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

- **Biodiversity:** Impacts to hen harrier will arise from a reduction or loss of suitable foraging habitat and disturbance resulting from works within and close to sensitive roosting and breeding areas for the hen harrier. There will be a net permanent loss of 3.14 hectares in the wider study area. The significance of this impact is considered to be moderate (negative). The Board is not satisfied that adequate mitigation measures have been set out in the Environmental Impact Assessment Report to address this issue and that adverse impacts will not occur. The efficacy of measures, such as concealed roads within the Special Protection Area to mitigate against habitat loss, may also be inadequate and, therefore, it cannot be ruled out beyond all scientific doubt that no adverse impacts to the integrity of the Special Protection Area will occur.

- **Water:** Impacts to aquatic habitats and species are likely to arise during the construction phase, particularly in terms of changes in flow in watercourses, disturbance/displacement of fish, riparian habitat degradation and spread of aquatic invasive species. Water quality could be impacted by sediment laden run-off, contamination from fuels, oils, chemical spills and cement run-off as well as run-off from permanent hardstanding areas and access roads. These impacts would be mitigated against by implementing a range of

Project Design Environmental Measures set out in the Environmental Impact Assessment Report. These include measures to prevent contamination of water and prevent sedimentation release to water.

The Board is not satisfied, based on the assessment and analysis set out in the Environmental Impact Assessment Report, that, in the consideration of potential alternatives route options, adequate weight has been given to biodiversity matters. It is considered that the selected route option will result in a significant intervention in the natural environment and adverse impacts to biodiversity. Lesser damaging alternatives are available that could avoid negative impacts on the environment with regard to biodiversity.

The Board is not satisfied that sufficient consideration has been provided regarding the routing of the cable in the local road network or consideration of alternative grid connection technologies such as overhead line alternatives. Furthermore, no information has been provided in relation to alternative connection locations where the windfarm could potentially connect to the national electricity grid.

The Board is not satisfied that, following mitigation, no significant residual negative impacts on the environment would remain as a result of the proposed development with respect to the hen harrier species. The proposed development may, therefore, have an unacceptable indirect effect on the environment.

Appropriate Assessment:

The Board agreed with the screening assessment and adopted the conclusion carried out in the Inspector's report that the Lower River Shannon Special Area of Conservation (site code: 002165), the Lower River Suir Special Area of Conservation (site code: 002137) and Slievefelim to Silvermines Mountains Special Protection Area (site code: 004165) are the only European Sites in respect of which the proposed development has a significant effect.

The Board considered the Natura Impact Statement and associated documentation submitted with the application for approval, the mitigation measures contained therein, the submissions and observations on file, and the Inspector's assessment. The Board completed an appropriate assessment of the implications of the proposed development for the affected European Sites, namely the Lower River Shannon Special Area of Conservation (site: 002165), the Lower River Suir Special Area of Conservation (site code: 002137) and the Slievefelim to Silvermines Mountains Special Protection Area (site code: 004165) in view of the sites' Conservation Objectives. In completing the appropriate assessment, the Board considered, in particular, the following:

- The likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects.
- The mitigation measures which are included as part of the current proposal.
- The conservation objectives for the European Sites.

In completing the appropriate assessment, the Board generally accepted and adopted the screening and the appropriate assessment carried out in the Inspector's report in respect of the potential effects of the proposed development on the aforementioned European Sites, having regard to the sites' Conservation Objectives.

Having regard to the scale and nature of the proposed development, in particular, the proposal to develop an underground cable through part of the Slievefelim to Silvermines Mountains Special Protection Area (site code: 004165) (with the single conservation objective to maintain or restore the favourable conservation condition of the hen harrier) and, notwithstanding the mitigation measures proposed by the applicant, there remains reasonable scientific doubt that the proposed development would not lead to a reduction or loss of suitable foraging habitat or to the disturbance of the hen harrier within its sensitive roosting and breeding areas.

The Board cannot, therefore, be satisfied that the proposed development, individually, or in combination with other plans or projects, would not adversely affect the integrity of this European Site in view of the site's Conservation Objectives. In such circumstances, the Board is precluded from granting permission and the proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

Schedule of Costs

In accordance with the provisions of section 37H(2)(c) of the Planning and Development Act 2000, as amended, the amount due to be reimbursed to the applicant is **€45,514**

A breakdown of the Board's costs is set out in the attached Appendix 1.

Member of An Bord Pleanála
duly authorised to authenticate
the seal of the Board.

Dated this day of 2018

Appendix to Chapter 1: Introduction

Appendix 1.5: UWF Grid Connection ABP Inspectors Report 27.11.18

The data and descriptions in this appendix have informed Chapter 1: Introduction of the EIA Report. The information presented in this Appendix 1.5 is outlined below and the relevant element(s) of the Whole UWF Project are also identified.

Appendix	Title	Relevant EIAR
Appendix 1.5	UWF Grid Connection ABP Inspectors Report 27.11.18	UWF Grid Connection

An Bord Pleanála

Inspector's Report

ABP-301959-18

Development	An 110kV electrical substation and 110kV underground electrical cabling from the proposed substation to an already consented windfarm and all ancillary works.
Location	Townland of Mountphilips, near Newport, and townland of Knockcurraghbola, near Upperchurch, Co. Tipperary
Planning Authority	Tipperary County Council
Applicant	Eco Power Developments
Type of Application	Application under the provisions of 182A of the Planning and Development Act 2000 (as amended)
Observers	Tipperary County Council Department of Culture, Heritage and the Gaeltacht, Development Applications Unit Inland Fisheries Ireland

	Emer Ó Siochrú and Toal Ó Muire
	James and Tanya Embleton
	Ned and Carmel Buckley
	Gerard Ryan
	Paul and Edel Grace
Date of Site Inspection	14th November 2018
Inspector	Erika Casey

Contents

1.0 Introduction 6

2.0 Site Location and Description……7

3.0 Proposed Development 8

4.0 Planning History..... 15

5.0 Application for Approval to An Bord Pleanala 17

5.1. Introduction 17

5.2. Observations submitted to the Board..... 18

6.0 Applicants Response to the Observations Submitted 26

7.0 Planning Policy Context ……..34

8.0 Planning Assessment 40

8.1 Introduction……40

8.2 Procedural and Legal……40

8.3 Compliance with Strategic Land Use Policy……42

8.4 Impact on Residential Amenities……45

8.5 Route Options……46

9.0 Environmental Impact Assessment..... 52

9.1 Introduction……52

9.2 Consideration of Compliance with Legislative Requirements……53

9.3 Likely Direct/Indirect Significant Effects……56

9.4 Human Health……57

9.5 Biodiversity……59

9.6 Land, Soil, Water, Air and Climate……69

9.7 Material Assets, Cultural Heritage and Landscape……77

9.8 Interactions Between the Factors……84

9.9 Cumulative Impacts……..84

9.10 Reasoned Conclusion……..88

10.0 Appropriate Assessment……..92

11.0 Recommendation……130

12.0 Reasons and Considerations……130

Appendix 1.5

1.0 Introduction

1.1 An application has been made under the provisions of Section 182A of the Planning and Development Act 2000 (as amended) for the development of an 110kV electrical substation and 110kV underground electrical cabling from the proposed substation to a previously consented windfarm and all ancillary works. The subject application is referred to as the UWF Grid Connection and the consented Upperchurch Windfarm is called the UWF in the application documentation. The windfarm was permitted under Application Reference 1351003/Appeal Reference 243040 in 2014 and comprises 22 no. wind turbines and an electrical substation. It has not yet been constructed. The purpose of the UWF Grid Connection is to connect the permitted UWF Substation at the Upperchurch Windfarm to the proposed substation at Mountphilips. The Mountphilips Substation will be connected to the existing adjacent Killonan-Nenagh 110kV overhead line and thus export electricity from the windfarm when constructed and operational to the national grid.

1.2 Pre application consultations were initiated on behalf of the applicant to assess whether or not the proposed substation and underground electrical cable constituted strategic infrastructure under the provisions of the Act. On foot of an assessment and recommendation from the reporting inspector that the proposed development did constitute strategic infrastructure within the meaning of the acts, the Board issued a direction in January 2018 stating that the proposal constitutes strategic infrastructure. The Board Direction noted that other associated works relating to the permitted windfarm did not constitute strategic infrastructure development and ought to be subject to a separate planning application to the local authority.

1.3 On foot of this determination by the Board that the development is a strategic infrastructure development, the applicant submitted an application under the provisions of Section 182A of the Planning and Development Act 2000 (as amended) on the 28th of June 2018. The application is accompanied by an Environmental Impact Assessment Report and a Natura Impact Statement.

1.4 A separate planning application (Planning Authority Reference 18/60/0913) has been made to Tipperary County Council for related works including internal windfarm

cabling, realigned windfarm roads, haul route roads, telecom relay pole and ancillary works. Further Information was requested on this application and a response from the applicant was submitted on the 9th November 2011. The decision is due 12th January 2019.

2.0 Site Location and Description

2.1. The proposed substation at Mountphilips is located on agricultural lands adjacent to the existing Killonan-Nenagh 110kV overhead line. It is sited c. 2km north of Newport, 4km south of Birdhill and 23km west of the permitted Upperchurch Windfarm.

2.2. The 110kV underground cable will connect the Mountphilips Substation to the Upperchurch Windfarm and associated substation through the installation of underground cables. The route of the underground cables, which is 27.5km in length, will follow a generally west/east course through agricultural grassland (11.9km), commercial forestry plantations (1.9km), private forestry and farm roads (c. 12km) and public roads (c. 1.7km). The route of the cable will travel through the townlands of Mountphilips, Coole, Freagh, Oakhampton, Newross, Castlewaller, Killeen, Knockacullin, Bealaclave, Baurnadomeeny, Goulmore, Laghile, Churchquarter, Knocknabansha, Knockmaroe, Knockcurraghbola Crownlands and Knockcurraghbola Commons.

3.0 Proposed Development

UWF Grid Connection

3.1. The proposed UWF Grid Connection development comprises the following constituent elements:

Mountphilips Substation

3.1.1 The 110kV electrical substation will comprise:

- 2 no. endmasts located at the Killonan – Nenagh 110kV overhead line. The end masts will be lattice towers and will be c. 16m in height.
- A compound located 230 metres east of the overhead line measuring c. 95 metres by 94 metres which will accommodate a control building (205 sq. metres). The control building will accommodate circuit breakers, electrical metering equipment and other electrical equipment, communications and control equipment and welfare facilities including a self-contained toilet and integrated rainwater harvesting system.
- 110kV busbars.
- Circuit breakers.
- Line disconnects, current and voltage measuring equipment.
- Cable chairs.
- Surge arresters.
- Lightening protection monopoles and other electrical apparatus.
- Underground cabling and access roads.

3.1.2 The 2 no. end masts will be connected to the electrical equipment in the compound via underground cable. Secure perimeter fencing comprising 2.7m high palisade fencing will surround the substation compound.

Mountphilips to Upperchurch 110kV Underground Cable

3.1.3 The 27.5km underground cable will be installed in trenches (1.25m deep and 0.6m wide) which will be laid with ducts through which electrical cables and

communications cables will be pulled. The cable lengths will be pulled through and joined together at joint bay locations, in joint bay chambers (38 no.). The ducts will be surrounded by concrete and the trench backfilled with excavated material or aggregate depending on the location. The only surface expression of the 110kV underground cable will be the manhole type covers over the joint bays and the over ground identification marker posts and marker plates.

3.1.4 Road works will be required along the 110kV UGC where the route crosses or is aligned along the public road network. There will be no joint bays along the public road corridor and road works will be limited to the cables trench. In total, there are 13 no. locations where trenching will occur within the road corridor.

Upperchurch Wind Farm Grid Connection Access Road

3.1.5 To facilitate access to Mountphilips Substation, the joint bay locations and construction work areas along the cable route, new permanent access roads will be constructed at Mountphilips and at various locations along the route of the underground cable. Other access roads, including existing farm and forestry roads will be upgraded. UWF Grid Connection access roads will consist of 8.1km of existing private roads, which will require upgrading, along with 4.4km of newly constructed permanent access roads.

3.1.6 The new access roads are required by ESB networks to gain access to joint bay locations. 2.7km of the roads will be located outside the boundary of the Slievefelim to Silvermines Mountains SPA, generally in agricultural fields. The new roads will be bounded with new earthen berms which will be planted with a mix of grassed and native hedgerow species.

3.1.7 The remaining 1.7km of new permanent access roads will be located inside the boundary of the SPA. All the new roads within the SPA will be concealed beneath vegetation directly after construction to be called concealed access roads. This will be achieved by laying rigid geocell paving material over the stone road, filled with peat/soil and planted with heather and grasses. The vegetation mix will reflect the land cover which existed prior to construction and comprise a heather and grass mix. Already matured heather and grass plants will be used.

Upperchurch Wind Farm Grid Connection Ancillary Works

3.1.8 These works will support the construction of the UWF Grid Connection and will include:

- The construction of temporary access roads (9.3km in length) along the 110kV underground cable construction works areas.
- Permanent site entrances (including the provision of sightlines) will be provided through existing farm entrances at Mountphilips, Bealaclave and Knockcurraghbola Commons.
- Temporary site entrances at public road crossings along the 110kV underground cable: A total of 25 no. temporary site entrances will be required, 20 no. through existing farm or forestry entrances and the remaining 5 comprising new entrances though the roadside boundary.
- Installation of temporary and permanent watercourse crossing structures (90 in total). No instream works are proposed for the Newport (Mulkear), Bilboa or Clare Rivers. These will be crossed by a directional drilling technique.
- Construction and use of 3 no. temporary compounds to support the construction of the grid connection. These compounds will be provided at the Mountphilips Substation location (1,090 sq. metres), approximately halfway along the Mountphilips-Upperchurch 110kV UGC at Bealaclave (860 sq. metres) and adjacent to the consented UWF substation location (860 sq. metres). The compounds will accommodate parking, site offices, canteen and welfare facilities and designated areas for materials, wastes, oils and fuels.
- Installation of drainage systems at Mountphilips Substation, around temporary compounds and along new Upperchurch Windfarm Grid Connection Access Road.
- Forestry felling: In total 1.3 hectares of forestry will be felled under a licence from the Forest Service. An equivalent area of forestry will be replanted. This replanting will be part of the UWF Replacement Forestry element of the whole UWF project.
- Temporary and permanent hedgerow/tree removal and permanent hedgerow replanting.

- Permanent and temporary fencing: The permanent fencing comprises timber and post rail fencing with gates along the new permanent access road to the Mountphilips Substation, at the 3 no. permanently widened site entrances and along either side of the 110kV UGC where the route passes through forestry or forestry firebreaks/clearlines.
- Relocation of 2 no. existing overhead electricity and telephone services.
- Storage of excavated materials at various locations within the construction works area boundary. A total of 14,050m^3 of geological material will be excavated, mainly arising from UGC trenching/joint bays, Mountphilips Substation ground works and grid connection related access roads. 8,370m^3 of the excavated material will be permanently stored along the 110kV UGC works area as linear berms and remainder (5,020m^3) will be reinstated within the works area. 660m^3 of spoil from the public road excavation will be removed to a licenced facility.
- Provision of electricity supply to Mountphilips Substation.
- Reinstatement of construction works areas: Following completion of construction works in an area, with the exception of new permanent infrastructure such as new permanent access roads or permanently felled forestry areas, the lands under construction works areas will be reinstated to their former condition and returned to the landowner.
- Reinstatement of public roads.

Whole Upperchurch Windfarm Project

3.1.9 The Board should be aware that the subject application forms part of an overall project which is referred to in the application documentation as the Whole Upperchurch Windfarm Project. The other elements of the project comprise:

<u>Upperchurch Windfarm Related Works</u>

3.1.10 There is a concurrent application (Planning Authority Reference 18/60/0913) currently under consideration by Tipperary County Council for a development comprising:

- Internal windfarm cabling (17.9km in length): to connect the consented UWF Turbines to the consented UWF substation. The majority (11.1km) of the internal windfarm cabling will be installed under consented windfarm roads or realigned windfarm roads. The remainder will be installed in agricultural lands, forestry lands and crossings under 9 no. public roads.
- Realigned windfarm roads: to realign two lengths of consented UWF roads and to provide access to a new telecom relay pole. The consented windfarm road to turbine no. 5 is 560m in length, and will replace this road in its entirety with a new road 230m in length through forestry. This will require forestry felling of 0.2 ha. The consented wind farm road between turbine no. 19, no. 20 and 21 is 840 m in length. It will replace 370m of this road with a new road also 370m in length. A short length (30m) of new access road is between the consented windfarm roads in Knockmaroe to the new telecom relay pole.
- Haul route works: To facilitate the haulage of the large turbine components such as towers and blades to the Upperchurch Windfarm site. Works include the removal of soils and laying of crushed stone and hard core in roadside edges, temporary removal and reinstatement of hedgerow and earthen banks which form roadside boundaries, permanent removal of roadside boundary and construction of temporary access roads on private lands.
- Telecom Relay Pole: 18m wooden pole to be erected in order to carry out telecoms and relay equipment, which will solve the interference with communication links impacts from operational consented UWF turbines on the communication signals between Foilnaman Mast and Laghtrseefin Mast. A small compound 25m^2 in size will enclose the pole, along with a ground based outdoor cabinet and ancillary equipment.
- RW Ancillary Works: Will facilitate the construction of the development and will include temporary access roads (5,300m); temporary and permanent watercourse crossings (involving 24 no. small field drains and 8 no. streams); temporary site entrances (14 no.); change of use at the entrance to the UWF Replacement Forestry; drainage systems around permanent features and temporary drainage around work areas; forestry felling (0.3ha); temporary and permanent hedgerow/tree removal; permanent hedgerow replanting; fencing;

relocation of existing telephone poles (5 no.); temporary storage of excavated materials (11,830m^3) at various locations within construction works area boundaries and reinstatement of roadside boundaries and public road surfaces.

3.1.11 A decision on this application is due on the 12th of January 2019.

Upperchurch Windfarm Replacement Forestry

3.1.12 A separate Afforestation Licence Application (Reference CN81893) to the Minister of Agriculture, Food and the Marine for Upperchurch Windfarm Replacement Forestry has been made. It is proposed to plant 6 hectares of forestry comprising native tree and shrub species on two adjoining parcels of agricultural lands in Foilnaman townland near the village of Upperchurch in Co. Tipperary. The UWF Replacement Forestry will fulfil the replanting obligation which will arise from the felling of forestry for the development of some of the other elements of the Whole Upperchurch Windfarm Project including the Upperchurch Windfarm Grid Connection, the Upperchurch Windfarm Related Works and the Upperchurch Windfarm itself. As noted above, 1.3 hectares of forestry will be felled to facilitate the grid connection and an equivalent area of forestry will be replanted as part of the UWF Replacement Forestry element of the whole UWF project.

Upperchurch Windfarm Other Activities

3.1.13 These activities do not require planning permission but are considered in the application as part of the overall cumulative assessment of the Whole Upperchurch Windfarm Project. The activities include haul route activities, Upperchurch Hen Harrier Scheme, monitoring activities and overhead line activities. A full description of these activities is set out in Appendix 5.6 of the EIAR and is summarised below:

Haul Route Activities: will facilitate the transportation of turbine components to the Upperchurch Windfarm site and are located at various points on the national and regional road network along the UWF turbine component haul route between Foynes Port in Co. Limerick and junction of the R503 and R497 Regional Roads in Knockmaroe townland, Co. Limerick. Activities comprise the laying of matting over verges at up to 5 no. locations, removal of street furniture (mainly signposts) and trimming of hedgerows/trees etc.

Upperchurch Hen Harrier Scheme: will enhance and protect habitat for the hen harrier in the vicinity of Upperchurch Windfarm, in order to fulfil planning condition

no. 18 of the windfarm permission. The area of the scheme is 128ha and activities will include planting of hedgerows and trees, enhancement of riparian corridors, fencing of watercourses etc.

Monitoring Activities: will monitor the Whole UWF Project for compliance with the environmental protection measures and mitigation measures.

Overhead Line Activities: include re-sagging activities and fibre wrapping activities. The purpose of the re-sagging activities is to correct the tension of the existing overhead line, following installations of the UWF Grid Connection end masts, so that the line is held within predefined tension parameters. The purpose of fibre wrapping is to provide a communication link to the newly installed Mountphilips Substation.

Upperchurch Windfarm

3.1.14 This element of the whole project comprises the windfarm development. Permission has been granted for 22 no. turbines with an overall height of 126.6 metres, 2 meteorological masts with an overall height of up to 80 metres, turbine foundation and crane hardstanding, access roads and an electrical substation. Full details of this consented application are set out in the planning history section of this report.

3.1.15 It is detailed in the application documentation that the purpose of the UWF Grid Connection, UWF Related Works, UWF Replacement Forestry and UWF Other Activities is to facilitate the construction and operation of the previously permitted Upperchurch Windfarm. The windfarm when operational will produce electricity from wind to supply the National Grid. The EIAR submitted in support of the current application before the Board considers the cumulative impact of all elements of the Whole Upperchurch Windfarm Project. EIA reports have been prepared to accompany the concurrent applications for the UWF Related Works and UWF Replacement Forestry. Copies of this documentation accompanies the current application for reference.

4.0 Planning History

Planning Authority Reference 13/510003/An Bord Pleanála Reference 243040

4.1 Under ABP Reference 243040, a 10 year permission was granted on the 12th of August 2014 for a site at: Graniera/Shevry/Knockcurraghbola/Commons/Knockmaroe/Grousehall/Cummer/Foilnaman/Gleninchnaveigh/Coumnageeha/Coumbeg/Knocknamena Commons/Glenbeg/Seskin, Upperchurch, County Tipperary for a development comprising:

Turbines: 22 no. wind turbines of the three bladed, tubular tower model, light grey in colour and an overall height to blade tip up to 126.6m. The turbines will be constructed on concrete bases with an adjacent hard core hardstand areas.

Substation: 110kV substation compound to include a control building, main transformer and other electrical equipment enclosed in a compound by palisade fence. The substation will measure 64m by 41m.

Windfarm Roads: 11.6km of windfarm access roads comprising 8km of newly built 5m wide roads and 3.6km of existing farm roads which will require upgrading and widening.

Ancillary Works: 2 no. meteorological masts up to 80m in height, 11 no. site entrances, 1 no. stream crossing, site drainage system, 2 no. construction compounds, 6 no. borrow pits, forestry felling, hedgerow removal and reinstatement; excavation, storage and reinstatement of soils.

4.2 The Board considered that, subject to compliance with the conditions set out below, the proposed development would not seriously injure the amenities of the area or of property in the vicinity, would not be prejudicial to public health and would be acceptable in terms of traffic safety and convenience. The Board further considered that, notwithstanding the cumulative visual impact of the proposal, that the receiving landscape was such that the proposal would be acceptable. The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

Application Reference 18/60/0913

4.3 As detailed above, there is currently an application for Upperchurch Windfarm Related Works under consideration by Tipperary County Council. The UWF Related Works comprise 17.9km internal windfarm cabling, realigned windfarm roads, haul route works, telecom relay pole, change of use of existing agricultural entrance to agricultural and forestry entrance and ancillary works.

4.4 Further information on this application was requested by the Council on the 10th of September 2018 and a response submitted on the 9th of November 2018. A decision is due on the 12th of January 2019. The Further Information Request related to the following matters:

- The NIS has excluded through the process of screening, both the UWF Replacement Forestry and the Upperchurch Windfarm itself from the Stage 2 of the Appropriate Assessment. Excluding these elements of the overall windfarm project at Stage 1 in close proximity to the SPA does not subsequently allow for cumulative impacts of these projects to be adequately assessed. The applicant is requested to address this issue.
- The applicants is advised that the Planning Authority is not satisfied as to the completeness of the EIAR submitted as the EIAR relies upon the EIS and EIA of the 2013 application in the presentation of cumulative effect. The applicant is requested to consider the impact of time since the collation of same and provide any update and revisions accordingly.
- Applicant requested to submit a comprehensive schedule of features/measures to avoid, prevent or reduce/offset adverse effects on the environment; schedule of monitoring measures; schedule of compensatory measures.
- Additional information regarding schedule and road network map of all public roads to be affected by the haulage operations and construction traffic; schedule and map of all new entrances and amendments to existing entrances and plan indicating appropriate sightlines, set back and forward stopping distances etc. and proposals to upgrade the junction of the R497/L2264-50/R503.

5.0 Submission of Application for Approval to An Bord Pleanála

5.1 Introduction

5.1.1 An application to An Bord Pleanála was submitted for planning approval under the provisions of S182A of the Act. The application was accompanied by the following information:

- Complete planning application form.
- Detailed drawings.
- Copies of the site notice erected on site and the published newspaper notice.
- Letters of consent from relevant landowners.
- A list of prescribed bodies to which details of the application were sent.
- Environmental Impact Assessment Report including a Non Technical Summary.
- Natura Impact Statement.
- Environmental Management Plan for UWF Grid Connection.
- Reference Documents including:

➢ UWF Related Works EIA Report including Non-Technical Summary.
➢ Environmental Management Plan for the UWF Related Works.
➢ UWF Replacement Forestry EIA Report including Non-Technical Summary.
➢ Upperchurch Windfarm EIS 2013.
➢ Response to Request for Further Information Planning Authority Reference 13/510003.
➢ ABP Inspector's Report/Board Order regarding ABP Reference 243040.

5.1.2 In accordance with the provisions of Section 181A (4) (b), Tipperary County Council was served with a copy of the application. The following prescribed bodies were also served:

- Minister for Culture, Heritage and the Gaeltacht.
- Minister for Communication, Climate Action and Environment.
- Transport Infrastructure Ireland.
- An Taisce.
- The Heritage Council.
- Inland Fisheries Ireland.

- The Commission for Energy Regulation.
- Health Service Executive.
- Environmental protection Agency.
- IDA Ireland.
- Irish Water.
- Waterways Ireland.
- Coillte.
- Office of Public Works.

5.2 **Written Submissions/Observations submitted to the Board**

5.2.1 **Planning Authority**

Tipperary County Council (22.08.2018)

- The site contains one entry on the Tipperary County Council list of Protected Structures – RPS Ref S798. It also contains or adjoins 5 other National Monuments.
- The Landscape Character Assessment of Tipperary 2016 is the relevant document in considering the proposed development in the receiving landscape, noting that the proposed substation is located north of Newport in LCA 12 as a transitional landscape.
- Environment Section advise that in general, environmental and ecological issues have been comprehensively dealt with and provided that all proposed mitigation measures and recommendations are to be enacted (as per the Environmental Management Plan and the Natura Impact Assessment), cannot foresee any major environmental issues arising during the construction and operational phases of development.
- The purpose of the proposed development is to connect Upperchurch Windfarm Substation (already permitted) to the National Grid via the proposed new substation at Mountphilips, and thereby, export electricity from Upperchurch Windfarm when constructed and operational. As such, the Planning Authority considers the proposed development as enabling works to an already permitted development and so would view the principle of same favourably. Suggest a number of conditions to be imposed should ABP consider the application favourably.

5.2.2 **Prescribed Bodies**

Department of Culture, Heritage and the Gaeltacht (23.08.2018)

- Sets out archaeological heritage recommendations. States that whilst watercourses within the footprint of the cable routes have been visually inspected, that they have not been subject of a metal detector survey. Notes that sites like fording points have high potential for artefactual material and associated marsh lands also hold potential to retain archaeology.
- Recommends a number of measures including that all excavated material from all watercourses to be spread and metal detected as part of the finds retrieval strategy and that all works within watercourse (streams and rivers) or wetland area to be subject to close archaeological monitoring.

Inland Fisheries Ireland

- Notes that at larger rivers and streams, cable crossings will be facilitated using directional drilling. The main concern from this activity relates to the disposal of waste arising from the drilling/boring operations and request that a condition be imposed ensuring that the developer liaise with the IFI to confirm method statements for the safe disposal of soil.
- Consider that for smaller streams, it would be desirable that these are crossed using open trench methodology. For the purpose of access road, bridge structures using only sufficient structures for the crossing including larger diameter pipes (1.2m) would be preferable.
- Culverts should be fish passable and large enough to accommodate stronger flows and not overflow onto the access road. Potential barriers to fish movement can be counteracted by changing to a bottomless culvert, reducing the gradient or adding substrate to create roughness. The retention of substrate may be facilitated by ensuring there are sufficient baffles in the pipe to hold substrate and provide bed roughness. It is recommended that a condition is imposed requiring the developer to contact the IFI to confirm the appropriateness of the specific bridge crossings and that there should be flexibility in the planning conditions to allow for a change in the type of culvert/bridge crossings to facilitate fish movement.

- IFI recommend that unless there is a bedrock substrate, that a strong cobble bed should be laid for the width of the watercourse and for approximately 1.5m downstream. This will allow for energy to dissipate and prevent excessive scour and suspended solids moving downstream into more important sections of the catchment.
- IFI request that a condition of planning should be that method statements for the different crossings are agreed with the IFI and confirmed in advance of the works progressing. In particular, there will be a requirement that methodologies comply with the IFI biosecurity measures for instream works.
- Silt controls during the construction and operation of the access roads will have to be monitored and settlement lagoons are likely to be required along the route. It will be essential that normal greenfield drainage is accommodated as much as possible along the route and between culverts.
- Request that in the event of an environmental emergency for significant pollution, the IFI should be added to the list of agencies to be contacted.

Transport Infrastructure Ireland (13.07.2018)

- The development currently proposed does not abut or cross the national road network. TII has no objection to the findings presented in terms of potential impact on the safety and efficiency of the national road network. Subject to operations being undertaken in accordance with the analysis and mitigation set out in the EIAR, TII has no specific comments to make on the proposed development.
- In TII's opinion, any recommendations arising from the traffic analysis contained in the EIAR should be included as conditions in any decision to grant permission in the interests of maintaining levels of safety capacity and efficiency on the national road network.

5.2.3 **Other**

Peter Sweetman and Associates, Environment and Planning Consultants on behalf of Edel and Paul Grace (21.08.2018)

- Refers to O' Grianna and others v. An Bord Pleanála IEHC 632 (2014) where it was judged that the connection to the national grid was an integral part of the overall windfarm development. The cumulative effect of both phases must be

assessed by the accompanying EIS. The judgement infers that a project cannot be split, but must be assessed as a whole project. The subject development has been split into three parts. Old paperwork for the consented windfarm is being resubmitted in the context of a cumulative assessment. At no stage will the entire project be assessed as one entire project.

- Considers that it is incorrect that within the AA scoping assessment submitted, the windfarm itself is screened out as it has already been assessed.
- State that the decision to allow the subject development to be considered Strategic Infrastructure is incorrect.
- Refers to Further Information request and response in respect of the windfarm development (Planning Authority Reference 13510003/ABP Ref. 243040) where the applicant proposed a plan that provides suitable mitigatory habitat for foraging hen harrier to offset any loss of potential foraging habitat. States that a portion of this land put forward as alternative habitat is to be replanted as replacement forestry as opposed to the required mixture of wet grassland and improved grassland. States that it is only when it is sufficiently certain that a measure will make an effective contribution to avoiding harm, guaranteeing beyond all reasonable doubt that the project will not adversely affect the integrity of the area, that such a measure may be taken into consideration when appropriate assessment is carried out.
- Refers to Grace and Sweetman c. An Bord Pleanála case (C164/17) regarding compensatory habitats and that the same issue is applicable to the grant of permission for the windfarm development which includes compensatory land for the hen harrier. Consider that the application to be examined in total would be ultra vires of both EU directive and Irish Planning law.
- States that the development will destroy the habitat of other protected species including the Marsh Fritallary Butterfly, Golden Plover and Meadow Pipit. No mitigation is proposed and habitat loss is disregarded.
- States that the measures outlined in the submission to deal with the protection of the aquatic environment rely heavily on the use of silt fencing. Consider that there is no certainty that these measures can and will work and cannot be scientifically relied upon. The competent authority must, certainly for those

elements of is decision which are capable of giving rise to reasonable scientific doubt, state detailed and expressed reasons that are such to dispel that doubt.

- With regard to cumulative impact, notes that there is a total of 88 Turbines built and operating in close proximity to both the proposed development and the SPA. States that the application provides no evidence to show where the cumulative impacts of these turbines has been described or taken into consideration.
- Consider that the cumulative effect of adding more turbines to the grid is significant and negative and takes no account of the cost of wind energy in Ireland or the lack of significant reductions on our emissions.
- States that the assessment of material assets has provided no assessment of the impact of the project on fixed wireless broadband and in this context, the EIA is incomplete.
- States that the development is a material contravention of the County Development Plan and in particular policy TWIND 4.6. In relation to the Slievefelim to Silvermines Mountains SPA, the plan advocates taking a precautionary approach and recommends avoidance of these areas for wind energy development. The majority of the grid route is located in an area deemed not suitable for wind development. As per the O' Grianna judgement, the grid connection is part of the wind turbine project and is development. To grant permission would contravene the plan.
- Notes that consent of one land owner has been withdrawn and in this context, an access road to the permitted windfarm cannot be carried out.
- Considers that the noise assessment submitted in respect of the EIS for the windfarm development is out of date as it was originally prepared in 2013. Submission refers to a number of publications regarding the negative impacts of noise from wind turbines to human health. States that it would be incorrect to accept an out of date EIS as the basis of any assessment.
- States that the EIS fails to address the issue of the degradation of turbine foundations over time and the potential cumulative impact of same and also does not adequately address reinstatement of roads.

Ned and Carmel Buckley, Gurtnara, Upperchurch, Co. Tipperary (16.01.2018)

- States that his consent regarding his lands to facilitate the development of the windfarm have been withdrawn and in this context, the development would breach condition no. 1 of Application Reference 13510003/ABP Reference 243040.
- Objects to the construction of a wind turbine adjacent to his dwelling.
- Concerns raised regarding the spread of disease and TB.
- Considers measures to protect Hen Harrier population are inadequate.

James and Tanya Embleton, Seskin House, Upperchurch, Thurles, Co. Tipperary (16.08.2018)

- Considers that the application contravenes the Aarhus Convention given the extent and complexity of the documentation and the limited time frame to comment on same.
- Considers that cumulative impact has not been adequately assessed due to project splitting and that the development contravenes the decision in respect of O' Grianna v. An Bord Pleanála.
- State that wind farms create little employment potential after the construction phase. The development will reduce property values, reduce visitors to the area and impact negatively on tourism. Consider that the turbines will have an adverse visual impact.
- State that the wind farm will have adverse noise impacts and that issues such as sleep disturbance need further investigation. Consider that noise assessment should be carried out using the linear scale. Concerns regarding noise impacts to Upperchurch School.
- There is no evidence scientific or otherwise to suggest that wind turbines reduce carbon emissions or produce a realistic amount of power. Submit that on most days all renewables are running at less than 10% of the fuel mix and at times have to draw power from the grid to run. Does not consider the development will have a positive impact on Climate.
- Query whether turbines are in compliance with the European Machines Directive and whether there are suitable measures to deal with wildfires caused by turbines.

- Concerns raised that the project has been deemed a SID project and that this results in project splitting.
- Objects to the route choice which is in part located through the SPA and considers that construction works in this sensitive area will have environmental consequences. State that it would be considerably safer to follow public roads where any excavation is planned and regulated and the risk of accident would be reduced, as would disturbance and contamination of the SPA.
- In relation to the decommissioning of the project, object to the proposal to leave concrete from the cables and turbine bases in the ground. Concern that this will cause alkaline leaching, adversely impacting on the SPA, water and drainage. Also consider that roads should be removed and land reinstated. State that there is no information how wind turbine blades will be disposed of once decommissioned.
- Consider that environmental protection measures accepted with the UWF application need to be revisited as substitution habitat proposed for the hen harrier population is unacceptable as there is no scientific proof that it is effective (refer to Grace and Sweetman ECJ 25/7/2018). As the application is split, the whole application must be treated as a new application.
- Concerns regarding human health impacts including potential contamination to water supply to dwellings in the vicinity. Consider that water in private wells needs to be monitored over a long period.
- State that construction hours should be restricted from 8am to 6pm Monday to Friday and 9am to 1 pm on Saturdays.
- Consider that the development will have an adverse impact on the local road network and may result in internet disruption or reduction.
- State that it unlikely the survey submitted with the application fully assesses the extent of the Marsh Fritillary Butterfly. Concern regarding the fact that the development will result in the loss of up to 20% of the habitat for this species. Anecdotal evidence that the wind farms cause the migration of flora and fauna.

Emer Ó Siochrú and Toal Ó Muiré, Coumnageeha, Upperchurch, Thurles, Co. Tipperary (23.08.2018)

- The application represents project splitting and should be considered as one comprehensive proposal.

- Consider that it is unreasonable for ordinary citizens to assess the highly technical documents submitted with the application. State that non-technical summary is inadequate and does not fully address the impacts on biodiversity.
- State that applicant proposes compensatory measures for the endangered Hen Harrier as a mitigation measure which is contrary to recent EU case.
- Object to the routing of the cables and states that these should be laid along the public roads. Requiring Ecopower to compensate the Council for the remedial works necessitated by the cable would have mitigated the cost of any damage caused. The disruption on secondary routes and back roads during works would be temporary and could be minimised by good project planning and scheduling whereas, the impact on vulnerable protected habitats of the adopted route could be permanent. Consider that cost and commercial reasons underlie the selection of the route through rural protected sites and that this route may have be chosen to facilitate access to the cable for further wind or solar farms. State that any scoping opinion on this matter should be made available to the public.

Gerard and Mary Ryan (Cooney), Knockcurraghbola Commons, Upperchurch, Thurles, Co. Tipperary (20.08.2018)

- Object to location of turbines and potential noise, shadow and flicker impacts.
- Object to the location of the substation and its proximity to their dwelling. Concern regarding potential noise impacts.
- Concern regarding impacts of TB spread to dairy herd from displaced badgers and deer. Consider that flora and fauna surveys submitted are out of date. Object to proposed compensatory habitat for Hen Harrier population.
- Concern regarding spread of invasive species. Consider that rivers and wells will be adversely affected due to the extent of water crossings required.
- Note that consent from one of the landowners has now been withdrawn.

Teresa Moser and Others, 2 Seanhalla, Rearcross, Newport, Co. Tipperary (09.07.2018)

- Concern regarding the location of the cable and its impact on the access to their farm. Families will be affected by the cable line when going to work and taking children to school.
- The lands proposed for the cable route are habitat for the Hen Harrier.

6.0 APPLICANTS RESPONSE TO THE OBSERVATIONS SUBMITTED

6.1 A detailed response to the observations is provided by the applicant. The principal points can be summarised as follows:

Project Splitting

- Notes that a number of court decisions since O' Grianna and Others v An Bord Pleanála have confirmed that the law does not require that planning permission for all integral parts of large projects must be obtained at the same time, or as part of a single application to one consenting authority. Refers to relevant case law - North Kerry Wind Turbine Awareness Group v An Bord Pleanála (2017) IEHC 126 and Alen Buckley v An Bord Pleanála (2017) IEHC 541.
- The UWF Grid Connection is one of 5 elements of the whole UWF project. In the UWF Grid Connection EIA Report, both the effects of the UWF Grid Connection and cumulative effects of all five elements of the whole project are evaluated. Sufficient information has been provided to enable the Board to assess any likely significant effects of the project as a whole.

AA Screening

- State that the already consented Upperchurch Windfarm was subject to AA by An Bord Pleanála in 2014. The NIS submitted with the UWF Grid Connection application comprises a detailed evaluation of the potential impacts on European sites of the UWF Grid Connection and other elements of the UWF project individually and in combination with other plans and projects.
- Note that the NIS has been carried out in accordance with the methodology outlined in European Guidance, the identification of potential or likely significant effects on a European site is the 'test' at Stage 1 screening, and the evaluation of the effect of the development on the integrity of European Sites is the 'test' at Stage 2 of the Appropriate Assessment process. Environmental protection measures are not taken into account at Stage 1 screening, but are included at Stage 2 so that mitigation of adverse impacts can be evaluated. This is in accordance with EC Guidelines and with recent case law. Compensatory measures are not proposed.

Compensatory Measures

- During the submission period on the planning application for Upperchurch Windfarm (2013), the DAU (NPWS) made a submission to Tipperary Co. Co. stating that, because the windfarm is located close to the boundary of the Slievefelim to Silvermines Mountains SPA for Hen Harrier, it should be treated as being within the SPA for the purposes of evaluating the ex-situ effects on Hen Harriers which breed within the SPA but forage outside of the SPA.
- The Upperchurch Hen Harrier Scheme, which is a management plan to enhance and protect foraging areas for the Hen Harrier outside of the SPA, was proposed by the developer in response to the submission by the DAU. The implementation of this scheme is conditioned in planning condition no. 18 of the consent to the windfarm.
- Consider that the submission regarding the efficacy of this mitigation measure pertaining to the parent permission for the windfarm is an impermissible collateral attack on that planning permission. For the avoidance of doubt, the Upperchurch Hen Harrier Scheme is a mitigation measure and not a compensatory measure. A compensatory measure is one aimed at compensating for the adverse effects of a project on a protected site. However, no element of the Upperchurch Windfarm project will adversely affect the integrity of a European site.
- In the UWF Grid Connection NIS, the effects on the Slievefelim to Silvermines Mountains SPA are evaluated for a reduction in or loss of, suitable or potentially suitable Hen Harrier foraging habitat. The evaluation is that there will be no permanent exclusion of Hen Harrier from foraging habitat within the SPA due to the UWF Grid Connection and, therefore, no adverse effects. The positive effects of the Upperchurch Hen Harrier Scheme are not taken into account in this table.
- Refer to previous Inspector's Report and the statement that *"irrespective of whether these alternative foraging areas offered by way of mitigation, are or are not provided, I am satisfied that no adverse effects arise from the development in relation to the Natura Site and any qualifying interest or objectives."*

Cumulative Impacts of Other Windfarms

- An area of 15km around the footprint of the subject development UWF Grid Connection and around the other elements of the Whole Upperchurch Windfarm project was used to scope other large projects and relevant activities with potential to cause cumulative effects.
- In total, 32 projects and 3 activities were scoped for potential to cause cumulative effects. Bunkimalta windfarm is generally scoped in as there is the potential for this large project to be constructed at the same time as the UWF Grid Connection project. Windfarms at Knockmealse, Ballinlough, Curraghgraigue and Ballinveny were excluded as due to their size and distance, they were considered unlikely to cause cumulative effects. Notes that all of the turbines in the Hollyford area to the south are included due to the large number of turbines in this area and its proximity to the Upperchurch area.

Use of the 2013 EIS and 2014 EIA to Inform the Cumulative Assessment

- The use of previous assessments is established in the EIA Directive where it states that, with a view to avoiding duplication of assessments, the results of other assessments should, where relevant and available, be taken into account.
- Consider that the 2013 EIS and 2014 EIA are valid sources of information on the Upperchurch Windfarm for the UWF Grid Connection EIA Report. There have been no material changes in the receiving environment of any of the EIA topics.
- The competent experts who prepared the 2018 EIA Reports reviewed the Upperchurch Windfarm 2013 and 2014 assessments as part of their studies of the baseline environment and studied the area again in 2017, as part of field and desktop studies. These field trips and desktop studies enabled the experts to ascertain the existing environment and the trends in the existing environment. The periods covered by trends are generally a decade long or more, as change in the local environment is expected to happen slowly, over a long period of time. The trends identified in the existing environment encompass the 2012-2014 assessment period for the Upperchurch Windfarm, and together with site visits and surveys in 2017, this enabled the competent experts to consider the impact of time.

Material Contravention of the Development Plan

- State that the submission by Tipperary County Council consider the development to be enabling works to an already permitted development. The proposed development is not a windfarm. It is grid enabling works for an already permitted windfarm which is to be developed in a policy area open for consideration for new wind energy development.

Route Selection

- Alternative routes for the underground cable are examined in the EIAR (Ch. 4). The route of the 110kV Underground Cabling along farm and forestry roads across lands through the SPA was carefully selected and environmental protection measures were designed into the project to avoid of minimise effects. Both the EIA Report and NIS show that the route selected for the UWF Grid Connection will not cause significant adverse effects to the environmental factors and will not adversely affect any European Sites.

Cost of Wind

- Notes that the observer's submission regarding the *"Cost of Wind Energy in Ireland"* was reviewed by the Commission for Regulation of Utilities who noted that the report is supported by a number of inaccuracies and misunderstandings of the regulatory framework. Also note that the report does not set out an alternative view of how Ireland might meet its renewable commitments by 2020. States that wind generated electricity production is not the only factor that influences the energy process in Ireland.
- Wind power is now producing 24% of Ireland's electricity demand. The variability in the wind power is catered for in the electricity system where demand levels for electricity also vary all the time.

Ownership Consent

- State that one of the observers was in dispute with the Upperchurch Windfarm project whereby consent was withdrawn to apply for the development. The dispute was subject to a Judicial Review challenge and the judge ruled that the applicant had given a valid and informed consent to the developer to make the application. The relevant land is not located within the boundary of the UWF

Grid Connection site, nor is it within close proximity to the boundary, being 3km to the nearest point of the UWF Grid Connection.

Non Technical Summary/Extent of Documentation

- The information to be provided in an EIA report is set out in Article 5 and Annex IIA and Annex IV of the EIA Directive. The information requirements are extensive and it was the EIA co-ordinators aim to set out the environmental information in a rational and systematic format. The result is an EIA Report that is concise and well integrated across the topic factors.
- The Non-Technical Summary provides a concise but comprehensive description of the project, the effects on the environment and an overview of the approach to the assessment. The authors are satisfied that should a member of the public wish to understand and become involved in the planning of the project, that the Non-Technical Summary provides an accessible and accurate reflection of the information contained in the EIAR. The NTS provides enough information to understand the implications of the subject application.

Loss of Habitat in Relation to Marsh Fritillary, Golden Plover and Meadow Pitpit

- Note that these species are not listed as Special Conservation Interests of the Slievefelim to Silvermines Mountains SPA. The effects on these species are evaluated in the Biodiversity Chapter of the EIAR and it is concluded that the effects of habitat loss or disturbance/displacement will not be significant.
- Marsh Fritillary surveys were extensive. It was evaluated that cumulative habitat loss effects as a result of all elements of the whole project will be of slight adverse significance due to the overall extent and degree of habitat loss (5.1% of available habitat); the County importance of the Marsh Fritillary Butterfly and the long term nature of the loss which is offset by the absence of Marsh Fritillary larvae webs in the habitats to be lost.

Efficacy of Silt Control Measures

- State that there are no populations of Freshwater Pearl Mussel in the Mulkear regional catchment of the River Shannon, and, therefore, there is no potential for effects to Freshwater Pearl Mussel as a result of the UWF Grid Connection or any other element of the Whole Upperchurch Windfarm Project. Potential

impacts on the Freshwater Pearl Mussel are fully assessed in the Biodiversity Chapter of the EIAR.

- Note that measures to protect the aquatic environment include silt fencing, but a range of other measures are also proposed. There is no reliance on a single type of drainage measure at any proposed works area. There are 23 Project Design Environmental Measures and 13 no. Best Practice Measures proposed for the protection of surface water quality. These measures have been developed in consultation with Inland Fisheries Ireland and use best practice water course crossing techniques which are tried and tested regularly across the country.
- The proposed use of siltbusters is as a final stage treatment measure at larger watercourse crossings where directional drilling is to be carried out and possibly at the Mountphilips substation. The water that will require treatment at these locations will contain mineral subsoil or fluvial deposits which will settle out in settlement ponds.

Climate

- It is established EU and National Policy to develop renewable resources with the generation of electricity from wind as one of the main technologies to be deployed.
- Every Kilowatt of electricity generated by wind power avoids CO_2 emissions from electricity generated by non-renewable sources such as coal, peat, oil, gas and non-renewable waste. The latest SEAU report *"Energy-related CO_2 Emissions in Ireland 2005-2016"* lists avoided CO_2 emissions due to wind power generation which in 2016, were over 2 million tonnes of CO_2.

Material Assets

- Note that condition no. 13 for the Upperchurch Windfarm requires that in the event that the turbines cause interference to telecommunications signals, that effective measures shall be introduced to minimise interference with telecommunication signals in the area.

Noise and Vibration

- During the operational phase the Mountphilips substation will emit noise, though levels will not be audible above existing background levels at the

nearest residence and there is no potential for cumulative effects with the operational windfarm. Construction noise will be short term and temporary. Noise impact is comprehensively addressed in the EIAR.

- Upperchurch National School is located 4km from the nearest point of the UWF Grid Connection and there will be no construction traffic through Upperchurch Village.
- There will be no significant sources of vibration during the construction phase due to the absence of piling and blasting on site. Road opening, rock breaking and earthmoving activities will be at a very low level with expected levels of between 0 and 1mm/s at 10m distance. There are no sources of vibration during the operational phase.

Road Safety

- This issue is addressed in Chapter 15 of the EIAR and it is concluded that the application of advanced signage and traffic management measures on the approach to any works or site access points; the provision of sightlines at permanent site entrances; the use of flagmen at temporary entrances and the application of speed restrictions on vehicles delivering construction materials along the local road network will ensure the continued safe passage of all road users.

Concrete Leaching

- All concrete used for the construction of the turbine bases will conform to Irish Standard EN 206:2013. In relation to decommissioning of these bases, this will be carried out under Condition 22 of the Upperchurch Windfarm permission, where the removal or covering of soil of turbine bases and road will be agreed with the Planning Authority prior to decommissioning of the windfarm.
- The effects on soils due to the contamination by cement based compounds is evaluated in Section 10.2.4.5 where it is determined the effects will be imperceptible. The effects on water quality are assessed in Chapter 11 and are also deemed to be imperceptible.

Safety of Cabling

- The underground cables associated with the UWF Grid Connection will be set in concrete in the cable trench and will be identified by three layers of warning

tape. The location above ground is identified with marker posts. Host landowners will be supplied with cable mapping post construction.

Local Wells

- Due to the shallow depth and temporary nature of the excavations associated with the construction works, the potential for impacts to local wells/springs is limited to physical contact with the well head/source or localised changes to surface water run/off/groundwater flow or localised contamination of the source by fuel/oil spills/cement based compounds. Long term protection is not required because there won't be any excavations within 50m of a well or spring during the operation of the grid connection.

Bovine TB

- Displacement of badger or deer is evaluated in Chapter 8 of the EIAR. Displacement effects are not likely to be significant. The spread of TB was not included as a potential impact in the EIAR, as information from local consultation with landowners was that Bovine TB outbreaks have not been a significant issue in recent years either along the UWF Grid Connection route or at the windfarm location.

Invasive Species

- An Invasive Species Management Plan has been prepared. The implementation of the Plan will be overseen by the Environmental Clerk of Works along with an invasive species specialist. There are no Japanese Knotwood infestations with the construction works boundaries. The purpose of the plan however, is to ensure that infestation close to the boundaries are contained.

7.0 POLICY CONTEXT

National Planning Framework

7.1 The National Planning Framework (NPF), 2018, is the overarching national planning policy document for Ireland. It is a high level strategic plan that sets out a vision for Ireland to 2040, expressed through ten National Strategic Outcomes (NSO). One of the key goals of the NPF (National Strategic Outcome 8) is that of Transition to a Low Carbon and Climate Resilient Society. It acknowledged that Ireland's energy policy is focussed on the pillars of sustainability, security of supply and competitiveness. It is stated:

"In the energy sector, transition to a low carbon economy from renewable sources of energy is an integral part of Ireland's climate change strategy and renewable energies are a means of reducing our reliance on fossil fuels."

7.2 It is an objective that:

"40% of our electricity needs will be delivered from renewable sources by 2020 with a strategic aim to increase renewable deployment in line with EU targets and national policy objectives out to 2030 and beyond."

7.3 National Policy Objective 55 states:

"Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050."

Energy Policy Framework 2007 – 2020 – Delivering a Sustainable Energy Future for Ireland (Energy White Paper)

7.4 This white paper sets out a strategic energy policy framework to deliver a sustainable energy future for Ireland. One of the key elements of the policy framework is to ensure the delivery of security of supply, which is considered to be essential for all sectors of the economy, for consumers in general and for society as a whole. The key items needed to deliver a secure supply of electricity on a consistent basis are identified as robust networks and electricity generating capacity. To this end, it is an overall objective to strongly support electricity investment programmes in the high voltage transmissions network and the

distribution network, in order to facilitate regional development. The White Paper also sets the target of 33% of electricity being produced from renewable generation by 2020. It estimates that wind energy will provide up to 90% of the renewable energy required to meet these targets.

National Renewable Energy Plan 2010

7.5 The National Renewable Energy Action Plan (NREAP) sets out the Government's strategic approach and concrete measures to deliver on Ireland's 16% target under Directive 2009/28/EC. It states that the Government has set a target of 40% electricity consumption from renewable sources by 2020. The plan notes that the majority of the renewable electricity target will be delivered by onshore wind. Ireland's Fourth Progress Report was submitted in February 2018. Ireland has met the interim target set by the Renewable Energy Directive for 2015-2016, reporting an average final energy consumption of 9.5% over that two year period, against a target level of 8.92%.

Strategy for Renewable Energy 2012-2020

7.6 The Strategy states that the Government's overriding energy policy objective is to ensure competitive, secure and sustainable energy for the economy and for society. It states:

"Renewable energy, allied with energy efficiency, is crucial to our goals of secure sustainable and competitive energy supplies reducing dependency on expensive fossil imports and underpinning the move towards a low carbon economy."

7.7 Strategic Goal 1 states:

"Progressively more renewable electricity from onshore and offshore wind power for the domestic and export markets".

Government Policy Statement on the Strategic Importance of Transmission and Other Energy Infrastructure, July 2012

7.8 In this policy statement the Government acknowledges the essential need to meet the demand for energy in a safe, secure and continuous manner as it is the lifeblood of the economy and society. It reaffirms the imperative need for development and renewal of the energy networks, in order to meet both economic and social policy goals. The Government endorses, supports and promotes the

strategic programmes of the energy infrastructure providers, particularly EirGrid's Grid 25 investment programme across the regions. The benefits are identified as securing electricity supply to homes, businesses, factories and farms, underpinning sustainable economic growth in the regions and enabling Ireland to meet its renewable energy targets.

White Paper - Ireland's Transition to a Low Carbon Energy Future, 2015-2030

7.9 This energy policy covers the time frame up to 2030. Chapter 5 of the document, *"Delivering Sustainable Energy: Efficiency, Renewables, Technology"*, sets out government priorities in the area of renewable energy up to 2030. This includes incorporating higher penetration of renewable energy sources. It is recognised in the document that conventional sources of energy will remain a significant component of supply over the period to 2030. Beyond 2030, the paper sets out a vision of a radical transformation of Ireland's energy system which is required to meet our climate policy objectives. It is stated that this transformation will result in a low carbon energy system by 2050 with GHG emissions from the energy system reduced by between 80% and 95%, compared to 1990 levels.

7.10 The significant contribution of onshore wind in this transition is recognised. It is detailed that to achieve the 2020 40% target, the average rate of build of onshore wind generation will need to increase to up to 260MW per year.

Draft Renewable Energy Policy and Development Framework 2016

7.11 The Framework notes that under the 2009 Renewable Energy Directive, EU Directive 2009/28/EC: On the promotion of the use of energy from renewable resources, Ireland is committed to produce at least 16% of all energy consumed by 2020 from renewable sources. This will be met by 40% from renewable electricity.

7.12 The main principles of the Renewable Electricity Policy and Development Framework include:

- Maximise the sustainable use of renewable electricity resources in order to develop progressively more renewable electricity for the domestic and potential, future export markets.
- Assist the achievement of targets for renewable energy, enhance security of energy supply and foster economic growth and employment opportunities.

Grid25 A Strategy for the Development of Ireland's Electricity Grid for a Sustainable and Competitive Future' (2008)

7.13 EirGrid's Grid 25 strategy provide a strategic overview for the development of the electricity transmission system to 2025 and beyond. It is based on a vision of delivering a strong, cost efficient transmission system, which will be essential for facilitating regional economic growth and to facilitate the achievement of Ireland's renewable energy goals. A review of Grid 25 completed in 2015 confirmed inter alia the urgent need for investment in the electricity transmission system. The overall scale of Grid 25 was reduced on foot of reduced projected demand and the availability of new technologies.

Regional Planning Guidelines for the Mid West 2010-2022

7.14 The guidelines notes that the region has a substantial renewable energy resource potential. It states that in general favourable consideration should be given to renewable energy projects provided that consideration has been given to the environmental and social impact of such development.

North Tipperary County Development Plan 2010-2016

7.15 The current statutory plan for the area is the North Tipperary County Development Plan 2010-2016. The Plan has had its lifetime extended (11A Planning and Development Act 2000, (as amended)), and will remain in effect until a new Regional Spatial and Economic Strategy is made by the Southern Regional Assembly. Thereafter, a new Tipperary County Development Plan will be made. The plan incorporates the Tipperary Renewable Energy Strategy 2016. It is stated that the Core Aim is to ensure that the County continues to be a leader in addressing climate change through the facilitation of appropriately located renewable energy developments. The Vision of the document is:

"The Council will seek to support and facilitate the development of the renewable energy sector in line with the strategic goals set out by the Department of Communications, Climate Action and Environment whilst balancing the need for new development with the protection of the environmental, cultural and heritage assets of the county."

7.16 Appendix 1 of the document includes the Tipperary Wind Strategy 2016. Relevant policies and objectives include:

TWIND 1: General Policy Statement on Wind Energy Development

"It is the policy of the Council to support, in principle and in appropriate locations, the development of wind energy resources in County Tipperary. The Council recognises that there is a need to promote the development of 'green electricity' resources and to reduce fossil fuel dependency and greenhouse gas emissions in order to address the global issue of climate change, and to comply with European and International policies with regards to renewable and sustainable energy resources."

7.17 The Strategy notes in section 5.11 that significant parts of the Slievefelim-Silvermines and the Hollyford Hills are subject to Natura 2000 designations and are designated as Secondary Amenity Areas in the County Development Plan. It is stated:

"The combined area at this location has seen the greatest intensity of wind energy development in recent years and there remains approximately 80 permitted turbines yet to be constructed in this area. It is recommended, in view of the significant numbers of turbines yet to be constructed, and in view of the environmental designations of the area, that over the lifetime of this Strategy that a precautionary approach to wind energy development in these areas be undertaken and that they be designated as unsuitable for new wind energy development. This will not preclude the repowering of existing developments or the construction of permitted developments, however, it will prevent new wind energy development in the meantime."

7.18 Other relevant polices of the County Development Plan include:

Policy LH1: Landscape Management and Protection

"It is the policy of the Council to facilitate new development which integrates and respects the character, sensitivity and value of the landscape in accordance with the designations of the County Landscape Character Assessments."

Policy LH2: Protection of Visual Amenity and Character of Primary and Secondary Amenity Areas

"It is the policy of the Council to ensure the protection of the visual amenity, landscape quality and character of designated Primary and Secondary Amenity Areas. Development which would be an adverse impact on the visual amenities of the area will not be permitted. New development shall have regard to the following:

a) Developments should avoid visually prominent locations and be designed to use existing topography to minimise adverse visual impact on the character of primary and secondary amenity areas.

b) Buildings and structures shall ensure that the development integrates with the landscape through careful use of scale, form, finishes and colour.

c) Existing landscape features, including trees, hedgerows and distinctive boundary treatment shall be protected and integrated into the design proposal.

d) Development shall comply with the development standards set out in Chapter 10."

Policy LH6: Natura 2000 Sites and Protected Species

"It is policy of the Council to ensure the protection, integrity and conservation of existing and candidate Natura 2000 site and Annex 1 and II species listed in EU Directives. Where it is determined that a development may independently, or cumulatively, impact on the conservation values of Natura 2000 sites, the Council will require planning applications to be accompanied by a Natura Impact Statement in accordance with 'Appropriate Assessment of Plans and Projects, Guidelines for Planning Authorities (DEHLG2009)' or any amendment thereof."

8.0 PLANNING ASSESSMENT

8.1 Introduction

8.1.1 As noted in the introduction, the development the subject of this application under the Strategic Infrastructure provisions of the Planning and Development Act, is for the purpose of connecting the permitted UWF Substation at Upperchurch Windfarm to the proposed substation at Mountphilips. The Mountphilips Substation will be connected to the existing adjacent Killonan-Nenagh 110kV Overhead line and thus export electricity from the windfarm when constructed and operational to the National Grid. The Board determined on the 20th of September 2018 that an Oral Hearing in respect of the application should not be held.

8.1.2 I have examined the file and the submissions/observations received, considered national, regional and local policy guidance and I have inspected the site. I consider the main planning issues relevant to the assessment of this strategic infrastructure development application are as follows:

- Procedural and Legal
- Compliance with Strategic and Local Land Use Policy
- Impact on Residential Amenities
- Route Options

8.2 Procedural and Legal

Principle of Parent Windfarm Development

8.2.1 It is noted that multiple objections to the previously permitted windfarm development (13/510003/An Bord Pleanála Reference 243040) have been submitted by a number of the observers. Concerns and objections are raised on matters including:

- Noise impact.
- Shadow and flicker impact.
- Impacts to human health from turbines.
- Degradation of turbine foundations and decommissioning of turbine structures.

- Fire risk.
- Reduction in property values.
- Potential impact on tourism.
- Adverse visual impact of turbines.
- Lack of employment generation.

8.2.2 I consider that all potential environmental impacts associated with the parent windfarm development have been fully assessed in the previous Inspector's Report and Board decision pertaining to this development. The subject application is for the underground grid connection and substation and is considered enabling works to the permitted windfarm. It is a standalone application and the merits of the proposed development must be considered in its own right, albeit in combination with the effects of the permitted windfarm for the purposes of carrying out EIA. . The applicant has provided a detailed assessment of potential cumulative impacts with the permitted wind farm development where appropriate. Merits or otherwise of a decision made by An Bord Pleanála on a previous planning permission are not for review. However, in combination effects where appropriate will be considered in this assessment.

Determination that Proposed Development Constitutes Strategic Infrastructure Development

8.2.3 It is asserted by one of the observers that allowing part of this overall project to be assessed as SID in incorrect. As set out in Section 1 of this report, pre application consultations were initiated on behalf of the applicant to assess whether or not the proposed substation and underground electrical cable constituted infrastructure under the provisions of the Act (Reference VC0098). On foot of an assessment by the Board, who are the competent authority for making this Strategic Infrastructure determination, a direction was issued in January 2018 stating that the proposal constitutes strategic infrastructure. I do not, therefore, intend to review this matter further in this assessment of the merits of this consequent planning application.

Consent of Landowner to Implement Permission Under Planning Authority 1351003/ABP Reference 243040

8.2.4 Reference is made by two parties that in relation to the permission for the windfarm development permitted under 13/510003/An Bord Pleanála Reference 243040, consent of one of the landowners has been withdrawn and it is not possible to implement the permission as permitted. It is highlighted by the applicant that this issue has already been subject of an unsuccessful Judicial Review. It is considered that this is a matter outside the scope of this assessment as it relates to a separate permitted development and has no bearing on the application currently before the Board. The current application for the substation and underground cable must be considered on its own merits. All necessary letters of consent relevant to the subject application have been submitted by the applicant and I am satisfied that the applicant has the necessary legal interest to make the application.

Aarhus Convention

8.2.5 I note concerns raised by some of the observers regarding the extent of documentation submitted and its technical nature and the comments that the application is contrary to the Aarhus Convention. Objections are also raised regarding the Non Technical Summary.

8.2.6 I am satisfied however, that the participation of the public has been appropriately afforded and effective and the application has been made accessible to the public by electronic and hard copy means with adequate timelines afforded for submissions. All of the application reports, drawings and figures are available for examination on a public website.

8.2.7 A non-technical summary was also submitted with easy to understand language and content. It has been written in non-technical language without technical jargon, avoiding technical terms, detailed data and scientific discussion. As detailed by the applicant in their response to the submissions on the application, the NTS provides a concise but comprehensive description of the development, the environment, the effects on the environment and an overview of the approach to the assessment. I am satisfied in this context, that the rights of third parties were not prejudiced and the EIAR and NTS are compliant with the relevant guidance and regulatory requirements.

8.3 **Compliance with Strategic and Local Land Use Policy**

8.3.1 The current application before the Board is made under the provisions of Section 182A of the Planning and Development Act 2000 (as amended) and relates to the provision of an electricity substation and underground grid connection to serve a previously permitted windfarm development comprising 22 no. turbines.

8.3.2 The importance of renewable energy is clearly acknowledged at a national, regional and local level and there are a suite of policy documents that support and promote the transition to a low carbon and climate resilient society. Ireland is committed to produce at least 16% of all energy consumed by 2020 from renewable sources. This will be met by 40% from renewable electricity, a major source of which, is wind power. Under the National Planning Framework, National Policy Objective 55 seeks to *"Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050."* In the White Paper - Ireland's Transition to a Low Carbon Energy Future, 2015-2030, the significant role and contribution of onshore wind in this transition is recognised and it is detailed that to achieve the 2020 40% target, the average rate of build of onshore wind generation will need to increase to up to 260MW per year.

8.3.3 It is estimated that the amount of electricity that will be exported from the permitted Upperchurch Windfarm will be approximately 2% of the total wind electricity made in Ireland. It, therefore, has the potential to play a significant role in meeting the government's renewable energy targets. The proposed substation and underground cable development is a critical piece of enabling infrastructure to facilitate the operation of the windfarm. Its development supports the wider aims and objectives of the NPF and other relevant policy documents outlined in section 7 above with regard to promoting and developing renewable energy. In this context, I consider the principle of the development to be entirely appropriate and consistent with strategic policy objectives at a national, regional and local level.

8.3.4 I note that a number of the observers raise concerns and objections regarding wind energy and assert that it is an ineffective means to reduce our carbon emissions. Specific reference is made to a report entitled *"The Cost of Wind Energy in Ireland"* by Wind Aware Ireland (WAI). A further peer review study is also submitted which it is stated demonstrates that wind energy increases our use and dependence on fossil fuels.

8.3.5 The response by the applicants to the observations submitted notes that the WAI report was reviewed by the Commission for Regulation of Utilities in response to a request from the Public Accounts Committee. The Commission's Report notes that the WAI Report is supported by a number of inaccuracies and misunderstandings of the regulatory framework. It also notes that the report does not set out any alternative views as to how Ireland will meet its renewable commitments by 2020. It concludes that the Public Accounts Committee should not use the reports as a basis to evaluate energy policy. The Peer Review Study submitted does not include any analysis of the renewable sector in Ireland. I am satisfied, therefore, on this basis, the observers have not submitted sufficiently robust documentation that overrides or discounts the importance of wind energy as an integral part of Ireland's renewable energy strategy.

8.3.6 The North Tipperary County Development Plan which includes the Tipperary Wind Strategy 2016 also clearly supports the development of the renewable energy sector. I note that it is contended by one of the observers that the subject substation and grid connection represents a material contravention of the development plan. It is stated that the development contravenes the plan as it is located in an area deemed not suitable for wind development.

8.3.7 It is detailed in the Tipperary Wind Energy Strategy (which forms an appendix to the County Plan) that there has been a high intensity of wind energy development around the Slievefelim-Silvermines and the Hollyford Hills uplands. It is stated that in view of the significant numbers of turbines yet to be constructed, and in view of the environmental designations of the area, that over the lifetime of the Strategy that a precautionary approach to wind energy development in these areas be undertaken and that they be designated as unsuitable for **new** wind energy development (my emphasis). I do not consider that this policy is applicable to already permitted windfarm developments. The proposed development is an essential piece of enabling infrastructure to facilitate the operation of an already permitted windfarm. I do not consider it to constitute a new wind energy development as per the direction of the Energy Strategy. I also note that in their submission Tipperary Co. Co. fully endorse and support the proposal and consider it as enabling works to an already permitted development. In this regard, I am satisfied that the development does not constitute a material contravention of the

County Development Plan. The Board in any case in their consideration of Strategic Infrastructure cases is not confined in its decision making in the same way as it is for normal planning applications and appeals where material contravention of a Development Plan is cited.

8.3.8 In conclusion, I consider the grid connection and substation as essential enabling infrastructure to support the permitted wind farm development and I consider that the associated overall development complies with and supports the wider strategic objectives set out in national, regional and local policies, all of which seek to promote and develop renewable energy and facilitate the transition to a low carbon economy.

8.4 **Impact on Residential Amenities**

8.4.1 In considering potential impacts of the development on residential amenities, the most relevant considerations relate to landscape and visual impact and noise impact. I note that concerns have been raised by some of the observers regarding the impact of the substation.

8.4.2 A detailed assessment of the potential noise impacts of the proposed development is set out in Chapter 12 of the EIAR (refer to Table 12.2.4.2 and 12.2.4.3). In terms of construction impacts, there is potential for noise emissions from working plant or machinery, particularly during excavation works. It is stated in the EIAR that construction works will take place at up to 7 different locations along the route. There are no residential properties or community facilities within 350 metres of the Mountphilips Substation. There are 127 no. local residences and 6 no. community facilities within 350 metres of the remaining UWF Grid Connection construction works area, of which only 22 will be within 60 metres. A range of mitigation measures are set out to minimise noise during the construction phase and whilst it is likely that there may be some impacts during the construction phase, these impacts will be temporary and short term in nature. In this context, I am satisfied that no material adverse impacts to residential amenity will arise.

8.4.3 In terms of the operational phase, it is identified in the EIAR that there are 6 residential properties within 400 metres of the Mountphilips substation site, the nearest of which is 385 metres. Noise surveys were undertaken from a representative similar substation in Kerry and it is stated in the EIAR that a noise

level of 60 dB(A) was measured at 5m, which would result in a worst case of 22dB at 385m. This is well below the low background noise threshold of 35dBA for low background noise levels. In this regard, the noise levels from the proposed substation will be negligible and will have no impact on local residences.

8.4.4 In terms of the substation and its potential visual impact, it is noted that it will be located within the rolling lowland farmland context around Newport. The landscape is not considered rare or distinctive. It is detailed in the EIAR that the new substation will have a minor but permanent impact on the rural landscape fabric of its site and immediate surrounds. However, noting the distances to the nearest residential receptors and the fact that it is not readily visible from surrounding roads and residences, I am a satisfied that potential visual impacts will be minimal. Visual impacts could potentially be further minimised through planting and appropriate boundary treatment to the substation.

8.5 **Route Options**

8.5.1 The potential route options considered for the proposed underground cable are set out in Chapter 4 of the EIAR. Concerns have been raised by a number of the observers regarding the chosen route and the fact that part of the selected route runs through the Slievefelim to Silvermines Mountains SPA. It is submitted that the routing will have potential negative environmental consequences and that it would be preferable to locate the cable in the public road network.

8.5.2 Section 4.2.3.1 of the EIAR notes that three alternative route locations were considered.

Route A: This is a public road route located along the Regional Road (R503 Thurles to Limerick Road).

Route B: Comprises a mainly public road route and some cross country route. The road route uses the local road network (north of the R503) through Toor, as far as Belaclave, avoiding the R503 regional road. The route then follows a cross country route through farm and forestry tracks, with some crossing of forestry and agricultural lands and public roads.

Route C: Is a cross country route mainly along the farm and forestry track and across agricultural lands. Part of the route is located within the Slievefelim to

Silvermines Mountains SPA. This is the selected route for the proposed underground cable.

8.5.3 The EIAR notes that ESB Networks who are responsible for technical approval for the 110kV UGC have a preference for cables to be laid in the public road where they have guaranteed access whenever required. However, it is detailed that following consultations with Tipperary Co. Co. Roads Department, significant concerns were raised by the council regarding the potential impacts of laying the cables in the road on the fabric and traffic of the local public road network during construction (refer to section 4.2.3.2 of the EIAR for further detail). On foot of this consultation, a decision was made to progress Route C – the cross country route.

8.5.4 The applicant has set out in Table 4.3 of the EIAR a comparison of the environmental effects of the alternative 110kV UGC routes. A number of environmental factors are considered including biodiversity, land, soils, water, material assets built services, material assets roads, population and human health and cultural heritage. A scoring system is used to evaluate each option.

8.5.5 In terms of biodiversity, it is noted that Option A along the regional route has minimal effects as the cable will run along the existing road corridor. For Option B, it is identified that whilst there will be some crossing through the SPA, minimal effects are likely to arise to the designated site due to the use of public/private roads and the minimal use of forestry lands and the low value of roads to biodiversity. For Option C, it is identified that an impact on biodiversity will occur and that there is potential for significant effects to European sites. In terms of water, it is acknowledged for Option C (cross country) that new watercourse crossings will be required, whereas with options A and B, existing watercourses are used.

8.5.6 The principal negative impacts of Options A and B over the selected cross country route relate to Material Assets Built Services, Material Assets Roads and business disruption. It is highlighted that there is potential to impact on built services e.g. electricity, water, telecoms etc. In terms of the public road, for Option A, it is identified that a significant length of the cable would be constructed under the road resulting in a potentially significant effect to the road structure. Disruption during construction is also likely, although it is noted that the carriageway is of sufficient width to leave the road open during the works using a stop go system with flagmen.

For Option B, there is also potential for effects to the road structure and it is anticipated that road closures would be required during the construction phase but that this would be mitigated by the low volume of traffic using these roads. It is also identified that for Option B, there are potential negative impacts to archaeology due to the proximity of the route to a standing stone.

8.5.7 I have examined the matrix regarding the environmental effects of the alternative routes, and I am concerned that undue weight has been given to potential impacts on the local road network in coming to the conclusion that Option C – the cross country route is the optimal route for the cable. It is clear that route Option C has the potential to have significant environmental impacts. It is noted that whilst it is evident from an operational and maintenance perspective, that co-locating the cable with existing infrastructure i.e. the public road is the best solution, due to the concerns raised by Tipperary Co. Co. regarding potential disruption and impacts to the road fabric, options A and B were discounted.

8.5.8 It is evident that the discussions with the council regarding the potential route options took place in advance of the EIAR process. I have significant concerns that the potential impacts of the selected route on biodiversity were not given adequate consideration and weight, and that the consultation process with the Roads Department predetermined the selected route rather than a thorough analysis of which option would have the least environmental impacts. Although perhaps understandable on the part of a Local Authority Roads Department focussed on a single issue, greater weight was given to a material asset matters (impact on roads). This impact could reasonably in my view be appropriately managed and mitigated through good construction practice to negate potential negative effects. I also consider that the concerns raised regarding impacts to the local roads are somewhat overemphasised having regard to the nature and level of use of the roads concerned.

8.5.9 The chosen cross country route selected by the applicants will involve significant intervention in the natural environment some of which runs through an SPA which is designated due to its importance to the Hen Harrier species. Within the SPA concealed roads will be utilised, however, there are likely to be significant impacts albeit short term, during the construction phase. The Board should be aware, that I have concerns regarding the potential loss of foraging territory within and outside of

the SPA due to the construction of permanent access roads etc. to serve the proposed development. This has the potential to negatively impact on the Hen Harrier species. This is addressed in further detail in section 10 of this report. The development will also result in the crossing of a significant number of watercourses - 90 in total and new in stream works to 38 watercourses will be required (see table 11.12 of EIAR).

8.5.10 I note that the applicant sets out comprehensive environmental protection measures throughout the EIAR to mitigate potential impacts of the proposed cross country route. Whilst the measures proposed are likely to minimise the potential environmental impacts, I am not satisfied that the proposed routing is the most appropriate from a planning or environmental perspective when it appears that the principal reasons the alternative routes A and B (which are likely to have far less environmental consequences) were discounted is primarily due to the effects on the fabric and traffic of such roads.

8.5.11 In considering the appropriateness of the cross country route in lieu of Option A and B, the Board should be aware that Tipperary County Council have previously permitted a similar development for 22.25km underground 38kV cable between Bunkimalta wind farm and Nenagh – Planning Authority Reference16/600433 (see pouch for further details of this decision). The route of the cable was located primarily in public roads over a distance of c. 17.8km. The Planner's report notes that the development involved the laying of an underground cable under public roads, off road and crossings of the Newport River, the Nenagh River and other streams (10 in total). There is, therefore, a clear precedent where a similar form of development has been permitted within the public road network in the County.

8.5.12 In considering alternatives, it is my view that regard must also be had to other options including overhead line alternatives. The EIAR at section 4.1.1 states the following:

"*Renewable generator grid connection applications are processed in a 'Gate' system whereby all applications that have met the defined criteria, are processed in tranches by the System Operator of the electricity network. The latest tranche is known as Gate 3. Ecopower has secured a Gate 3 grid connection agreement*

(DG96) from ESB Networks (the System Operator) for the consented Upperchurch Windfarm (UWF)".

8.5.13 It is further stated that "*The Grid Connection Agreement describes the approved connection method to the national electricity grid for UWF. It comprises two elements 1. A new 3 – bay 110kV substation connecting to the national electricity grid at a point along the existing Limerick to Nenagh overhead line (called the Killonan - Nenagh 110kV line), in the Freagh area, near Newport, County Tipperary. 2. An underground cable c.30km in length linking this new substation back to the Consented Windfarm Substation at Upperchurch Windfarm*".

8.5.14 The consideration of alternatives is an information requirement of Annex IV of the EIA Directive, and the single most effective means of avoiding significant environmental effects. Having regard to this requirement and its purpose (i.e. avoidance of significant environmental effect), I am not satisfied that the consideration of alternatives is adequate as no information has been provided in relation to the consideration of alternative grid connection technologies such as overhead line alternatives. Furthermore, no information has been provided in relation to alternative connection locations where the windfarm could potentially connect to the national electricity grid. This in my view is a significant deficiency in the EIAR.

8.5.15 In conclusion, I am not satisfied that the applicant's consideration of potential route options is robust and undue weight has been given to matters pertaining to impacts on the local road network over environmental matters, particularly biodiversity. Whilst the concerns of Tipperary County Council are noted, having regard to the recent decision regarding the Bunkimalta windfarm grid connection referenced above, I am not satisfied that it has been reasonably established that potential adverse impacts to the road fabric and potential disruption including road closures could be not be mitigated through appropriate construction and traffic management. The selected route option will result in a significant intervention on the natural environment and may have indirect impacts on the integrity of the Slievefelim to Silvermines Mountains SPA due to the loss of foraging habitat suitable for the Hen Harrier species (see section 10 for further assessment of this issue). Furthermore, I am not satisfied that the applicant has provided adequate consideration of alternative grid connection technologies such as an overhead line option or

alternative connection locations where the windfarm could connect to the national grid with potentially less environmental consequences.

9.0 ENVIRONMENTAL IMPACT ASSESSMENT

9.1 Introduction

9.1.1 This section sets out an environmental impact assessment (EIA) of the proposed project. The subject application comprises an 110kV electrical substation and 110kV underground electrical cabling. As highlighted the Inspector's Report on the Strategic Infrastructure Pre Application Consultation – ABP Ref. 22.VC0098, an EIS is not mandatory for the proposed development under Section 182 of the Act. The proposed development would not come within a class of development set out in Schedule 5 of the Planning and Development Regulations 2001, as amended.

9.1.2 It is acknowledged by the applicant that the proposed UWF Grid Connection including the substation and underground cable is not an Annex I or Annex II type project. It is stated however, that the proposed UWF Grid Connection is part of a whole project which includes a project described in Annex II Paragraph 3: Energy Industry (i) installations for the harnessing of wind power for energy production (wind farms) in the Planning and Development Regulations 2001 as it a windfarm with more than 5 turbines having a total output greater than 5 megawatts. It is detailed by the applicant that the UWF Grid Connection is part of the Whole UWF Project, one element of which, Upperchurch Windfarm, did require that the competent authority carry out an Environmental Impact Assessment. It is considered, therefore, that in order for a cumulative assessment of the Whole UWF Project to be carried out by the competent authority, that an EIAR be prepared. An Environmental Impact Assessment Report (EIAR) has accompanied this application. Having regard to Article 102 of the Planning and Development Regulations, I propose to complete the EIA section of this report.

9.1.3 This application was received by the Board on the 28th of June 2018 and, therefore, having regard to the provisions of Circular Letter PL1/2017, the subject application falls within the scope of the amending 2014 EIA Directive (Directive 2014/52/EU) on the basis that the application was lodged after the last date for transposition in May 2017. It does not however, fall within the scope of the European Union (Planning and Development) (Environmental Impact Assessment) Regulations

2018, as the application was lodged prior to these regulations coming into effect on the 1st of September 2018.

9.1.4 I am satisfied that the information contained in the EIAR complies with Article 94 of the Planning and Development Regulations 2000, as amended, and the provisions of Article 5 of the EIA Directive 2014.

9.1.5 I have carried out an examination of the information presented by the applicant including the EIAR, and the submissions made during the course of the application. A summary of submissions made by the planning authority, prescribed bodies and observers has been set out in section 5 of this report.

9.2 **Consideration of Compliance with Legislative Requirements**

9.2.1 I firstly examine if the EIAR complies with the requirements of the amended EIA Directive, in particular Article 3 (1), 5 (1) and Annex IV, which sets out the information that is required to be provided by the developer.

9.2.2 The EIAR consists of four volumes, grouped as follows: Volume C1: EIAR Non Technical Summary, Volume C2: Main Report, Volume C3: EIAR Figures and Volume C4: EIAR Figures. In total, the EIAR includes 20 chapters. Chapters 1 to 5 provide an introduction to the project, EIA Report process and scoping, alternatives considered and a description of the proposed development. Chapters 6 and 7 address population and human health. Chapter 8 addresses biodiversity and chapters 9 and 10, land and soils. Chapters 11, 12 and 13 address water, air and climate and Chapters 14 and 15 relate to material assets. Chapter 16 and 17 address cultural heritage and landscape. Chapter 18 is interactions and Chapter 19 monitoring. Chapter 20 provides an executive summary. The content and scope of the EIAR is considered to be acceptable and in compliance with Planning Regulations. No likely significant adverse impacts were identified in the EIAR.

9.2.3 As required under Article 3(1) of the EIA Directive, the EIAR identifies, describes and assesses in an appropriate manner, the direct and indirect significant effects of the project on the following factors: (a) population and human health; (b) biodiversity with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC; (c) land, soil, water, air and climate; (d) material assets, cultural heritage and the landscape and it considers the interactions between the various factors.

9.2.4 The requirements of Article 3(2) include the expected effect deriving from the vulnerability of the project to risks of major accidents and/or disaster that are relevant to the project concerned. The EIAR addresses this issue in section 5.5. It is considered that having regard to the nature and scale of the development itself, it is unlikely that any major accident will arise. The EIAR notes that the UWF Grid Connection is not vulnerable to major accidents due to the minimal volumes of the dangerous substances which will be used during the construction and operation of the project and the distance to sensitive residential receptors. There are no Seveso sites in proximity to the grid connection site. Natural disasters that could potentially affect the grid connection include land slippage and flooding. A peat stability assessment has been carried out as part of the EIAR and concludes that the UWF Grid Connection has a low and acceptable risk of potential peat failure, has an acceptable margin of safety and is suitable for the development of the 110kV UGC. The likelihood of land slippage occurring is very unlikely. In terms of flood risk, the Flood Risk Assessment undertaken as part of the EIAR concludes that there is a low risk of impact on the UWF Grid Connection as all of the above ground permanent infrastructure are located in Flood Zone C. Also there will be no potential of increased local flooding as a result of the UWF Grid Connection as most of the development is located underground. There are unlikely to be any effects deriving from major accidents and or disasters and I am satisfied that this issue has been addressed satisfactorily in the EIAR.

9.2.5 In accordance with Article 5 and Annex IV, the EIAR provides a description of the project comprising information on the site, design, size and other relevant features of the project. It also provides a description of the likely significant effect of the project on the environment and a description of the features of the project and/or measures envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment.

9.2.6 Alternatives are presented in Chapter 4 of the EIAR and includes an assessment of alternative locations and layout for the development, alternative design for the 110kV substation and compound and alternative processes and mitigation measures. A further assessment of the alternatives, particularly in the context of the route options is discussed in Section 8.5 of this report including the appropriateness of the selected route option. It is detailed in this section, that it is

my opinion, that there is a deficit in the EIAR as the applicant has not provided adequate consideration of alternative grid connection technologies such as an overhead line option or alternative connection locations where the windfarm could connect to the national grid. In this regard, I am not satisfied that the applicant has complied with the requirements of the legislation, in providing an adequate or robust description of the reasonable alternatives studied, which are relevant to the proposed project and its specific characteristics. The Board should also be aware that the applicant has not submitted a detailed schedule of mitigation measures.

9.2.7 The EIAR includes a non-technical summary of the information referred to in Article 5 (a) to (d) and additional information specified in Annex IV relevant to the specific characteristics of the particular project and project type and to the environmental features likely to be affected. In this regard, the EIAR provides a description of the evidence used to identify and assess the significant effect on the environment. The EIAR provides an adequate description of forecasting methods and evidence used to identify and assess the significant effects on the environment. No specific difficulties are stated to have been encountered in compiling the required information.

9.2.8 I am satisfied that information provided in the EIAR is of a sufficiently high level of quality and is evidently prepared by qualified and competent experts. In this regard, I note the qualifications and expertise demonstrated by the experts involved in the preparation of the EIAR (set out in Table 2:1) of the EIAR. The competencies of the experts detailed in the EIAR are considered to be consistent with and appropriate to the requirements of the EIA and amending directive. Details of the consultation entered onto by the applicant as part of the preparation of the application and EIAR are set out in Chapter 3 and are considered adequate. I am satisfied that the participation of the public has been effective and the application has been made accessible to the public by electronic and hard copy means with adequate timelines afforded for submissions.

9.2.9 Regarding the comprehensiveness of the submitted EIAR and the extent to which it takes into account the impacts on the environment likely to arise on foot of the cumulative impact of the UWF Grid Connection in combination with all other elements of the Whole UWF Project and the cumulative effects of the development with other projects and activities in the area, I note that this issue is

comprehensively addressed in the EIAR. Section 2.3.2.2.1 of the EIAR sets out the methodology for the cumulative assessment and states that all other elements of the Whole UWF Project are scoped in for cumulative evaluation in the environmental factor topics. The cumulative effects with other project and activities are based on those projects within a 15km catchment of the Whole UWF Project. The structure of the EIS document is such that, in my opinion, it provides a comprehensive assessment of the potential cumulative impacts under each of the required environmental factors as specified in the directive. In particular, in my opinion the EIAR allows for an integrated assessment of the overall impact of the UWF Project as a whole as well as detailing the cumulative impacts of this project with other relevant plans and projects within a reasonable catchment.

9.2.10 I conclusion, I am satisfied that the information provided is reasonable and sufficient to allow the Board to reach a reasoned conclusion on the significant effect of the project on the environment, taking into account current knowledge and methods of assessment. Overall, with the exception of the analysis of alternatives considered, I am satisfied that the information contained in the EIAR complies with the provisions of Article 3, 5 and Annex (IV) of EU Directive 2014/52/EU amending Directive 2011/92/EU. The content and scope of the EIAR is considered acceptable and in compliance with the requirement of Articles 94 (content of EIS) and 111 (adequacy of EIS content) of the Planning and Development Regulations, 2001 (as amended) and the provisions of the new amending Directive.

9.3 Likely Direct and Indirect Significant Effects

9.3.1 I have carried out an examination of the EIAR and other relevant information presented by the applicant. In carrying out the EIA, this section should be read in conjunction with the preceding sections of my assessment, particularly Section 8.5 and the following section (section 10) on Appropriate Assessment.

9.3.2 In my assessment below, I consider the direct and indirect significant effects of the development against the factors set out under Article 3 (1) of the EIA Directive 2014/52/EU which include:

(a) Population and human health.

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

(c) Land, soil, water, air and climate.

(d) Material assets, cultural heritage and landscape.

(e) The interaction between the factors referred to in points (a) to (d).

9.4 **Population and Human Health**

9.4.1 Population and human health are dealt with predominantly under Chapter 6 and 7 of the submitted EIAR.

9.4.2 Positive impacts on population and human health are considered in the context of the local economy and those that potentially arise from employment associated with the development (direct and indirect) that will be maintained or created as a consequence of the development. The assessment provided by the applicant indicates that the proposal will generally result in a positive but imperceptible impact to the local population as a result of spending and job demand in the local economy. There will be an increase in gross value added to business and employment opportunities in the study area due to the purchase of goods, materials and services, employment and payments to landowners, which will also result in secondary induced spending in the local economy. There will be neutral impacts in terms of reduction in tourism revenue and business disruption during the construction and operational phase.

9.4.3 Negative impacts to the population and human health could potentially arise as a consequence of issues such as contamination of water supply, air quality and noise impacts, operational transmission of electricity and increased risk of injury from road traffic accidents. Contamination of water supply is addressed in Chapter 11 of the EIAR. Appropriate design measures will be put in place during the construction phase to minimise any negative effects to water quality and supply and in this regard health impacts caused by contaminated water are unlikely.

9.4.4 Air Quality impacts arising from vehicle emissions and dust is addressed in Chapter 12 of the EIAR. The majority of residential properties are located over 50 metres away from construction works or construction haul routes. It is determined that any impact to air quality during the construction phase will be temporary, intermittent and not of a concentration or exposure to quantify any adverse health outcome to local residents.

9.4.5 In terms of operational transmission of electricity, addressed in Chapter 12 of the EIAR, there will be some increase in magnetic field levels at residential properties and community facilities within 100 metres of the 110kV UGC. The worst case increase in levels of magnetic fields at local residences and community facilities ranges from 0.01µT to 1.79µT. As these levels remain significantly below the more conservative International Commission on Non Ionizing Radiation Protection (ICNIRP) magnetic field reference of 100µT, it is considered no adverse impacts on human health would occur.

9.4.6 Noise is addressed in Chapter 12 of the EIAR. This notes that construction noise will be temporary and intermittent and will be reduced through appropriate project design measures such as hours of operation and sequencing of works. With regard to potential noise impacts from the substation itself, as previously noted in section 8.4 of this report, the nearest residence to the substation is 385 metres to the east. As the worst case noise level at 385m will be well below the 50dB(A) World Health Organisation guideline of 50-55db (A) for daytime levels, it is considered that there will be no annoyance or consequential health impacts as a result of noise from the substation.

9.4.7 Chapter 15 on Material Assets-Roads considers increased risk of injury from road traffic accidents and notes that the local and regional roads in the study area are lightly trafficked. Construction traffic will not add substantial volumes of traffic and furthermore, road safety has been included in the project design through the use of appropriate advance warning signage, flagmen and traffic management measures. Changes to traffic flows as a result of the construction phase will be temporary, appropriately managed and, therefore, increased risk of injury from road traffic accidents will not be material. Similarly operational traffic from the development will add negligible volumes of traffic to the local road network, thus negating any increased risks from road traffic accidents.

9.4.8 The EIAR identifies the most sensitive receptors in the vicinity of the development as being the local residents and community, Kilcommon National School and transient people such as walkers and road users. The potential impacts on human health of these sensitive receptors is specifically assessed in the report and it is concluded that subject to mitigation measures including construction management and road safety measures, no significant adverse impacts will occur to these

receptors. It is stated in the EIAR that the development will have no significant adverse impacts on population or human health and that there will be no residual impacts.

Conclusion

9.4.9 I have considered all of the written submissions made in relation to population and human health, in addition to those specifically identified in this section of the report. I am satisfied that the impacts identified would be avoided, managed or mitigated by measures forming part of the proposed scheme, proposed mitigation measures and measures within suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of population and human health. I am also satisfied that the cumulative effects are not likely to arise and that approval should not be withheld on the grounds of such cumulative effect.

9.5 **Biodiversity**

9.5.1 Chapter 8 of the EIAR addresses Biodiversity. The Board is advised that the application is accompanied by a Natura Impact Statement. My assessment of the effect of the proposed development on the conservation objectives and qualifying interests of Natura 2000 sites is dealt with under Section 10 of my assessment below, under the heading of Appropriate Assessment. For the purpose of my assessment, I have considered aquatic and terrestrial ecology separately.

9.5.2 The development will cross the Slievefelim to Silvermines Mountains SPA. The receiving environment is representative of typical upland habitats and includes land under active management for agriculture and forestry. There are a number of regional and local rivers and streams, the majority of which feed into the River Shannon and include the Newport (Mulkear River), the Bilboa River and the Clare River. The Lower River Shannon SAC occurs at the crossing points of Newport (Mulkear) River and Bilboa River and part of the route is also located in this SAC along an existing farm track. The route of the underground cable also affects the Clodiagh River catchment which feeds into the River Suir and the Lower River Suir SAC. The development in part overlaps with the boundary of the Bleanbeg Bog NHA. Both of the cSACs are designated for the protection of salmonids and

freshwater aquatic species. The SPA is designated for the protection of the Hen Harrier.

9.5.3 In terms of terrestrial habitats, the lands in the area comprises a mix of agricultural grassland, commercial forestry plantations, peatlands, hedgerows, wet grassland, private and public roads. Birds, bats and other mammals, amphibians, reptiles and invertebrates are present within the receiving environment.

9.5.4 A number of detailed fieldwork surveys were undertaken to inform the Biodiversity chapter of the EIAR including aquatic and terrestrial surveys, bird surveys and bat, otter and badger surveys. The details of these surveys is provided throughout the EIAR Biodiversity chapter and summarised in the Non Technical Summary.

9.5.5 A suite of project design environmental protection measures are detailed which are aimed to prevent and reduce potential negative effects on Biodiversity. These are set out in detail in Tables 8.24, 8.31, 8.40, 8.47, 8.54, 8.61, 8.73, 8.80, 8.87 and 8.94. Further best practice and mitigation measures are set out in the Environmental Management Plan, Surface Water Management Plan and Invasive Species Management Plan.

9.5.6 The direct and indirect effects of the development on European sites is addressed in Section 10 of this report. The EIAR states that the development will not result in any effects that will adversely affect the integrity of the European sites under consideration. The Board should note however, that I have concerns regarding the potential impacts of the development on the conservation objectives and qualifying interests of the Slievefelim to Silvermines Mountains SPA. In terms of the Bleanbeg Bog NHA, the EIAR notes that due to the fact that the underground cables are located on an existing excavated forestry road on the periphery and downslope side of the Bleanbeg Bog NHA, coupled with the mitigation measures proposed, no impacts are likely to occur.

Biodiversity – Aquatic Ecology

9.5.7 The potential impacts on aquatic habitats and species are set out in the EIAR. The majority of watercourse crossings for all project elements are minor streams and land drains which have been subject to previous anthropogenic modification. Of the 90 watercourse crossings along the grid connection, 34 no. have been evaluated to have fisheries value. Of these, 15 no. will be subject to instream works. It is stated

that there is likely to be a slight to moderate impact on the quality of the physical makeup of watercourse channels and water quality within watercourses. This is due to the environmental protection measures to be incorporated into the project, the limited extent of works required and the fact that the majority of watercourse crossings are drains.

9.5.8 Watercourse morphology relates to the shape of a watercourse channel, its bed and banks and how erosion, transportation of water, sedimentation and the composition of riparian vegetation changes over time. Impacts to the change in flow of watercourses will be slight as the majority of watercourses have already been altered by forestry and farming practices. Whilst instream works potentially affecting flow will be required at a limited number of locations during the construction phase, such works will be temporary and reversible in nature. At 6 new permanent crossing points, changes to the flow regime will be long term and permanent. However, the alterations to flow morphology will be subject to Project Design Measures including the reinstatement of watercourses at crossing locations.

9.5.9 Slight impacts in terms of disturbance and displacement of fish are predicated. However, due the times that works will be undertaken (during the IFI specified period) and working practices adopted, such impacts will be brief and reversible. There will be slight to moderate impacts to the riparian habitat along the banks of watercourses during the construction phase. However, such impacts will be short term and appropriate vegetation will be reinstated. Impacts from the spread of aquatic invasive species will be slight to moderate.

Biodiversity – Terrestrial Ecology

Habitat

9.5.10 Twenty habitat areas comprising 407.5ha were recorded along the survey corridor. The dominant habitats present are improved agricultural grassland and conifer plantation which together make up 74.8% of all habitats present. Habitats of international conservation importance are located at two locations where the grid connection passes through the boundary of the Lower River Shannon SAC. A range of habitats of national importance are also found through the study area and are detailed in section 8.5.1.3 of the EIAR. It is stated in the EIAR that due to their presence within an SPA designated for Hen Harrier, a number of habitats serve an

important role in supporting the structure and function of the SPA. This primarily includes suitable breeding and roosting habitat.

9.5.11 The impacts of reduction on terrestrial habitats will not be significant because of the low sensitivity of land to be used and the limited extent of land affected by the development. It is estimated that permanent habitat loss will comprise 0.51ha and will be limited to 4 no. habitat types. Impacts arising from loss of trees and hedgerow severance will also not be significant. There are a limited number of trees affected by the proposal. Tree loss is limited to 26 no. mature trees and 4 immature trees. Hedgerow removal will be limited and reinstated/replanted where required. Permanent habitat loss is limited to 45 metres of permanent hedgerow removal, whilst 700 m of new hedgerow will be planted.

Hen Harrier

9.5.12 It is stated in the EIAR *"In general, and as expected given the overlap with a European site designated for Hen Harrier, habitats within 2km study area are considered of high quality for the species".* Hen Harrier surveys were undertaken to identify all Hen Harrier breeding and winter roosting sites in suitable habitat within 2km of the proposed works. These breeding surveys confirmed 3 no. Hen Harrier breeding attempts within 2km of the UWF Grid Connection in 2016. A further nesting attempt was confirmed at 2.15km from the grid connection. Of these 4 breeding attempts, 3 successfully fledged young. The distance from the UWF Grid Connection in respect of each nest location was 154m, 500m, 903m and 2.15km respectively. In 2017, one nesting attempt was confirmed within 500 metres of the grid connection with a second nest 680 metres distant. Both of these nesting attempts successfully fledged young. In 2017, there were 2 additional but unconfirmed breeding attempts. Winter roost surveys undertaken between 2016 and 2018 identified 3 winter roosts, all within the SPA. 1 site was within 500 metres of the grid connection and the others within 1km and 2km respectively.

9.5.13 Hen Harrier is listed on Annex 1 of the EU Bird Directive 2009/147/EC. The Slievefelim to Silvermines Mountains SPA is designated as one of 6 SPA sites in the country with breeding populations of Hen Harrier as the sole special conservation interest to ensure the conservation of the species. Both breeding and wintering Hen Harrier are evaluated as Internationally Important and assigned a

sensitivity rating of Very High. Hen Harriers are known to be sensitive to disturbance and foraging habitat loss within 2km of nesting attempts can have a negative effect on breeding success.

9.5.14 The EIAR sets out a number of Project Design Measures (Table 8.54) to reduce and mitigate against potential impacts to the Hen Harrier. These include confirmatory Hen Harrier breeding surveys and restrictions on construction activities within 500 metres of an active Hen Harrier breeding attempt or active nesting activity, during the breeding season. During the Hen Harrier roosting season, construction works within 1000m of a roost will be limited to the period between one hour after sunrise to one hour before sunset. All new permanent access roads within the SPA will be concealed access roads. Annual visual inspections of the lands within the SPA over the underground cable and the testing/inspection/planned maintenance at joint bays will be scheduled outside of the Hen Harrier breeding season.

9.5.15 The principal potential impact to Hen Harrier is identified in the EIAR as the reduction in or loss of suitable foraging habitat. Land take or land use/cover change of foraging habitats such as grassland, scrub, bog and forestry may cause secondary effects for this Annex 1 species and SPA qualifying interest. Loss of foraging habitat at key periods of the breeding cycle can have knock on effects on breeding success of identified pairs nesting nearby, in particular where it occurs within 2km of a nest location.

9.5.16 It is detailed in the EIAR that the total permanent land take of foraging habitat totals 5.12 ha. The calculation of permanent land take is based on all new permanent access roads, permanent berms and forestry felling. A portion of this land take within the SPA (1.98ha[1]) will be covered with concealed access roads, planted with either native grass species or heather as appropriate to match the surrounding habitat so as to avoid effects on the SPA itself. Permanent berms within the SPA will be immediately reinstated. The net permanent loss will, therefore, be 3.14ha

[1] The Board should be aware there is a discrepancy in the EIAR regarding the extent of permanent land take within the SPA. It is stated in section 8.6.4.1 that 2.44 ha is within the SPA. However, it is detailed later in this section that the area within the SPA is 1.98ha. It should be noted that in the NIS, the stated figure is 1.98 ha as being within the SPA and in this context for the purpose of assessment I have used this figure rather than 2.44ha.

from the study area, all of which is located outside the SPA but within 2km of the grid connection.

9.5.17 The significance of this impact is considered to be moderate (negative) in the EIAR. It is stated in the EIAR that the magnitude of effect on the sensitive Hen Harrier is evaluated as low (1 to 5% of habitat lost) and equivalent to a minor shift away from baseline conditions however, with the underlying character and composition remaining similar to pre-development circumstances.

9.5.18 When considering the potential cumulative impacts of the reduction in or loss of suitable foraging habitat, it is set out that there are both positive and negative effects across the Whole UWF project. It notes that the Upperchurch Hen Harrier Scheme (which is a condition of the parent windfarm decision) results in the creation of a new and alternative habitat suitable for foraging Hen Harrier and that this is mitigation for habitat lost through potential displacement caused by the construction of the wind turbines. There is, therefore, a net gain through design to the Hen Harrier both in area and quality of habitat. It states that remaining negative effects primarily stem from the UWF Grid Connection, however, the provision and management of UWF Replacement Forestry specifically for Hen Harrier, outside but adjacent to the SPA contributes to a net gain overall to the Hen Harrier of over 30.26ha of actively managed foraging habitat.

9.5.19 Notwithstanding the assessment in the EIAR, I have concerns regarding the permanent loss of over 3ha of foraging habitat on the Hen Harrier population. Whilst this permanent loss of habitat will occur outside of the SPA, it is identified in the EIAR that this land is highly suitable foraging habitat for this species. The bird surveys have identified that nesting locations were identified within and immediately adjacent to the grid connection construction area boundary and that foraging habitat loss especially within 2km of nesting attempts may have negative effects on breeding success.

9.5.20 Whilst the Hen Harrier Management Scheme proposed under the parent windfarm permission is noted, this is intended as a suitable mitigatory habitat to compensate for the loss of habitat associated with the windfarm. In contrast to the current application, surveys submitted with the parent windfarm application identified no evidence of hen harriers at the windfarm site.There is no information provided in

the current application as to whether Hen Harrier Management Scheme is suitably located or appropriate to mitigate the permanent loss of the foraging habitat arising from the grid connection, particularly in the context where nest locations have been identified in proximity to the proposed route - see section 10 for further assessment of this issue.

9.5.21 I am not satisfied on the basis of the information submitted in the EIAR that significant negative effects cannot be ruled out beyond a reasonable scientific doubt on the Hen Harrier Species due to the loss of over 3 ha of potential foraging habitat in close proximity to identified nesting locations. I do not consider that such potential ex situ impacts have been adequately assessed or evaluated. I have also have concerns regarding the use of the proposed concealed roads within the SPA as a measure to mitigate against the permanent loss of habitat within the SPA. I am not satisfied that the effectiveness of this mitigation measure has been proven. I also consider that there is a lack of assessment of the temporary loss of habitat in the SPA during the construction phase. This is assessed further in Section 10 below.

9.5.22 Other potential impacts during the construction phase such as a reduction in or loss of suitable nesting habitat and winter roosts, disturbance/displacement, mortality and reduction in prey items are deemed neutral or excluded. No adverse impacts during the operational or decommissioning phase are identified. See Table 8.56 of the EIAR. I am satisfied that no adverse impacts in this regard arise.

9.5.23 I note that the potential cumulative impacts to the Hen Harrier species are set out in section 8.6 of the EIAR including a detailed assessment of the cumulative impacts of the development in conjunction with all other elements of the Whole UWF Project, the Bunkimalta and Castlewaller windfarms, forestry, agriculture and turf cutting. Notwithstanding my concerns regarding the assessment of the potential impacts of the project alone, having regard to the information in the EIAR, including the Hen Harrier Management Schemes associated with the Upperchurch, Castlewaller and Bunkimalta windfarms, I am satisfied that no cumulative impacts are likely to arise.

9.5.24 I note the comments made by some of the observers regarding cumulative impacts in the context of the Opinion of the Advocate General regarding Edel Grace and

Peter Sweetman v An Bord Pleanála (ECLI:EU:C:2018:593). In the case of the parent Upperchurch Windfarm, the location of the turbines is not within the SPA and no adverse effects on the integrity of the SPA was deemed to arise in that case. I am satisfied as noted by the applicant, the Upperchurch Hen Harrier Scheme is a mitigation measure and not a compensatory measure as no habitats within the SPA are lost as a result of the development.

Other Bird Species

9.5.25 The receiving environment in the UWF study area supports a wide variety of general bird species. 2 no. breeding season bird surveys were undertaken and a list of 58 species identified.

9.5.26 Slight impacts to the Golden Plover population due to habitat loss and disturbance will occur due to the small amount of suitable roosting and foraging habitat lost (1.4%). Disturbance to this species however, is likely to be not significant due to the nature and brief duration of the construction works. There will also be slight impacts to the Meadow Pipit arising from habitat loss. The total land use change comprises 1.38% of available habitat within the study area boundary. Overall however, it is considered that there will be a slight positive impact to the general bird population due to habitat improvement that will benefit bird diversity arising in particular from new hedgerow and tree planting. Felled commercial forestry at Castlewaller (1 ha) will contain a concealed geocell roadway, which, along with the remainder of the corridor at this location, will be planted with heather. Hedgerow crossing locations will be enhanced with equivalent numbers of native trees as part of project design. At Mountphilips, 700m of new hedgerow will be planted. I note the concerns raised by some of the observers regarding potential impacts of the development on bird species, particularly the Golden Plover and Meadow Pipit. Golden Plover and Meadow Pit are an Annex 1 Red Listed species. They are however, not listed as special conservation interests of the Slievefelim to Silvermines Mountains SPA and having regard to the minor extent of potential habitat lost, I am satisfied that no significant adverse impacts are likely to occur.

Bats

9.5.27 There will be imperceptible impacts to bats due to destruction or disturbance of bat roosts, severance of commuting routes/feeding areas and

disturbance/displacement due to lighting. There are only 17 trees located within the zone of potential effect to bats and all of these were considered to have low suitability for roosting bats. 5m sections of hedgerow will be permanently removed at 9 locations, all of which are evaluated as of local importance to bats. Temporary bat crossings structures will be installed at severed hedgerows proximal to areas of either high bat activity or roost locations in order to avoid effects from the severance of these features during works. Locations where temporary removal of field boundaries will occur are considered of low importance for feeding. Lighting at the temporary construction compounds will be cowled and lights will not be directed towards any bat roosts or key commuting routes.

Badger

9.5.28 Impacts to badger from habitat loss will not be significant. There will be a total permanent land use change within 500m of all 7 identified badger setts of 0.17ha. This represents 0.05% of available habitat. There will be moderate impacts to this species due to disturbance and displacement due to the proximity of a set to the cable trenching. However, construction activity will be precluded during the main breeding season and completed during daylight hours to mitigate potential impacts. Concerns have been raised by some of the observers regarding the potential for the spread of Bovine TB as a result of displacement by badgers. It is detailed by the applicant in their response that displacement effects are not likely to be significant and from the consultation process, it was evident that Bovine TB outbreaks have not been a significant issue in recent years. Having regard to the foregoing, and in particular due to the low level of setts potentially affected by the development, I am satisfied that this is not a significant potential environmental impact.

Otter

9.5.29 The EIAR identifies that there is potential for significant negative effects to the otter population due to the sensitivity of this species and evidence of the presence of otters in proximity to 5 no. watercourse crossings. A range of additional mitigation measures (referred to as AMM-01 in the EIAR) are proposed including confirmatory surveys and ongoing monitoring for three years. In this context, the residual impact from disturbance/displacement to the otter species will be slight.

Irish Hare/Pine Marten/Red Squirrel/Fallow Deer

9.5.30 The impact of habitat loss to Irish Hare, Pine Marten, Red Squirrel and Fallow Deer will be 'not be significant to slight' due to the fact that the extent of land use change will be low and the wide availability of suitable foraging. There will be some moderate impacts during the construction phase, however, activity will be temporary and all species are expected to return with no permanent displacement considered likely.

Amphibians Reptiles

9.5.31 It is anticipated that there will be no impacts to amphibians and reptiles as a result of the project.

Marsh Fritillary Butterfly

9.5.32 The Marsh Fritillary Butterfly is the only protected butterfly species in Ireland. During surveys, suitable habitat patches were identified at 2 locations and larval webs were discovered during surveys undertaken between 2016 and 2017. It is detailed that impacts to the Marsh Fritillary Butterfly will not be significant because there will be no permanent loss of suitable habitat. There will be some temporary loss of habitat during the construction phase. This however, amounts to less than 0.6% of the total suitable habitat present and any impacts will be short term due to the fact that the habitat will be restored. Objections to the development on the basis of impacts to the Marsh Fritillary Butterfly are raised by some of the observers due to concerns regarding loss of habitat. I note however, the extensive surveys undertaken by the applicant and I am satisfied that potential loss of habitat will be minor. Regard must also be had to the fact that the surveys undertaken revealed the absence of Marsh Fritillary larvae webs in the habitats to be lost.

Conclusion

9.5.33 I have considered all of the written submissions made in relation to biodiversity, in addition to those specifically identified in this section of the report. I am not satisfied based on the information submitted that ex situ effects on the SPA have been fully considered and evaluated and that the impacts identified to the Hen Harrier species in terms of permanent loss of potential foraging habitat would be avoided, managed and/or mitigated by the measures, which form part of the proposed scheme, the proposed mitigation measures and through suitable

conditions. Nor am I satisfied that the temporary loss of habitat within the SPA would not adversely affect this species or that the use of concealed roads is an appropriate measure to mitigate against permanent loss of habitat within the SPA. In this regard, I consider that the proposed development may have an unacceptable direct or indirect impact in terms of biodiversity particularly to the Hen Harrier species. I am satisfied that cumulative effects are not likely to arise and that approval should not be withheld on the grounds of such cumulative effects. Having regard to these concerns, I also draw the Board's attention to the consideration of routing options (addressed in section 8.5 above). It is my opinion that it has not been demonstrated that the route option chosen and its environmental effects are the least damaging from a biodiversity point of view and that reasonable alternatives are not available in the circumstances.

9.6 **Land, Soil, Water, Air and Climate**

9.6.1 Land, Soil, Water, Air and Climate factors are dealt with under Chapters 9, 10, 11, 12 and 13 of the EIAR. I have considered these factors under their five respective headings as follows:

Land

9.6.2 The principal land use in the area of the development is permanent agricultural grass land and commercial plantation forestry. Public roads, county roads and private unsurfaced farm access roads serving domestic houses, farms and forest also feature. Part of the development lands fall within a Natura 2000 site (SPA 004165 – Slievefelim to Silvermines Mountains). The main potential effects to land relates to a loss of connectivity between parcels of land due to the presence of works and associated works area boundaries and the temporary loss of use of the lands during the construction phase and for a short period during the operational phase until the works area become re-vegetated. A number of Project Design Environmental Protection Measures to mitigate potential negative impacts to land are set out in Table 9.6 and 9.13 of the EIAR. Best practice measures are also set out.

9.6.3 The development will result in some negative impacts to existing agricultural lands which must be fenced off and thus become unavailable for farming use during the construction phase. The area however, affected by the construction phase

constitutes 18.9 ha spread over 40 no. landholdings with a total area of c. 811 ha. In this context, the significance of the impact will be imperceptible having regard to the small scale of lands subject to the works, the temporary duration of the works and their reversibility.

9.6.4 Approximately 46% of the UWF Grid Connection area is located on forestry lands, with 18.3 hectares of lands within construction works areas spread across 5 forestry landholdings. Forestry lands within the construction works area will be fenced off and unavailable for forestry use during the construction phase and in the early operational phase until vegetation has re-established. The significance of the impacts to forestry land will be imperceptible given that the extent of land affected is just 1% of the forestry landholdings and that the works will be temporary and reversible.

9.6.5 I am satisfied that impacts to land will generally be short term and that the impacts will generally be reversible when the lands become re-vegetated. No residual impacts would result on land use in the short term (construction phase) or the long term (operational phase).

Soil

9.6.6 Soil in the study area comprises mainly mineral or organic topsoil over glacial tills with minor sections of blanket bog. Alluvium and fluvio-glacial sand and gravels are also present along the larger watercourses. 32 no. trial pits were undertaken at the substation site and along the underground cable route in order to assess soil and subsoil character, subsoil depth and ground conditions. Investigation of 2 boreholes at each of the three main river crossings along the cable route was also carried out to determine subsoil and bedrock conditions. Overall the soil, subsoil and bedrock is considered to have low to medium geological importance.

9.6.7 In total c. 14,050m^3 of geological material will be permanently excavated and this will mainly arise from UGC trenching/joint bays, Mountphilips Substation and grid connection access roads. 8,370m^3 of the excavated material will be stored along the works area as linear berms and the remainder (5,020m^3) will be reinstated within the works area. 660m^3 of spoil from the public road excavations will be removed to a licenced waste facility. In addition, up to 11,140m^3 of soils will be excavated from the construction works area boundary.

9.6.8 In the UWF Grid Connection study area, there are three designations, including one County Geological Heritage site known as Rear Cross Moraines which is located to the south of the 110kV UGC. The route of the 110kV passes through the unaudited mapped circular boundary of the heritage site, however, field surveys in the area found no indication of the presence of moraines/eskers in the areas ahead or along the 110kV UGC route.

9.6.9 The other two designated sites along the 110kV UGC relate to ecological, habitat based designations – upland blanket bogs at Mauherslieve Bog NHA and Bleanbeg Bog NHA (c. 140m of the 100kV UGC passes through Beanbeg Bog NHA along an existing forestry track) and river habitat and associated species in the Lower River Shannon SAC (c. 70m of the 110 kV UGC passes through the SAC along an existing farm track close to the Newport River crossing).

9.6.10 It is detailed in the EIAR that the design of the development has ensured that sources of effects are not located in either the Lower River Shannon SAC or Bleanbeg Bog NHA boundaries. There will be no temporary or new permanent access roads; no temporary or permanent storage of overburden; construction traffic and works will be confined to the existing tracks; and all soil excavated from these tracks will be reinstated in the trench following completion of construction works. Project design environmental protection measures are also proposed to prevent peat slippage, reduce erosion of soils and prevent compaction and contamination of soils.

9.6.11 It is detailed in the EIAR that there will be a slight impact from the excavation and relocation of soils, subsoil and bedrock during the construction of the project. Impacts in terms of compaction, erosion and contamination will be imperceptible.

9.6.12 Within the Lower Shannon River SAC, the underground cable will be placed in an existing farm track in the SAC and all of the excavated material reinstated back in the trench. It is considered that the construction of the underground cable will not directly affect the qualifying interests of the River Shannon SAC. In the Bleanbeg Bog NHA, it is identified in the EIAR that there is no blanket bog remaining on the existing track, as it was removed during the construction of the forestry access road. There is, therefore, no potential for excavation or relocation effects to peat.

The cable will be placed in the subsoil not peat, and all the excavated material will be placed back in the trench inside the NHA.

9.6.13 Project Design Environmental Protection Measures will be put in place to prohibit refuelling, storage of fuel overnight and overnight parking within the SAC/NHA thus preventing significant leaks of fuel. Contamination from cement will be limited to the placement of very small volumes of semi dry lean mix concrete in the cable trench along the 70m of existing farm road and 140m of forestry road.

9.6.14 I am satisfied, subject to the mitigation measures proposed, that the development will have no impact on soils and that there will be no residual impacts.

Water

9.6.15 With respect to surface water, the existing environment comprises regional and local surface water bodies, the majority of which are within the River Shannon catchment. Part of the cable route is located within the Clodiagh River catchment, which is in the regional River Suir catchment. Works at the Newport (Mulkear) River and Bilboa River take place within the Lower River Shannon SAC boundary. Works in the Clodiagh Rover catchment take place c. 12km upstream of the Lower River Suir SAC boundary. The cable also intersects with the Bleanbeg NHA for c. 140m along an existing forestry track. A temporary trench will be constructed through two areas of wet grassland which support a population of Marsh Fritillary Butterfly.

9.6.16 In respect of groundwater, the UWF Grid Connection is mainly located within the Slieve Phelim Ground Water Body Catchment and the Templemore A: Ground Water Body Catchment. There are two private wells within a 50m corridor downstream of the works.

9.6.17 The majority of watercourses intercepted by the cable are drains or minor streams. The cable also intercepts a number of large stream crossings as well as the Newport, Clare and Bilboa Rivers. In stream works are proposed at 38 of the 66 watercourse crossings along the route. This is because the majority of watercourse crossing points are located on existing tracks in forestry where culverts are already in place. No instream works are proposed for the rivers and these will be crossed utilising a directional drilling technique.

9.6.18 Excavation of 41 trial pits to assess existing and soil and groundwater conditions and 2 boreholes at each of the three river crossings was undertaken. Surface water sampling at 16 locations was carried out.

9.6.19 Potential effects to water may arise from in stream works, conifer plantation tree felling, earthworks excavations (including substation foundations), dewatering of excavations, watercourse crossing works, directional drilling, contamination by fuels, chemicals, cement based compounds, increased flood risk and runoff from permanent access roads.

9.6.20 It is detailed in the EIAR that a range of Project Design Environmental Protection Measures (33 no.) are built into the design of the project in order to prevent contamination of surface water and groundwater and to prevent sedimentation release. These are described and set out in detail in the report – refer to tables 11.20, 11.27, 11.36, 11.43, 11.50, 11.57 and 11.64. Best Practice Measures are also set out.

9.6.21 I note that concerns have been raised by one of the observers regarding the efficacy of measures such as siltbusters to protect the aquatic environment. This issue is comprehensively addressed by the applicant in their response to the observations and it is noted that there is no reliance on a single type of drainage measure at any of the proposed works areas. I also note that Inland Fisheries Ireland, whilst making recommendations regarding conditions to be imposed, raise no objections to the mitigation measures outlined in the EIAR including the proposed use of siltbusters. I am satisfied that the efficacy of these measures is robust.

9.6.22 Having regard to the mitigation measures proposed, it is stated in the EIAR with regard to local surface water bodies there will be:

- Slight to moderate morphological impacts to watercourse due to in steam works on local surface water bodies.
- Slight to imperceptible impacts to surface water quality during conifer plantation tree felling.
- Imperceptible to slight impacts to surface water quality due to earthworks.
- Imperceptible impacts to water quality from dewatering of excavations.

- Imperceptible to slight impacts to surface water quality due to watercourse crossing works.
- Imperceptible impacts to surface water quality during directional drilling works.
- Imperceptible impacts to surface water due to contamination by fuels, oils and chemicals.
- Imperceptible impacts from cement based compounds.
- Imperceptible impacts from increased flood risk.
- Imperceptible impacts to surface water quality due to runoff from permanent hardstanding surfaces.

9.6.23 In relation to local groundwater bodies, groundwater quality impacts due to contamination by fuels, oils, and chemicals are deemed to be imperceptible, as are impacts from cement based compounds and dewatering excavations.

9.6.24 In terms of local wells and springs, 2 local wells are identified. It is noted that there will be no negative impacts particularly due to the fact that the trench is shallow and the two wells are deep bored wells. Therefore, inflows to the wells are most likely from deeper bedrock than shallow springs or surface water. In this context, concerns raised by observers regarding potential impacts to private wells are in my view without substance.

9.6.25 The EIAR also concludes that impacts on the Lower River Shannon SAC will be imperceptible and that impacts to the Lower River Suir SAC will be either imperceptible or that there will be no impact. Impacts to the Bleanbeg Bog NHA will be neutral. In terms of local water dependent habitats and particularly the Marsh Fritillary habitat, there will be no alteration of the wet habitat drainage within the works area, due to the shallow and temporary nature of the cable trench which will be backfilled; the natural ground surface will be reinstated after works are complete and all impacts will be brief and temporary. The significant of the impacts will, therefore, be imperceptible.

9.6.26 The EIAR also includes a site specific flood risk assessment. This identifies that due to the elevated nature of the majority of the construction works areas, the majority of the works, including the location of the substation, are not located within

any mapped fluvial or pluvial flood extent zones and are considered to be area at low risk to flooding (located within fluvial Flood Zone C (low risk).

9.6.27 I am satisfied, subject to the mitigation measures proposed, that the development will have no significant impacts on water. Residual impacts during construction and operation will be negligible.

Air (Air Quality, Noise, Vibration, EMF)

9.6.28 The issue of air is addressed in Chapter 12 of the EIAR and covers the factors of air quality, noise and vibration levels and electromagnetic field.

9.6.29 The subject site is located in a predominantly rural area. Existing levels of air pollutants in the area is low and there are no significant sources of noise or vibration in the vicinity. Due to the absence of any intensive power and communications infrastructure, there are minimal levels of electric and magnetic fields in the area.

9.6.30 The principal potential effects from the project relate to increased levels of pollution and dust, increased noise and vibration levels and an increase in electromagnetic fields. A number of design environmental protection measures are incorporated into the project to mitigate against such potential effects. These include controls on the hours of construction activity and the implementation of an Environmental Management Plan - see Table 12.22.

9.6.31 In terms of dust, and its impact on local residents and the community, it is stated in the EIAR that there will be a slight impact from dust caused by construction works. Dust emissions will arise from construction activities such as excavations, earth moving and backfilling, particularly during dry and windy weather conditions. Vehicles transporting potentially dusty material to and from the site also have the potential to cause dust generation along the haul routes. Increases in noise levels will have a moderate effect during the construction phase. The impacts will be primarily from plant and machinery and excavation works. There will however, be no impact from the operating Mountphilips Substation as it will not likely be heard above existing background noise levels at the nearest residence which is over 385 metres away from the substation.

9.6.32 The significance of the impacts from an increase in electromagnetic fields will be imperceptible. The maximum level of magnetic fields generated directly above the

underground cable is calculated to be 54 µT. This is significantly below the International Commission on Non Ionizing Radiation Protection Electromagnetic Field safe reference of 100 µT. The worst case increase of magnetic field at the houses nearest the development will be still less than 1/50th of the guidelines limit. There is no increase in magnetic fields in Kilcommon National School, nor any increase in background electric or magnetic fields and no increase in electric fields at any property or community facility. The significance of the impacts of potential increases in electromagnetic fields to transient people is also considered and determined to be imperceptible to slight.

9.6.33 Whilst I acknowledge that there may be some impacts to local residents and the local community during the construction of the project, I consider that these impacts will generally be short term and can be appropriately managed and mitigated through the implementation of an Environmental Management Plan and good construction management practice. Appropriate measures have been outlined in the EIAR in this regard. I am satisfied that subject to the implementation of such measures that no residual impacts on air quality are anticipated during the construction phase. During the operational phase, noise emissions from the substation will be imperceptible. This coupled with the distance of the substation from the nearest sensitive residential receptors will ensure no adverse impacts. In this regard, I am satisfied that there will be no significant impacts in terms of noise, air quality, vibration or EMF once the development is operational.

Climate

9.6.34 It is identified in the EIAR that the development will have a significant and positive impact on the climate. The grid connection is required to facilitate the development of the Upperchurch Windfarm. The development as a whole will reduce the need for electricity from fossil fuels and, therefore, reduce greenhouse emissions. The amount of electricity that will be exported from the windfarm will be approximately 2% of the total wind electricity made in Ireland.

9.6.35 I note the comments by a number of the observers regarding the efficacy of wind power and the assertion that wind turbines do not reduce carbon emissions and thus do not have a positive impact on Climate. This issue has been addressed in Section 8.3 above. As noted, the promotion of wind energy as part of Ireland's

Renewable Energy Strategy is strongly advocated for at a national, regional and local level. It is detailed by the applicant that the latest SEIA report *"Energy Related CO_2. Emissions in Ireland 2005-2016"* lists that in 2016, avoided CO_2 emissions due to wind power generation were over 2 million tonnes of CO_2. None of the observers provide in my opinion, a substantive and overriding argument as to why the stated government policy of supporting wind energy as an integral part of the transition to a low carbon economy should be discounted.

Conclusion

9.6.36 I have considered all of the written submission made in relation to land, soil, water, air and climate, in addition to those specifically identified in this section of the report. I am satisfied that the impacts identified would be avoided, managed and/or mitigated by the measures, which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of land, soil, water, air and climate. I am also satisfied that cumulative effects are not likely to arise and that approval should not be withheld on the ground of such cumulative effects.

9.7 **Material Assets, Cultural Heritage and Landscape**

9.7.1 Material Assets – Built Services and Roads are addressed in Chapter 14 and 15 of the EIAR. Cultural Heritage is dealt with under Chapter 16 and Landscape in Chapter 17. I have set out my assessment of these factors below.

Material Assets – Built Services

9.7.2 Built services in the vicinity of the site include water main pipes, overhead electricity lines, overhead telephone lines and some underground cables which form part of the Eir network. There is a water treatment plant which supplies the towns of Newport and Ballina and the village of Birdhill and a reservoir at Knocknabansha which supplies Kilcommon and Rearcross villages. The underground water mains related to these are located in and along public roads. There are no group scheme private water pipes or public waste water pipes in proximity to the development. There are no individual on site septic tank and treatment systems located close to construction works areas. The EIAR also notes that there are privately owned telecommunications masts emitting wireless signals and a small Eir exchange

building in Kilcommon Village. In terms of the Electricity Transmission System assets in the vicinity, there are two high voltage lines near Newport which are both connected to the Killonan Station, near Limerick City. The Mountphilips Substation will connect into the Killonan Nenagh 110 kV Overhead line.

9.7.3 Potential effects on such built services could arise from damage occurring during the construction and excavation works, thus causing an interruption of supply. The EIAR also identifies that some minor works will be required to some existing telephone and electricity lines which will require an outage of the line for a short period of time (4-8 hours). However, customers will be informed in advance of such works. Project Design Environmental Protection Measures to mitigate potential impacts are set out in Table 14.8.

9.7.4 In relation to existing built services and utilities, including electricity infrastructure, I am satisfied that these have been identified and that maps of such services and utilities would be made available to the design and construction team, who would in turn consult with the service providers to ensure no damage to the infrastructure occurs. Confirmatory surveys would be carried out ahead of works to identify any new services or incorrect mapping. The EIAR also states that goal posts will be used as an environmental protection measure to protect existing overhead lines and a foreman or banksman will guard existing underground pipes during excavation works. Accordingly, I am satisfied that safety precautions can be determined at detailed design stage and subject to good site management during the construction phase, services and utility infrastructure can be protected. There will be no residual impacts to material assets – built services.

9.7.5 I note the concerns raised by one observer regarding potential impacts on fixed wireless broadband. It is noted that Condition 13 of the Upperchurch Windfarm permission (Planning Authority Reference 13/510003/An Bord Pleanála Reference 243040) requires that in the event that the turbines cause interference to telecommunications signals, that effective measures shall be introduced to minimise interference with telecommunication signals in the area. I am satisfied that this issue is addressed under the parent permission.

Material Assets Roads

9.7.6 During the construction phase of the project, the main roads affected by the development are the R503 Regional Road between Newport and Ballycahill, the R498 at Knocknabansha and the network of local roads radiating from the regional road that will be used to access construction areas for the substation and underground cable. Falling Weight Deflectometer Testing of the local roads was undertaken to determine their load bearing capacity which indicated that there is stiff to moderate subgrade support under the roads and that the road pavements are weak.

9.7.7 There are 7 buried structures under the L2114-0 Road comprising concrete and stone culverts and a stone arch bridge. These were surveyed and found to be in good condition with sufficient depth of cover in which to install underground cables without risk to the culvert structure. Cables will be installed in a flat formation over the stone bridge area and, therefore, the integrity of the bridge will not be affected. Buried structures along the haulage routes were also found to be in good condition and will not be affected by construction traffic.

9.7.8 Baseline traffic surveys undertaken confirmed that all of the roads are lightly trafficked and have an average of 96.7% capacity during the peak traffic periods. The main potential effects to the road network include damage to road boundaries and road pavements during the construction phase. No cable works are required for the grid connection in the Regional Roads with the exception of one cable crossing. In the local road network, trenching will occur at 12 locations and ducting at three sections.

9.7.9 The construction phase of the project will be approximately 6 to 8 months. It will result in the permanent removal of 310m roadside boundary and temporary removal of 55m of roadside boundary. The development will also result in the short term closure of the L6085-0 (3 days), some half lane closures on the L2156-11 and L2114-0 and a stop go system at road crossing locations. There is potential for damage to the road pavement from excavation during trenching works and additional construction traffic. The EIAR notes that a number of Environmental Protection Measures are built into the design of the project including that on completion of the construction works, road surfaces will be repaired and resurfaced and roadside boundaries reinstated. A Traffic Management Plan will also be implemented to minimise the traffic impact of construction. Table 15.4 and 15.7

sets out further detail of mitigation measures to avoid potential or likely significant impacts.

9.7.10 The potential impacts of damage to road boundaries is anticipated to be imperceptible due to the small number of permanent entrances required and the fact that temporary entrances will be reinstated. Similarly the EIAR states that the impacts from damage to road pavements will be imperceptible, noting that the regional roads are lightly trafficked and have spare capacity, thus are capable of accommodating additional construction traffic with no negative impact. Confirmatory condition surveys will be undertaken along the routes of concentrated construction traffic and any damage repaired. The local road network will be impacted during the construction phase at trenching locations. All sections subject to such works will be reinstated by full width strengthening of the affected road to 5 metres beyond the works area on both sides. In terms of potential impacts to road users, it is anticipated that construction traffic associated with the works will have a negligible impact to the network capacity and operation due to the fact that these roads are lightly trafficked and that road works will be brief and temporary in nature.

9.7.11 During the operational phase, it is anticipated that the development will have neutral or no impacts. The Mountphilips substation will be remotely monitored and secured and will be inspected on a monthly basis. Access to the joint bays/substation will occur over a total of c. 13 days per year. Traffic volumes associated with the operational phase are, therefore, negligible.

9.7.12 I note the concerns raised by one observer that the development will preclude access to lands at Bealaclave. It is detailed by the applicant that 1,280 metres of trenching along the public road L2114-0 will be carried out over a period of approximately 20 days. Whilst there will be some delays when the works are ongoing, traffic management measures will be implemented to minimise these. I, therefore, considered that such impacts will be short term and temporary and will not preclude access to the observer's lands.

9.7.13 Subject to the mitigation and best practice measures outlined in the EIAR including the implementation of a Traffic Management Plan and conditions which would be attached in the event of an Approval, I am satisfied that no significant residual impact would likely arise on the road network surrounding the proposed

development during the construction phase. Following completion of the works, traffic volumes associated with ongoing maintenance works would be minimal and I am satisfied that no specific mitigation measures are necessary.

Cultural Heritage

9.7.14 In considering cultural heritage, there are 46 recorded legally protected sites within 500 metres of the grid connection construction works area, with 2 sites being in close proximity namely the ringfort in Castlewaller c. 35m north of the underground cable and a wedge tomb in Knockmaroe c. 20m east of the cable. Archaeological test excavations were carried out at these two locations, however, no features or artefacts were discovered during these excavations. There are a further 5 sites listed on the National Inventory of Architectural Heritage Building Survey, 6 on the National Inventory of Architectural Garden Survey and 25 sites shown on historic OS maps. Survey work undertaken identified a total of 209 previously unrecorded sites comprising wells, springs, townland boundaries, quarries and lime kilns.

9.7.15 Potential effects on cultural heritage could arise from groundworks which have the potential to damage such sites or objects associated with them. It is detailed in the EIAR that such effects can occur to archaeological sites and townland boundaries. The close proximity of new above ground structures to archaeological sites can also cause visual impact to these sites, reducing the quality of the visual amenity or character and setting of a monument or site. It is proposed that there will be archaeological monitoring of all initial groundworks during the construction stage. Tables 16.8, 16.5, 16.22, 16.29 set out relevant mitigation measures.

9.7.16 In terms of potential visual impact, it is determined that the impact will be imperceptible due to the low lying location of the substation and surrounding vegetation which will completely screen it. Works will be carried out within the area of Mountphilips and Oakhampton demesne. It is stated in the EIAR that these sites have been subsumed onto the modern landscape in the area, with Mountphilips having virtually no recognisable features visible and the peripheral features of Oakhampton demesne being also unrecognisable. Works in Castlewaller Demesne are confined to forestry track. Therefore, it is considered that there is no potential for impacts to these three sites. Potential visual impacts are deemed to be negligible.

9.7.17 Potential damage to townland boundaries is predicted to have a slight impact due to the limited sections of townland boundaries to be permanently and temporarily removed to provide access, the fact that these boundaries have already been extensively altered due to farming and forestry practices and the fact that there will be monitoring of all groundworks. The EIAR also notes that impacts to unrecorded subsurface sites is likely to be slight as due to continuous intensification of agriculture and forestry in the study area, finds will likely include only levelled earthworks, backfilled cuts and areas of large scale burning or artefact scatters. It is unlikely that any fully intact remains of special archaeological significance will be uncovered. There is unlikely to be any impacts to recorded legally protected sites due to the distance of such sites from the construction works area.

9.7.18 The submission by the Department of Culture, Heritage and the Gaeltacht notes that sites like fording points have high potential for artefactual material and associated marsh lands also hold potential to retain archaeology. It recommends that all excavated material from all watercourses to be spread and metal detected as part of the finds retrieval strategy and that all works within watercourses (streams and rivers) or wetland areas to be subject to close archaeological monitoring. Should the Board be minded to grant permission, an appropriate condition should be attached to the Approval, requiring such investigation, to ensure that the DCHG are consulted and made aware of any archaeogical finds and that all works within watercourses or wetland areas be subject to archaeological monitoring.

Landscape

9.7.19 The landscape setting of the majority of the UWF Grid Connection is that of a rugged rural upland comprising of moderate steep sided valleys characterised by a combination of forestry and agricultural grassland. The rural population is dispersed. Nearer the Mountphilips Substation, the landscape is characterised by a more gently rolling pastoral landscape of fields, hedgerows and mature treelines.

9.7.20 Measures to reduce the visual impact of the development include minimising the extent of roadside boundary removal, construction management measures and ensuring that new permanent roads within the Slievefelim to Silvermines Mountains SPA are concealed under a vegetative layer of mature heathers. Table 17.11 and

17.18 set out relevant mitigation measures. Potential effects of the Grid Connection are identified to be impacts on landscape character and visual amenity.

9.7.21 It is detailed in the EIAR that there will be an imperceptible impact from the alteration of land cover and vegetation patterns. Whilst there will be some temporary impacts due to excavation works, felling of forestry and removal of hedgerows, the vast majority of the works area will be reinstated and hedgerows and trees will be restored or replanted. There will be slight to imperceptible impacts due to the intensification of activity causing a reduction on the rural landscape during the construction phase. Such impacts however, will be short term and the site with most activity – the Mountphilips Substation, will be well screened by existing terrain and vegetation which will restrict the extent that construction activity that can be seen.

9.7.22 During the permanent operation stage, the new substation will add a permanent built structure to the landscape. The substation however, is substantially screened from view by landform and high field and roadside boundaries. In this regard, the impacts from the intensification of the built development and reduction in the integrity of the rural landscape pattern is considered to be slight to imperceptible and it is not considered the substation will have any negative impacts in terms of visual amenity.

9.7.23 In terms of visual amenity, there will be an intensification of activity during the construction stage which will cause slight to imperceptible impacts. The greatest intensity of activity will occur at the site of the proposed substation. However, as the site is screened, impacts will be minimised. Visible construction activity for the underground cable will be dispersed between the new substation site and the windfarm substation site. Construction activity will occur at multiple small, independent sections of the cable route.

9.7.24 I am satisfied that the development will have no material adverse impacts in terms of landscape or visual amenity and once the mitigation measures are employed, I am satisfied that no residual impacts are anticipated during either the construction or operational phase.

Conclusion

9.7.25 I have considered all of the written submissions made in relation to material assets, cultural heritage and the landscape, in addition to those specifically identified in this section of the report. I am satisfied that the impacts identified would be avoided, managed and or mitigated by the measures, which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of material assets, cultural heritage and the landscape. I am also satisfied that cumulative effects are not likely to arise and that approval should not be withheld on the grounds of such cumulative effects.

9.8 **Interactions between the Factors**

9.8.1 I have considered the interrelationships between factors and whether these may as a whole affect the environment, even though the effects may be acceptable when considered on an individual basis. Chapter 15 provides a summary of the impact interactions.

9.8.2 In particular, the potential arises for population and human health to interact with other factors including Air (increased levels of ambient dust and noise and EMF), Material Assets – Roads (increased traffic and road works), Landscape (visual impacts), Water (water quality), Material Assets – Built Services (contamination or disruption of public piped water supply) etc.

9.8.3 Potential cross factor effects to Biodiversity could be caused by Soils (excavation, relocation, erosion and contamination effects to soils), Water (decreased in water quality as a result of cross factor soil effects and morphological impacts to watercourse during crossing works, along with changes in drainage regimes in water dependent habitats due to cross factor soils effect) and Air (due to dust soiling, increased ambient noise and vibration levels. The details of all other interrelationships are set out in Chapter 15, which I have considered.

9.8.4 I am satisfied that effects as a result of interactions, indirect and cumulative effects can be avoided, managed and/or mitigated by the measures which form part of the proposed development, mitigation measures, and suitable conditions. There is, therefore, nothing to prevent the approval for the development on the grounds of significant effects as a result of interactions between the environmental factors.

9.9 **Cumulative Impacts**

9.9.1 Section 6.11 and 6.12 of the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018) sets out guidance regarding cumulative effects. This states:

"Effects are not to be considered in isolation but cumulatively i.e. when they are added to other effects. A single effect on its own may not be significant in terms of impact on the environment but, when considered together with other effects, may have a significant impact on the environment. Also, a single effect which may, on its own, have a significant effect, may have a reduced and insignificant impact when combined with other effects.

The Directive requires that EIAR describes the cumulation of effects. Cumulative effects may arise from:

- *The interaction between the various impacts within a single project.*
- *The interaction between all of the different existing and/or approved projects in the same area as the proposed project."*

9.9.2 The EIAR sets out a detailed assessment of the potential cumulative impacts of the project, the methodology of which is detailed in Section 5.6. The cumulative assessment considers the impacts of the proposed development in conjunction with all other elements of the whole UWF project namely:

- UWF related works
- UWF replacement forestry
- Upperchurch Windfarm
- UWF other activities

9.9.3 Other projects or activities in the area were scoped using geographical and time frame boundaries and conceptual site model exercises. The list of other projects or activities included in the Environmental Factor Cumulative Evaluation are set out in Table 5.11 of the EIAR and include the consented Bunkimalta and Castlewaller windfarms as well as the existing Milestone Windfarm.

9.9.4 A cumulative evaluation of the effects of the subject development together with the other elements of the whole UWF project and other relevant projects or activities on the environment is presented in each environmental factor topic chapters. The

EIAR concludes for each factor that the cumulative effect of the development will not be significant.

9.9.5 It is noted that a number of the observers refer to the O' Grianna and Others v. An Bord Pleanála case (IEHC 632, 12/12/2014) and state that in light of this decision, that the project cannot be split, must be assessed as a whole project and that a cumulative assessment cannot rely on the surveys and analysis undertaken when the windfarm development was consented. It is submitted that the windfarm and grid connection must be assessed as one entire project. It is also noted that Tipperary County Council issued a Further Information request in respect of application 18/600913 (UWF related works) on the basis that they were not satisfied regarding the completeness of the EIAR submitted as it relies upon the EIS and EIA of the 2013 wind farm application in the presentation of cumulative effects.

9.9.6 In O' Grianna v An Bord Pleanála, the court held that the grid connection was an integral part of the development and could not be considered as a separate project. The implication of this decision is that applications for wind farm developments must include details of the proposal for the grid connection and that the cumulative effects of both windfarm and grid connection must be assessed. However, as highlighted by the applicant in their response to the submissions, subsequent cases (O' Grianna and Others v An Bord Pleanála IEHC 7 (2017), North Kerry Wind Turbine Awareness Group v An Bord Pleanála IEHC 126 (2017) and Alen-Buckley v An Bord Pleanála IEHC 541 (2017)) have confirmed that the law does not require that planning permission for all integral parts of large projects must be obtained at the same time, or as part of a single application to one consenting authority.

9.9.7 It is noted in this instance, that the wind farm permission (Planning Authority Reference 13/510003/An Bord Pleanála Reference 243040) was permitted prior to the O' Grianna decision. There is nothing to infer from the O' Grianna decision that the applicant must now carry out a retrospective EIAR assessing the cumulative impact of the wind farm in conjunction with the grid connection. The wind farm has been permitted by the Board, fully assessed and determined to be in accordance with the proper planning and sustainable development of the area.

9.9.8 What is currently before the Board is the grid connection to serve this permitted windfarm. Having regard to the O' Grianna decision, the applicant has considered the impact of the subject development cumulatively with the whole Upperchurch Windfarm project. This in my view is a logical and appropriate approach to considering cumulative impacts. It is noted that Inspector's report on Strategic Infrastructure Pre Application Consultation (Reference VC0098) recommended that if the applicant was undertaking an EIAR, that it should have regard to the cumulative effects with the permitted windfarm. This is the approach that has been adopted by the applicant.

9.9.9 I do not concur with the views of the observer or indeed Tipperary County Council that the applicants should be required to update the EIAR for the consented windfarm development. This is a permitted development and the guidance on this matter (as set out in the Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment August 2018) is clear that the cumulative assessment should consider the interactions between all of the different existing and/or approved projects in the same area as the proposed project. It does not state that the applicant should be expected to carry out a cumulative assessment of such approved projects from first principles or reassess the potential environmental impacts of these projects in their own right. The submission by the observer and Tipperary Co. Co. infers that that the applicant should effectively undertake a de novo assessment of the windfarm development including a new EIAR assessing the windfarm and grid connection. As this is a consented development, this in my view is unnecessary and would be an unreasonable and onerous request to the applicant.

9.9.10 I am satisfied that the cumulative assessment is robust and fully assesses the impacts of the current proposal for the grid connection and substation in the context of the permitted windfarm development itself and all other relevant existing and approved projects. I also note the applicant's response on this matter and the extent of survey work undertaken to inform the current EIAR. This states that the competent experts who prepared the 2018 EIA Reports reviewed the Upperchurch Windfarm 2013 and 2014 assessments as part of their studies of the baseline environment and studied the area again in 2017, as part of field and desktop studies for the application. These field and desktop studies enabled experts to

ascertain the existing environment and the trends in the existing environment. Having regard to the fact that the windfarm was approved in 2014 and the extensive surveys undertaken to inform the current EIAR, I am satisfied that there is sufficient information to inform a cumulative assessment.

9.9.11 Concerns have been raised by one of the observers that the application has not fully assessed all of the wind turbines operating in close proximity to the proposed development. It is detailed by the applicant in their response that in total, 32 projects and 3 activities were scoped for potential to cause cumulative effects. Bunkimalta windfarm is scoped in as there is the potential for this large project to be constructed at the same time as the UWF Grid Connection project. Windfarms at Knockmealse, Ballinlough, Curraghgraigue and Ballinveny were excluded as due to their size and distance, they were considered unlikely to cause cumulative effects. All of the turbines in the Hollyford area to the south are included due to the large number of turbines in this area and its proximity to the Upperchurch area. I am satisfied that all relevant consented and constructed wind farms in the vicinity of the development have been considered that that the cumulative assessment is adequate.

9.10 **Reasoned Conclusion on Significant Effects**

9.10.1 Having regard to the examination of environmental information contained above, and in particular to the EIAR and the submissions from observers and prescribed bodies, the contents which I have noted, it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows:

Biodiversity: Impacts to aquatic habitats and species are likely to arise during the construction phase particularly in terms of decrease to water quality, changes in flow in watercourses, disturbance/displacement of fish, riparian habitat degradation and spread of aquatic invasive species. These impacts would be mitigated against by implementing a range of Project Design Environmental Measures set out in Table 8.40 of the EIAR. These include measures to prevent contamination of water and prevent sedimentation release to water.

Impacts to badgers may arise from disturbance and displacement during the construction phase. Measures including the preclusion of construction works in the

main breeding season within 50 metres of an active badger sett and no construction activity outside of daylight hours will mitigate this impact.

Impacts to bats could occur from destruction or disturbance of bat roosts in trees, severance of commuting routes or feeding areas and disturbance or displacement due to lighting. Significant effects can be mitigated by measures detailed in Table 8.73 of the EIAR.

Impacts to hen harrier will arise from a reduction in or loss of suitable foraging habitat. There will be a net permanent loss of 3.14ha in the wider study area. The significance of this impact is considered to be moderate (negative). I am not satisfied that adequate mitigation measures have been set out in the EIAR to address this issue and that adverse impacts will not occur. The efficacy of measures such as concealed roads within the SPA to mitigate against habitat loss may also be inadequate and, therefore, it cannot be ruled out beyond all scientific doubt that no adverse impacts to the integrity of the SPA will occur.

There is potential for significant negative effects to otters. Mitigation measures will be put in place during construction works including surveys by an experienced otter surveyor, communication of the survey results to the construction team, NPWS and the relevant authorities, control of works within 150m of holts including implementation of appropriate measures such as screening, restriction of working hours, restriction on scale of construction works and the provision of artificial holts if required. The implementation of measures will be supervised by a competent ecologist. Monitoring will take place three years after the completion of construction. The residual impact will be slight.

Soil: Impacts to soil could result from excavation and relocation of soils, subsoils and bedrock, compaction, erosion and contamination. Mitigation measures are detailed in Tables 10.17, 10.24 and 10.31 of EIAR. These include measures to prevent peat slippage; to reduce erosion to soils by ensuring that all excavations will be reinstated and landscape immediately after the works and permanent storage berms of soils will be graded and seeded immediately; to prevent compaction, construction traffic will be restricted to the footprint of the works only area and tracking across adjacent ground will not be permitted; and to prevent contamination, all fuels required for construction activities will be stored in bunded, locked storage

containers in a designated location and no refuelling, storage of fuel or overnight parking will be permitted within the designated sites.

Water: Potential indirect effects could be caused by construction activities such as sediment laden run off to rivers, streams and drains and surface water quality impacts during conifer plantation tree felling, earthwork excavations, dewatering of excavations, crossing works and directional drilling. Water quality can also be impacted by contaminated fuels, oils, chemical spills and cement run off as well as run off from permanent hardstanding areas and access roads. The morphology of watercourses themselves may be impacted by changes to the shape of the channel due to instream works. Groundwater bodies including local wells and springs can be contaminated by spillage of fuels, oils, cement, dewatering etc. The Bleanbeg NHA and local water dependent habitats may be impacted by changes in drainage regimes. Detailed mitigation measures are set out in tables 11.20, 11.27, 11.36, 11.43, 11.50, 11.57 and11.64 to prevent adverse impacts including sedimentation effects, to prevent contamination of surface water and groundwater and prevent increased flood risk. These will mitigate any significant effect. There will be slight to moderate impacts to the morphology of watercourses due to instream works. The magnitude of this impact however, is likely to be small due to the relatively minor nature of the watercourses being crossed (most are drains or of low ecological importance) and the distributed nature of the works within several water bodies over a large geographical area.

Air: Impacts arising from noise and vibration levels and increases in airborne dust will be mitigated through appropriate construction management measures, limits to hours of construction activity and implementation of an Environmental Management Plan.

Material Assets Roads: Impacts during the construction phase include damage to the local road network and increases in traffic volumes particularly HGV's with potential for disruption to residents. In order to prevent or reduce such negative effects, mitigation measures will be implemented including the repair, resurfacing and reinstatement of road surfaces after the construction phase; the implementation of a Traffic Management Plan to control and minimise the traffic impacts of the construction stage and the appointment of a Community Liaison Officer to liaise with the local community on upcoming schedules.

Cultural Heritage: Impacts on Cultural Heritage during the construction stage would be mitigated by ensuring archaeological monitoring of all initial ground works during the construction stage with provision made for the resolution of any archaeological features or deposits that may be identified. Impacts on as yet unknown underwater archaeology would be mitigated by the carrying out of an underwater archaeological impact assessment in consultation with the DCHG including provision for resolution of any archaeogical finds, if necessary.

Alternatives: The development may have an adverse impact on biodiversity. This is as a result of the route selected for the grid connection, which runs in part through an SPA. I am not satisfied, based on the assessment and analysis set out in the EIAR, that in the consideration of potential route options, that adequate weight has been given to biodiversity matters. Lesser damaging alternatives are available that could avoid negative impacts on the environment with regard to biodiversity.

In conclusion, the EIAR has considered that the main direct and indirect effects of the proposed development on the environment would be primarily mitigated by environmental management measures. I am not satisfied however, that following mitigation, no residual negative impacts on the environment would remain as a result of the proposed scheme with respect to biodiversity and the Hen Harrier species. The proposed development may, therefore, have an unacceptable indirect effect on the environment.

10.0 Appropriate Assessment

Introduction

10.1 Article 6(3) of Directive 92/43/EEC (Habitats Directive) requires that any plan or project not directly connected with or necessary to the management of a European site(s), 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(s) in view of the site(s) conservation objectives. The Habitats Directive has been transposed into Irish law by the Planning and Development Act 2000, as amended, and the European Union (Birds and Natural Habitats) Regulations 2011-2015.

10.2 In accordance with these requirements and noting the Board's role as the competent authority who must be satisfied that the proposal would not adversely affect the integrity of the Natura 2000 site(s), this section of my report assesses if the project is directly connected with or necessary to the management of European Site(s) or in view of best scientific knowledge, if the project, individually or in combination with other plans or projects, is likely to have a significant effect on any European Site, in view of the site(s) conservation objectives.

10.3 Guidance on appropriate assessment is provided by the EU and the NPWS in the following documents:

- Assessment of plans and projects significantly affecting Natura 2000 sites – methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (EC, 2001).
- Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities (DoEHLG)

10.4 Both documents provide guidance on screening for appropriate assessment and the process of appropriate assessment itself.

The Natura Impact Statement

10.5 The application is accompanied by an NIS which describes the proposed development, the project site and the surrounding area. The NIS contains a Stage 1 Screening Assessment and concludes that a Stage 2 Appropriate Assessment is

required. The NIS outlines the methodology used for assessing potential impacts on the habitats and species within several European sites that have the potential to be affected by the proposed development. It predicts the potential impacts for these sites and their conservation objectives, it suggests mitigation measures, assesses in-combination effects with other plans and projects and it identifies any residual effects on the European sites and their conservation objectives.

10.6 The Board should note that the NIS prepared by the applicant relates to three elements of the Whole Upperchurch Windfarm Project – the UWF Grid Connection, UWF Related Works and UWF Replacement Forestry. In this context, a catchment greater than 15km is considered for the likely zone of impact. It is stated in the NIS that the Upperchurch Windfarm element of the project has already been subject to an Appropriate Assessment and it was concluded by the Board that it would not result in adverse effects on the integrity of a European site. It is recognised however, that individual elements of the projects detailed in the NIS may have the potential for in combination effects with the Upperchurch Windfarm on European sites. The NIS, therefore, considers whether those proposed elements either alone or in combination with the Upperchurch Windfarm, as the whole UWF Project will result in adverse effects on the integrity of any European site. In this context, the consideration of the wider zone of impact is considered appropriate.

10.7 The NIS report submitted concludes that, subject to the implementation of best practice and the recommended detailed mitigation measures, the proposed development would not have a significant effect either individually or in combination with other plans or projects on the conservation objectives of any European site.

10.8 Having reviewed the NIS and the supporting documentation, I am satisfied that it provides adequate information in respect of the baseline conditions. The Board should note however, that I do have concerns regarding the lack of assessment regarding the potential indirect ex situ impacts that may arise to the hen harrier species as a result of permanent habitat loss outside the SPA. In this regard, I am not satisfied that the NIS does clearly identify all potential impacts. This is addressed further in section 10.54 onwards below.

Appropriate Assessment Screening – Stage 1

10.9 I consider that the proposed development of an underground cable grid connection and substation is not directly connected with or necessary to the management of any European site.

10.10 In my assessment I have considered the applicant's Appropriate Assessment Stage 1 screening statement which provides a description of the surrounding area and the proposed development. It predicts the potential effects for these sites in view of their conservation objectives. I have also had regard to the Site Synopsis and conservation objectives of the relevant Natura 2000 sites and to the entirety of the application documentation including submissions received.

10.11 Having regard to the information available, nature, size and location of the proposed development and its likely direct, indirect an cumulative effects, the source pathway receptor principle and sensitivities of the ecological receptors, the following sites are considered relevant to include for the purposes of initial screening for the requirements for Stage 2 Appropriate Assessment on the basis of likely significant effects.

European Site (SAC/SPA)	**Qualifying Interests (Habitats and Species)** ***denotes a priority habitat**	**Distance of European Site to Proposed UWF Grid Connection cable route**	**Connectivity**
Anglesey Road SAC (site code 002125)	**Priority Annex 1 Habitats** • Species-rich *Nardus* grasslands on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)* (6230)	3.3km	None due to the separation distance and lack of hydrological pathway
Askeaton Fen Complex SAC (site code	**Priority Annex 1 Habitats** • Calcareous fens with	31.4km	None due to the separation distance and

002279)	*Cladium mariscus* species of the Caricion davallianae * (7210) **Annex 1 Habitats** • Alkaline fens (7230)		lack of hydrological pathway
Barrigone SAC (site code 000432)	**Priority Annex 1 Habitats** • Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (important orchid sites)* (6210) • Limestone Pavement * (8240) **Annex 1 Habitats** • Juniperus communis formations on heaths or calcareous grasslands (5130) **Annex II Species** • Marsh Fritillary (Euphydryas aurinia) (1065)	44.1km	None due to the separation distance and lack of hydrological pathway
Bolingbrook Hill SAC (site code 002124)	**Priority Annex 1 Habitats** • Species-rich *Nardus* grasslands in siliceous substrates in mountain areas (and submountain areas, in Continental Europe)* (6230)	6.3km	None due to the separation distance and lack of hydrological pathway

	Annex 1 Habitats • Northern Atlantic wet heath with *Erica tetralix* (4010) • European Dry Heaths (4030)		
Clare Glen SAC (site code 000930)	**Annex 1 Habitats** • Old sessile oak woods with *Ilex* and *Blechnum i*n the British Isles (91A0) **Annex II Species** • Killarney Fern *(Trichomanes speciosum)* (1421)	4.5km	None due to separation distance and limited connectivity
Curraghchase Woods SAC (site code 000174)	**Priority Annex 1 Habitats** • Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae) * (91EO) • Yew Woodlands *Taxus baccata* woods of the British Isles * (91JO) **Annex II Species** • Lesser Horseshoe Bat *Rhinolophus hipposideros* (1303)	33.5km	None due to the separation distance and lack of hydrological pathway
Glenomra Wood SAC (site code 001013)	**Annex 1 Habitats** • Old sessile oak woods with *Ilex* and *Blechnum* in the	11.2km	None due to the separation distance and lack of

	British Isles (91AO)		hydrological pathway
Glenstal Wood SAC **(site code 001432)**	**Annex II Species** • Killarney Fern (*Trichomanes speciosum*) (1421)	5.8km	None due to the separation distance and lack of hydrological pathway
Keeper Hill SAC **(site code 001197)**	**Priority Annex 1 Habitats** • Blanket Bogs(*is active bog) (7130) **Annex 1 Habitats** • Northern Atlantic Wet Heath with *Erica tetralix* (4010)	2km	None due to the separation distance and lack of hydrological pathway
Kilduff, Devilsbit Mountain SAC **(site code 000934)**	**Priority Annex 1 Habitats** • Species rich *Nardus Grassland* on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)* (6230) **Annex 2 Habitats** • European dry heaths (4030)	16.9km	None due to the separation distance and lack of hydrological pathway
Lough Derg (Shannon) SPA **(site code 004058)**	• Cormorant (*Phalacrocorax carbo*) (AO17) • Tufted Duck (*Aythya fuligula*) (A061) • Goldeneye (*Bucephala clangula*) (A067) • Common Tern (*Sterna*	10.4km	None due to the separation distance and lack of hydrological pathway

	hirundo) (A193) • Wetland and Waterbirds		
Lough Derg North East Shore SAC (site code 002241)	**Priority Annex 1 Habitats** • Calcareous fens with *Cladium mariscus* and species of the Caricion davallianae* (7210) • Limestone pavements* (8240) • Alluvial forests with *Alnus glutinosa and Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)* (91E0) • Yew Woodlands *Taxus baccata* woods of the British Isles* (91J0) **Annex 1 Habitats** • Alkaline Fens (7230) • Juniper Scrub – *Juniperus communis* formations on heaths or calcareous grasslands (5130)	25.3km	None due to the separation distance and lack of hydrological pathway
Lower River Shannon SAC (site code 002165)	**Priority Annex 1 Habitats** • Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)* (91E0)	0km	Yes No direct habitat loss within the SAC however, due to proximity and the nature of the proposed

	• Coastal lagoons * (1150) **Annex 1 Habitats** • Sandbanks which are slightly covered by seawater all the time (1110) • Estuaries (1130) • Mudflats and sand flats not covered by seawater at low ride (1140) • Large shallow inlets and bays (1160) • Reefs (1170) • Perennial vegetation of stony banks (1220) • Vegetated sea cliffs of the Atlantic and Baltic coasts (1230) • *Salicornia* and other annuals colonizing mud and sand (1310) • Atlantic salt meadows (*Glauci-Puccinellietalia maritimae*) (1130) • Mediterranean salt meadows (*Juncetalia maritime*) (1410) • Water courses of plain to montane levels with *Ranunculion fluitantis* and *Callitricho-Batrachion*		works required, the following potential effects cannot be excluded Riparian habitat degradation Spread of aquatic species Decrease in aquatic habitat quality via: surface water runoff, sediment entrainment or release, release of fuels oils/chemicals, surface/ground water quality impacts, changes in flow regime. Disturbance to otter from activities such as drilling

	vegetation (3260) • *Molinia* meadows on calcareous, peaty of clayey-silt laden soils (*Molinion caeruleae*) (6410) **Annex II Species** • Freshwater Pearl Mussel (*Margaritifera margaritifera*) (1029) • Atlantic Salmon (*Salmo salar*) (only in freshwater) (1106) • Sea Lamprey (*Petromyzon marinus*) (1095) • Brook Lamprey (*Lampetra planeri*) (1096) • River Lamprey (*Lampetra fluviatilis*) (1099) • Bottlenose Dolphin (*Tursiops truncates*) (1349) • Otter (Lutra lutra) (1355)		
Lower River Suir SAC (site code 002137	**Priority Annex 1 Habitats** • Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)* (91E0) • Yew Woodlands *Taxus baccata* woods of the	4.4km	Yes – Source pathway links exist (via surface water and ground water) to the aquatic QI, potential for significant

	British Isles* (91J0) **Annex 1 Habitats** • Atlantic salt meadows (*Glauci-Puccinellietalia maritimae*) (1130) • Mediterranean salt meadows (*Juncetalia maritime*) (1410) • Water courses of plain to montane levels with *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation (3260) • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430) • Old sessile oak woods with *Ilex* and *Blechnum* of the British Isles (91A0) **Annex II Species** • Freshwater Pearl Mussel (*Margaritifera margaritifera*) (1029) • White-clawed Crayfish (*Austropotambious pallipes*) (1092) • Sea Lamprey (*Petromyzon marinus*) (1095) • Brook Lamprey (*Lampetra*		effects cannot be excluded. Potential significant effects include decrease in habitat quality via surface water runoff, sediment entrainment or release, release of fuels oils/chemicals, surface/ground water quality impacts, changes in flow regime, riparian habitat degradation and the spread of aquatic invasive species

	planeri) (1096) • River Lamprey (*Lampetra fluviatilis*) (1099) • Twaite Shad (Alosa fallax fallax) (1103) • Otter (Lutra lutra) (1355) • Salmon (Salmo salar) (1106)		
Philipston Marsh SAC (site code 001847)	**Anne 1 Habitats** • Transition mires and quaking bogs (714)	13.1km	None due to the separation distance and lack of hydrological pathway
Ratty River Cave SAC (site code 002316)	**Annex 1 Habitats** • Caves not open to the public (8310) **Annex II Species** • Lesser Horseshoe Bat (Rhinolophus hipposideros) (1303)	24.6km	None due to the separation distance
River Shannon and River Fergus Estuaries SPA (site code 004077)	• Cormorant (Phalacrocorax carbo) (A017) • Whooper Swan (Cygnus Cygnus) (A038) • Light bellied Brent Goose (Branta bernicla hrota) (A046) • Shelduck (Tadorna tadorna)	16.9km	None due to the separation distance and lack of hydrological pathway

	(A048) • Wigeon (Anas penelope) (A050) • Teal (Anas crecca) (A052) • Pintail (Anas acuta) (A054) • Shovelaer (Anas clypeata) (A056) • Scaup (Aythya marila) (A062) • Ringed Plover *Charadrius hiaticula (A137) • Golden Plover (Pluvialis apricaria) (A140) • Grey Plover (Pluvialis squatarola) (A141) • Lapwing (Vanellus vanellus) (A142) • Knot (Calidris canutus) (A149) • Dunlin (Calidris alpine) (A149) • Blacktailed Gowdwit (Limosa limosa) (A156) • Bar-tailed Godwit (Limosa lapponica) (A157) • Curlew (Numenius arquaata) (A160) • Redshank (Tringa totanus)		

	(A162) • Greenshank (Tringa nebularia) (A164) • Black-headed Gull (Chroicocephalus ridibundus) (A179) • Wetland and Waterbirds (A999)		
Silvermine Mountains SAC (site code 000939)	**Priority Annex I Habitats** • Species rich *Nardus* grasslands on siliceous substrates in mountain areas (and submountain areas, in Continental Europe)* (6230) **Annex 1 Habitats** • Northern Atlantic Wet Heath with *Erica tetralix* (4010)	7.2km	None due to the separation distance and lack of hydrological pathway
Silvermines Mountains West SAC (site code 002258)	**Annex 1 Habitats** • Northern Atlantic wet heaths with *Erica tetralix* (4010) • European dry heaths (4030) • Calaminarian grasslands of the Violetalia calaminariae (6130)	5.7km	None due to the separation distance and lack of hydrological pathway
Slieve Bernagh Bog SAC (site	**Priority Annex I Habitats** Blanket Bogs (*if active bog)	11.5km	None due to the separation distance and

code 002312)	(7130) **Annex I Habitats** • Northern Atlantic wet heaths with *Erica tetralix* (4010) • European dry heath (4030)		lack of hydrological pathway
Slievefelim to Silvermines Mountains SPA **(site code 004165)**	• Hen Harrier (Circus cyaneus) (A082)	0km	Yes – Potential for significant secondary effect on hen harrier such as reduction and/or loss of foraging habitat due to overlap with the SPA/disturbance and displacement and potential for direct impacts to hen harrier species by additive mortality
Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA	• Hen Harrier (Circus cyaneus) (A082)	50.9km	None due to the separation distance

(site code 004161)			
Tory Hill SAC (site code 000439)	**Priority Annex I Habitats** • Semi-natural dry grasslands and scublands facies on calcareous substrates (Festuco-Brometalia) (*important orchid sites) (6210) • Calcareous fens with Cladium mariscus and species of the Caricion davallinae* (7210) **Annex I Habits** • Alkaline fens (7230)	27.3km	None due to the separation distance and lack of hydrological pathway

10.12 Based on my examination of the NIS report and supporting information, the NPWS web site, aerial and satellite imagery, the scale of the proposed development and likely effects, separation distances and functional relationship between the proposed works and the European site, their conservation objectives and taken in conjunction with my assessment of the subject site and the surrounding area, I would conclude that a stage 2 Appropriate Assessment is required for 3 of the 23 European sites referred to above namely:

- **Lower River Shannon SAC (site code 002165)**
- **Lower River Suir SAC (site code 002137)**
- **Slievefelim to Silvermines Mountains SPA (site code 004165)**

10.13 The remaining 20 sites:

- Anglesey Road SAC (site code 002125)

- Askeaton Fen Complex SAC (site code 002279)
- Barrigone SAC (site code 000432)
- Bolingbrook Hill SAC (site code 002124)
- Clare Glen SAC (site code 000930)
- Curraghchase Woods SAC (site code 000174)
- Glenomra Wood SAC (site code 001013)
- Glenstal Wood SAC (site code 001432)
- Keeper Hill SAC (site code 001197)
- Kilduff, Devilsbit Mountain SAC (site code 000934)
- Lough Derg (Shannon) SPA (site code 004058)
- Lough Derg, North East Shore SAC (site code 002241)
- Philipson Marsh SAC (site code 001847)
- Ratty River Cave SAC (site code 002316)
- Silvermine Mountain SAC (site code 000939)
- Silvermine Mountain West SAC (site code 002258)
- Slievebernagh SAC (site code 002312)
- Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (site code 004161)
- Tory Hill SAC (site code 000439)
- River Shannon and River Fergus Estuaries SPA (site code 004077)

can be screened out from further assessment because of the scale of the proposed works, the nature of the Conservation Objectives, Qualifying and Special Conservation Interests pertaining to these sites, the separation distances and the lack of a substantive linkage between the proposed works and the European sites. It is, therefore, reasonable to conclude that on the basis of the information on file which I consider adequate in order to issue a screening determination, that the proposed development, individually or in combination with other plans or projects would not be

likely to have a significant effect on European Sites no. (002125, 002279, 000432, 002124, 000930, 000174, 001013, 001432, 001197, 000934, 004058, 002241, 001847, 002316, 000939, 002258, 002312, 004161 and 000439) in view of the sites conservation objectives and a Stage 2 Appropriate assessment is not, therefore, required for these sites.

Relevant European Sites – Stage 2 Appropriate Assessment

10.14 The Conservation Objectives and Qualifying Interests including any relevant attributes and targets for the relevant three sites are set out below.

Lower River Shannon SAC **(site code 002165)**	**Priority Annex 1 Habitats** • Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)* (91E0) • Coastal Lagoons * (1150) **Annex 1 Habitats** • Sandbanks which are slightly covered by seawater all the time (1110) • Estuaries (1130) • Mudflats and sand flats not covered by seawater at low ride (1140) • Large shallow inlets and bays (1160) • Reefs (1170) • Perennial vegetation of stony banks (1220) • Vegetated sea cliffs of the Atlantic and Baltic coasts (1230) • *Salicornia* and other annuals colonising mud and sand (1310) • Atlantic salt meadows (*Glauci-Puccinellietalia maritimae*) (1130)

	• Mediterranean salt meadows (*Juncetalia maritime*) (1410) • Water courses of plain to montane levels with *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation (3260) • *Molinia* meadows on calcareous, peaty of clayey-silt laden soils (*Molinion caeruleae*) (6410) **Annex II Species** • Freshwater Pearl Mussel (*Margaritifera margaritifera*) (1029) • Atlantic Salmon (*Salmo salar*) (only in freshwater) (1106) • Sea Lamprey (*Petromyon marinus*) (1095) • Brook Lamprey (*Lampetra planeri*) (1096) • River Lamprey (*Lampetra fluviatilis*) (1099) • Bottlenose Dolphin (*Tursiops truncates*) (1349) • Otter (Lutra lutra) (1355)
Lower River Suir SAC (site code 002137	**Priority Annex 1 Habitats** • Alluvial Forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, Alnion incanae, Salicion albae)* (91E0) • Yew Woodlands *Taxus baccata* woods of the British Isles* (91J0) **Annex 1 Habitats** • Atlantic salt meadows (*Glauci-Puccinellietalia maritimae*) (1130) • Mediterranean salt meadows (*Juncetalia maritimi*) (1410)

	• Water courses of plain to montane levels with *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation (3260) • Hydrophilous tall herb fringe communities of plains and of the montane (6430) • Old sessile oak woods with *Ilex* and *Blechnum* of the British Isles (91A0) **Annex II Species** • Freshwater Pearl Mussel (*Margaritifera margaritifera*) (1029) • White clawed Crayfish (*Austropotambious pallipes*) (1092) • Sea Lamprey (*Petromyon marinus*) (1095) • Brook Lamprey (*Lampetra planeri*) (1096) • River Lamprey (*Lampetra fluviatilis*) (1099) • Twaite Shad (Alosa fallax fallax) (1103) • Otter (Lutra lutra) (1355) • Salmon (Salmo salar) (1106)
Slievefelim to Silvermines Mountains SPA (site code 004165)	• Hen Harrier (Circus cyaneus) (A082)

1. Lower River Shannon SAC (site code 002165)

Description of Site

10.15 This large SAC stretches along the Shannon Valley from Killaloe in Co. Clare to Loop Head/Kerry Head. The site encompasses the Shannon, Feale, Mulkear and Fergus Estuaries, the freshwater stretches of much of the Feale and Mulkear catchments and the marine area between Loop Head and Kerry Head. It also supports a large population of wintering wildfowl and waders and migratory birds. The site is of great ecological interest as it contains a high number of habitats and species listed on Annex I and II of the EU Habitats Directive, including the priority habitats lagoon and alluvial woodland, the only known population of Bottlenose Dolphin and all three Irish Lamprey species. A good number of Red Data Book species are also present. The UWF Grid Connection passes through the boundary of the Lower River Shannon cSAC at three locations, two of which occur in proximity to the Newport (Mulkear) River in the townland of Oakhampton. The third location is at the Bilboa River west of Kilcommon Village. The footprint of the majority of the UWF Grid Connection drains downstream to the Lower River Shannon cSAC.

Conservation Objectives

- To restore the favourable conservation condition of the Freshwater Pearl Mussel, Sea Lamprey, Brook Lamprey, River Lamprey, Otter and Atlantic Salmon in the Lower River Shannon SAC.
- To restore the favourable conservation condition of Mediterranean salt meadows, of Alluvial forests with Alnus glutinosa and Fraxinus excelsior in the Lower River Shannon SAC.
- To maintain the favourable conservation condition of sandbanks which are slightly covered by sea water all the time, of estuaries, of mudflats and sandflats not covered by seawater at low tide, of coastal lagoons, of large shallow inlets and bays, of reefs, of perennial vegetation of stony banks, of vegetated sea cliffs, of Salicornia and other annuals colonising mud and sand, of Atlantic salt meadows, water courses of plain to montane levels with Ranunculion fluitanis and Callitricho-Batrachion vegetation, of Molinia meadows on calcareous, peaty of clayey-silt laden soils, and Bottlenose Dolphin in the Lower River Shannon SAC.

10.16 For further information regarding attributes and targets refer to Table 5.3 and Appendix 2 of the NIS.

Potential Direct Effects

10.17 There are considered no likely direct effects on the SAC.

Potential Indirect Effects

10.18 There is potential for indirect impacts arising from the nature of the works, particularly in stream works at river crossings during the construction phase. Surface water run off, sediment entrainment or release, release of fuels/oils/chemicals may result in a decrease in aquatic habitat quality. Indirect impacts may also result to ground water quality and changes in flow regimes as well as from riparian habitat degradation and spread of aquatic invasive species. The conservation interests most likely to be effected by such indirect impacts include Alluvial Forests, Floating river vegetation, Atlantic Salmon, Sea Lamprey, River Lamprey and Brook Lamprey.

10.19 There is potential for indirect effects to the aquatic habitat supporting the Otter during the construction phase from disturbance from works such as drilling and decrease of habitat quality. There is also potential for disturbance to fisheries.

10.20 The NIS sets out that certain conservation interests will not be indirectly impacted by the proposal. Habitats including large shallow inlets and bays, estuaries, mud flats and sandflats, reefs, coastal lagoons, sandbanks, Atlantic salt meadows, Salicornia mudflats and Mediterranean salt meadows all occur west of Limerick City at least 34km downstream from the nearest crossing of the Mulkear River or a tributary thereof. Potential for significant indirect effects are excluded due to the nature of the required works (their scale and extent), distance of separation and the significant dispersal and dilution within the sub catchment introduced as a result. Vegetated sea cliffs and vegetation of stony banks are recorded from the south coast of the Loop Head peninsula and north coast of Kerry. Due to the significant distance from the proposal, effects can be excluded.

10.21 There is also no predicted impacts to Freshwater Pearl Mussel due to the absence of impact pathways and distance of separation. The cited QI is in the Cloon River, Co. Clare which is hydrologically unconnected. All Bottlenose dolphins occur within the coastal waters of the Shannon Estuary west of Limerick. There is no potential

for significant effects due to the absence of impact pathways and the distance of separation. There will be no impact to Molinia meadows habitat due to distance, scale of effects at source and lack of interconnectedness. For further detail regarding the rational for screening out these aspects refer to Table 4.18 of the NIS.

In Combination Effects

10.22 A description of the in-combination effect of the Whole UWF Project on the Lower River Shannon SAC is set out in table 5.5 – Riparian Habitat Degradation, Table 5.5 Disturbance to Fisheries, Table 5.6: Changes in Flow Regime, Table 5.7 Spread of Aquatic Invasive Species, Table 5.8: Decrease in Habitat Quality, Table 5.9: Disturbance to Otter. Table 5.12, 5.13 and 5.14 set out the in combination effects of other projects/activities identified. I am satisfied that no cumulative impacts arise.

Mitigation Measures

10.23 Detailed Environmental Protection Measures are proposed as part of the UWF Grid Connection design. These are set out in section 5.3.1 of the NIS. A number of Best Practice Measures are also detailed in section 5.3.2 of the NIS. The implementation of the Project Design Measures and Best Practice Measures along with monitoring arrangements and emergency response procedures will be managed under a dedicated UWF Grid Connection Environmental Management Plan. Of particular relevance to the Lower River Shannon SAC are the following mitigation measures:

PD49: The route of the 110kV UGC is located along an existing farm track within the SAC boundary. Construction works will be confined to the existing track within the SAC boundary.

PD50: There will be no storage of overburden within the Lower River Shannon SAC.

PD51: All excavated material will be removed for temporary or permanent storage at a suitable location more than 100m away from the Newport (Mulkear) River, Clare River and Bilboa River.

PD52: No instream works are proposed at the Newport (Mulkear) River and Bilboa River crossings (which are located within the SAC) and, therefore, there will be no

placement of cement within the river channels. The 110kV cable will be installed by horizontal directional drilling technique.

PD53: All runoff from the construction works associated with the horizontal directional drilling works at the Newport (Mulkear) River and Bilboa River (which is located upstream of the SAC), will be directed into a suitable water treatment drain such as a siltbuster and treated for sediment. This will also mean that in the unlikely event of an oil/fuel spill or leak, any contaminated water can be contained and removed off site.

PD54: At the Newport (Mulkear) and Bilboa River crossings, drilling activities will be carried out at least 15m from the Lower River Shannon SAC boundary. Double silt fencing will be set up between the drilling rig and the SAC boundary – the 1st silt fence close to the rig and the 2nd silt fence close to the SAC boundary. No works or activities will be conducted on the SAC side of these fences. For the Clare River (which is not in an SAC), drilling activities will be carried out at least 15m away from the river bank. Double silt fencing will be set up as before and no works or activities will be conducted on the river side of these fences.

PD55: Drilling fluid returns will be contained within a sealed tank/sump and pumped onto a skip for removal off site to an appropriately licenced facility.

PD56: The drilling works at the Newport (Mulkear) River and Bilboa River will not be carried out during the months of May, June or July.

PD57: There will be no refuelling of vehicles or plant, no storage of fuels and no overnight parking permitted within the boundary of the Lower River Shannon SAC.

PD58: There will be no storage of fuels within 100 m of the Newport (Mulkear) River, Clare River or Bilboa River.

Assessment

10.24 Section 5.3.5 provides a detailed evaluation of effects on Qualifying Interests and Special Conservation Interests. Tables 5.5 to 5.9 are relevant to the Lower River Shannon SAC (site code 002165).

10.25 In terms of the possible damage and degradation to the riparian habitat, it is noted that there is potential for 34 watercourse crossings to be impacted. Having regard to the suite of environmental protection measures proposed, including reinstatement works and replanting which will occur following works, impacts will be short term, temporary and reversible.

10.26 Disturbance to fisheries including Atlantic Salmon and the lamprey species from instream works and machinery operation in close proximity to the watercourses will be managed by a range of mitigation measures including ensuring that in stream work are undertaken only during the IFI specified period to avoid sensitive salmonid and spawning periods. Only a limited number of watercourses are subject to instream works and given the limited period anticipated for works, any impacts will be short term.

10.27 It is anticipated that there will temporary changes to the flow regime at 9 crossing points. Such temporary alterations will be reversible and subject to seasonal constraints during sensitive aquatic species life changes. At the 6 new permanent crossing points, changes to flow regime will be permanent. However, a range of mitigation measures are proposed to avoid any negative downstream effects on flow regime and reinstatement works will maintain the channel morphology, in line with IFI (2016).

10.28 Aquatic invasive species may be introduced to unaffected catchments or spread within infected watercourses during the course of instream works or transported via excavation material by site machinery. The implementation of Best Practice Measures which will be a contractual obligation upon any appointed contractor will minimise potential impacts.

10.29 In terms of potential decrease in habitat quality via surface water runoff, sediment entrainment or release, release of fuels oils/chemicals, surface/ground water quality impact, Table 5.8 sets out a detailed description as to the measures that will be undertaken to ensure no adverse effect on the sites integrity. I am satisfied that these will mitigate potential impacts that may arise and that the measures detailed are appropriate to manage any potential indirect effects from contamination by surface water, sediment, release of fuels/oils/chemicals etc.

10.30 Otter are a QI of the Lower River Shannon SAC and are a highly sensitive receptor. There is potential for disturbance/displacement of this species, particularly during the construction phase. It is noted in the NIS that there were no active holts within 150 metres of any of the proposed watercourse crossing locations, however, 5 watercourse crossings within the Shannon catchment are identified as potential sources of disturbance to Otter. Table 5.9 states that there is potential for a likely significant effect on the Otter species and that the conservation objectives of the European site may be undermined.

10.31 It is detailed that disturbance or displacement effects could result in secondary/synergistic effects from the displacement of individual otters, which may then compete with other individuals possibly resulting in population level effects, reduced distribution (through effective displacement) and hence undermine Conservation Objectives, through either a decline in the extent of terrestrial habitat available within the 10m terrestrial buffer above the High Water Mark and along river banks (through effective displacement), or a reduction in the number of couching sites and holts (again through displacement) or disturbance along commuting routes (barriers to connectivity).

10.32 Section 5.3.8 of the NIS sets out a wide range of additional mitigation measures to be introduced in respect of disturbance to Otter. These will include confirmatory surveys for any active Otter holts prior to commencement of construction activity, creation of artificial holts if necessary and implementation of the relevant mitigation measures by a suitably experienced ecologist.

10.33 I note from the NPWS conservation objectives for the Lower River Shannon SAC regarding the Otter species that there is an extensive terrestrial habitat for this species within the SAC and that there has been no significant decline in this habitat nor any significant decline in their distribution. It is also noted that there has been no significant decline in couching sites and holts and no increase in barriers to connectivity. The extent of watercourses likely to be impacted on in terms of potential disturbance to the species is limited (5 no.) and current surveys indicate no active holts within proximity to any of the proposed watercourse crossings. Potential impacts during construction phase are likely to be short term and temporary and it is noted from the NIS that disturbance and displacement effects

are likely to be secondary only arising from displacement. No loss of habitat will occur.

10.34 The applicant proposes a suite of measures aimed at reducing potential disturbance and displacement of the Otter species during the construction phase. I am satisfied that such negative displacement effects are unlikely to arise and in this context, the integrity of the SAC in view of its conservation objectives is unlikely to be affected. I note that the applicant proposes post construction monitoring of the Otters which will evaluate the success of the mitigation within the context of the Conservation Objectives of the European Sites under consideration. I consider this however, to be a best practice measure and is not necessary to ensure the efficacy of the mitigation proposed. I am satisfied that the mitigation measures proposed to negate and avoid disturbance/displacement to breeding or foraging Otter during construction are in their own right sufficient to protect the integrity of the site and ensure no adverse impacts to the Otter species.

10.35 In conclusion, I am satisfied that the development would not cause changes to the key indicators of conservation value, including water quality and the Otter species, hence there is no potential for any adverse impacts to occur on either species or the habitats associated with the Shannon SAC (Site Code: 002165). I, therefore, consider it reasonable to conclude on the basis of the information on the file, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the European Site No. 002165, or any other European site, in view of the site's Conservation Objectives.

2. The Lower River Suir SAC (site code 002137)

Description of the Site

10.36 This SAC consists of the freshwater stretches of the River Suir immediately south of Thurles, the tidal stretches as far as the confluence with the Barrow/Nore immediately east of Cheekpoint in Co. Waterford and many tributaries. The site is of particular conservation interest for the presence of a number of Annex II animal species including Freshwater Pearl Mussel, White-clawed Crayfish, Salmon Twaite Shad, three species of Lamprey and Otter. It is one of only three known spawning grounds in the country for Twaite Shad. The ornithological importance of the site

adds to its ecological interest. It contains excellent examples of Annex 1 habitats including the priority habitats alluvial forest and Yew woodland. A small area of the footprint of the UWF Grid Connection drains downstream to the Lower River Suir cSAC (the easternmost 1.2km of the 110kV UGC). The route of the underground cable affects the Clodiagh River catchment which feeds into the River Suir and the Lower River Suir SAC.

Conservation Objectives

- To restore the favourable conservation condition of Atlantic salt meadows, of Mediterranean salt meadows, old sessile oak woods with Ilex and Blechnum in the British Isles, of alluvial forests with Alnus glutinosa and Fraxinus excelsior, of Taxus baccata woods of the British Isles, of the Freshwater Pearl Mussel, of Sea Lamprey, Brook Lamprey, River Lamprey, Salmon and Twaite Shad in the Lower River Suir SAC.
- To maintain the favourable conservation condition of water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation, of hydrophilous tall herb fringe communities of plains and of the montane alpine levels, of White-clawed Crayfish and Otter in the Lower River Suir SAC.

10.37 For further information regarding attributes and targets refer to Table 5.4 and Appendix 2 of the NIS.

Potential Direct Effects

10.38 There are considered no likely direct effects on the SAC.

Potential Indirect Effects

10.39 There is potential for indirect impacts arising from the nature of the works, particularly in stream works at river crossings. Surface water run off, sediment entrainment or release, release of fuels/oils/chemicals may result in a decrease in aquatic habitat quality. Indirect impacts may also result to ground water quality and changes in flow regimes well as from riparian habitat degradation and spread of aquatic invasive species. The conservation interests most likely to be effected by such indirect impacts include, Floating river vegetation, Alluvial Forests, Hydrophilous tall herb fringe communities, Old sessile oak woods, Yew woodlands,

Freshwater Pearl Mussel (the nearest known location of Freshwater Pearl Mussel is 17km downstream via hydrological links within the Clodiagh River), White-clawed Crayfish, Sea Lamprey, Brook Lamprey, River Lamprey and Salmon. There are potential indirect effects to the Otter species arising from changes in flow regime, Riparian habitat degradation and decrease in habitat quality.

10.40 It is predicted in the NIS that there will be no indirect effects to a number of the QI of the Lower River Suir SAC from certain aspects of the project. These are set out in detail in Table 4.19 of the NIS. Atlantic salt meadows occur south of Waterford city which is greater than 130km via hydrological links. At this distance the dilution will avoid any effects.

In Combination Effects

10.41 A description of the in-combination effect of the Whole UWF Project on the Lower River Suir SAC is set out in table 5.10 – Riparian Habitat Degradation, Table 5.11 Disturbance of Aquatic Species, Table 5.12: Changes in Flow Regime, Table 5.13 Spread of Aquatic Invasive Species and Table 5.14: Decrease in Habitat Quality,. Table 5.12, 5.13 and 5.15 set out the in combination effects of other projects/activities identified. I am satisfied that no cumulative impacts arise.

Mitigation Measures

10.42 Detailed Environmental Protection Measures are proposed as part of the UWF Grid Connection design. These are set out in section 5.3.1 of the NIS. A number of Best Practice Measures are also detailed in section 5.3.2 of the NIS. The implementation of the Project Design Measures and Best Practice Measures along with monitoring arrangements and emergency response procedures will be managed under a dedicated UWF Grid Connection Environmental Management Plan. Management Plans in respect of surface water quality management, invasive species management and waste management have also been prepared and form for part of the Grid Connection Environmental Management Plan. Refer to Appendix 9 of the NIS.

Assessment

10.43 Potential impacts to the Lower River Suir SAC are set out in tables 5.10 to 5.14 of the NIS. The UWF Grid connection works are located at least 12km upstream of the River Suir SAC within the Clodiagh sub catchment. There are only 2 watercourses within the River Suir catchment area and both have no fisheries value as they are drainage channels.

10.44 In terms of habitat degradation, reinstatement works will be carried out and any impacts will be short term, temporary and reversible. Potential impacts to Annex II species including Salmon, Lamprey, Crayfish and Freshwater pearl mussel will be limited to downstream influences arising due to water quality effects. Any impacts during construction will be short term and temporary. Mitigation measures will minimise impacts and there will be no adverse effects to qualifying interest aquatic species.

10.45 At the two crossing points, changes to the flow regime will be brief to temporary and for the duration of the immediate works. Any temporary alterations to morphology will be reversible and will be subject to seasonal constraints during sensitive aquatic species life changes.

10.46 As with the Shannon SAC, control of invasive species will be managed through the implementation of best practice measures. Potential impacts to habitat quality from surface water run off, sediment entrainment or release, release of fuels/oils/chemicals etc. will be mitigated by the implementation of a full range of measures which will be delivered as a contractual obligation for the contractor on site.

10.47 In conclusion, I am satisfied that the development would not cause changes to the key indicators of conservation value, including water quality, hence there is no potential for any adverse impacts to occur on either species or the habitats associated with the Lower River Suir SAC (Site Code: 002137). I, therefore, consider it reasonable to conclude on the basis of the information on the file, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the European Site No. 002137, or any other European site, in view of the site's Conservation Objectives.

3. Slievefelim to Silvermines Mountains SPA (004165)

Description of Site

10.48 This SPA is an upland site located Counties Tipperary and Limerick. It includes the peaks of Keeper Hill, Slievefelim, Knockstanna, Knockappul, Mother Mountain, Knockteige, Cooneen Hill and Silvermine Mountain. Several important rivers rise within the site, including the Mulkear, Bilboa and Clare. The site consists of a variety of upland habitats, though approximately half is afforested. The Slievefelim to Silvermines Mountains SPA is of ornithological importance because it provides nesting and foraging habitat for breeding Hen Harrier. The site is one of the strongholds for Hen Harrier in the country. The mix of forestry and open areas provides optimum habitat conditions for this rare bird. Hen Harriers will forage up to c. 5km from the nest site, utilising open bog and moorland, young conifer plantations and hill farmland. Birds will often forage in openings and gaps within forests. The Annex I species Merlin and Peregrine have also been recorded on the site. The UWF Grid Connection traverses the Slievefelim to Silvermines Mountains SPA from the townland of Newross, east of Newport to the townland of Knocknabansha near Upperchurch village and will require works within the SPA.

Conservation Objectives

- To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interest for this SPA (Hen Harrier).

10.49 For further information regarding attributes and targets refer to Table 5.2 and Appendix 2 of the NIS.

Potential Direct Effects

10.50 There is potential for direct effects to the Hen Harrier from inadvertent mortality of the species at nest or roost sites. It is detailed in the NIS that it is not anticipated that there will be any additive mortality due to improved access to previously inaccessible locations by humans during operations as there will be no increase in accessibility. All improved/new roads will have gates which will be locked. There is no collision risk.

Potential Indirect Effects

10.51 There is potential for indirect effects on the Hen Harrier due to the reduction and/or loss of foraging habitat within and outside the SPA and from disturbance/displacement of nesting/roosting Hen Harrier from noise and human activity during the construction and operational phase. There may also be in combination effects with other developments and activities.

In combination Effects

10.52 A description of the in-combination effect of the Whole UWF Project on the Slievefelim to Silvermines Mountains SPA is set out in table 5.10: Reduction on or loss of suitable or potentially suitable hen harrier foraging habitat (alone), table 5.22: Inadvertent mortality of hen harrier in or at nest roost sites and table 5.23: disturbance/displacement of nesting/roosting Hen Harrier. Table 5.12, 5.13 and 5.15 set out the in combination effects of other projects/activities identified. Table 5.17 and 5.18 set out the in combination effects of reduction in or loss of suitable or potentially suitable hen harrier foraging habitat, inadvertent mortality of hen harrier on or at nest or roost sites and disturbance /displacement of nesting/roosting hen harrier.

Mitigation Measures

10.53 Detailed Environmental Protection Measures are proposed as part of the UWF Grid Connection design. These are set out in section 5.3.1 of the NIS. A number of Best Practice Measures are also detailed in section 5.3.2 of the NIS. The implementation of the Project Design Measures and Best Practice Measures along with monitoring arrangements and emergency response procedures will be managed under a dedicated UWF Grid Connection Environmental Management Plan. Management Plans in respect of surface water quality management, invasive species management and waste management have also been prepared and form for part of the Grid Connection Environmental Management Plan. Refer to Appendix 9 of the NIS. Of particular relevance to the Slievefelim to Silvermine Mountains SPA are the following mitigation measures:

PD62: All new permanent access roads within the SPA will be concealed access roads which will be created immediately following construction works by covering the hardcore surface of the new road with a vegetated layer. The concealed access road will provide a load bearing surface for occasional maintenance vehicles.

Within the SPA, the establishment of the concealed access roads will be overseen by a competent peatland ecologist and Hen Harrier expert. A detailed statement regarding vegetation reinstatement methodology along concealed access roads is set out in Appendix 18 of the NIS.

PD63: All temporary storage berm locations will be reinstated to the biodiversity value of the underlying habitat. Permanent berms will be immediately reseeded with native heather and upland grass species. Harvester crossing points will be covered with topsoil and reseeded immediately as will any other temporary land use change locations. Within the SPA, this reinstatement will be overseen by a competent peatland ecologist and a Hen Harrier expert. Outside the SPA this reinstatement will be overseen by the Project Ecologist.

PD64: Annual visual inspections of the lands over the 110kV UGC and the testing/inspection/planned maintenance at joint bays, will be scheduled outside of the Hen Harrier breeding season, on those parts of the 110kV UGC which occurs within the boundary of the Slievefelim to Silvermines Mountains SPA.

Assessment

10.54 The special conservation interest of this site relates specifically to the Hen Harrier. Potential impacts on this species are set out in table 5.10, 5.22 and 5.23 of the NIS.

10.55 There is potential for indirect impacts to this highly sensitive receptor of international importance from the reduction or loss of foraging habitat. Permanent loss of foraging habitat through land take or land use change may result in the permanent exclusion of birds from potentially viable habitat which forms the constitutive characteristic of the SPA. This may result in long term knock on effects on breeding success of birds within the SPA, through the reduced availability of foraging resources.

10.56 It is detailed in the NIS that impacts within the SPA will be mitigated by the provision of concealed access roads which will be planted with mature heathers and grasses. Permanent berms will be immediately planted with heather and grass. Temporary berms, once removed, will be reinstated to their previous ground condition at that location. Temporary land use changes from other works including cable trenching/laying, temporary access roads etc. will also be reinstated.

10.57 It is stated in the NIS that the total permanent land use change (excluding habitat classified as buildings and artificial surfaces excluded as it is unsuitable foraging habitat) amounts to 1.98ha. Of this:

- 0.696 ha will be concealed roads.
- 0.434ha will be permanent berms immediately reinstated with heathers and grasses.
- 0.030 ha will be harvester crossings on the concealed access roads which will be immediately reinstated with heathers and grasses.
- 0.825 ha of felling/land use change corresponds to forestry felling at Castlewaller but also smaller amounts at varying locations along the grid route such as the margins of forestry roads. All will be immediately reinstated.

10.58 As the extent of land effected by the permanent change constitutes less that 2 ha, it is stated that impacts will be short term and temporary until reinstatement planting becomes established. However, whilst the short term nature of the reinstatement works is noted, regard must also be had to the high sensitivity and importance of this area for the Hen Harrier species.

10.59 There is no detailed information submitted with the NIS regarding the extent of time it will take for the reinstatement planting to become fully established, although it is indicated in Appendix 18 of the NIS that it will take at least 18 months to allow bedding in and establishment of the vegetation on the geocell road surfaces. It is stated that planting of the geocell with mature plantlets along with a suitable grass species will take place prior to construction at a preparation nursery site to avoid any time delay in the provision of habitat at source. Notwithstanding this, there will still inevitably be a loss of habitat during the construction phase and until reinstatement planting becomes fully established at concealed road locations and elsewhere along the grid connection route where habitat is removed and replaced. I am not satisfied that it has been adequately demonstrated or assessed that this short term loss of foraging habitat will not adversely affect the Conservation Objectives of the SPA.

10.60 I also have concerns regarding the principle of concealed roads (which comprise the covering of standard stone access roads with a vegetated layer of heather and

grasses) and their efficacy as a mitigation measure to address the permanent loss of habitat within the SPA. It is stated in the NIS that it is proposed to use concealed access roads in order to ensure no loss of vegetation cover associated with the UWF Grid Connection within the SPA; ensure access to the joint bay locations during the operation of the grid connection by ESBN and to continue to provide a suitable vegetation cover in relation to the Hen Harrier bird. There are 10 individual sections of concealed access roads proposed within the Slievefelim to Silvermine Mountains SPA (see table 1, Appendix 19 of NIS Volume 1 for further detail).

10.61 Section 5.3.9.3 of the NIS addresses the efficacy in respect of the use of the concealed access road by Hen Harrier and Appendix 18 sets out the vegetation reinstatement methodology along concealed access roads. It is detailed that an on-site monitoring protocol will be required for the first 18 months to ensure that the growth is sufficient to effectively provide Hen Harrier habitat. It is further outlined that published literature is clear regarding the positive selection of heather and grassland by foraging hen harrier. However, given the length of time it will take for this planting to be established and the extent of monitoring required to ensure growth is sufficient, it is uncertain in my view, as to whether this measure will effectively mitigate the permanent loss of sensitive habitat. There are no proven examples of where such measures have been used elsewhere with effect in a Natura 2000 site and the examples cited in the NIS refer to heather re-establishment on mechanically disturbed areas and a cutover forestry site (see appendix 19 NIS) rather than use of concealed access roads.

10.62 In considering the appropriateness of the proposed concealed roads to negate negative impacts on the SPA as a result of habitat loss, regard must also be had to the opinion of the Advocate General on the Grace and Sweetman v An Bord Pleanála case (C-164/17). The opinion states that where a project is being carried out on a site designated for the protection and conservation of certain species and the temporary or permanent effect of the project be such that it will no longer be able to provide suitable habitat for the species in question, the fact that the project includes measures to ensure that, after an appropriate assessment of the implications of the project has been carried out and throughout the lifetime of the project, the part of the site that is in fact likely to provide a suitable habitat will not be reduced and indeed may be enhanced may not be taken into account for the

purpose of the assessment that must be carried out in accordance with Article 6 (3) of the directive.

10.63 It is only when it is sufficiently certain that a measure will make an effective contribution to avoiding harm, guaranteeing beyond all reasonable doubt that the project will not adversely affect the integrity of the area, that such a measure may be taken onto consideration when appropriate assessment is carried out. As a general rule, any positive effects of the future creation of new habitat, which is aimed at compensating for the loss of an area and quality of that habitat in a protected area, are highly difficult to forecast with any degree of certainty or will be visible only in the future.

10.64 The inclusion in the assessment of the implications of future benefits to be derived from the adoption of measures which, at the time that assessment is made, are only potential, as the measures have not yet been implemented means that it is not possible for those benefits to be foreseen with the requisite degree of certainty. This holds in the subject case, that the inclusion in the assessment of the implications of future benefits to be derived from the adoption of measures such as concealed access roads, which are potential measures, as they have not been implemented, cannot be considered under Article 6(3). In this context, I am not satisfied, that the proposed development will not have an adverse effect on the integrity of the European site in view of its conservation objectives.

10.65 In considering loss of foraging habitat, regard must also be had to the permanent loss of suitable foraging habitat outside of the SPA. As detailed in section 9 above, it is detailed in the EIAR that there will be a permanent loss of 3ha of suitable foraging habitat for the Hen Harrier species outside the SPA. It is identified that this loss of habitat occurs within 2km of the proposed grid connection route. A radius of 2km from the grid connection has been identified as the potential zone of influence for the Hen Harrier species. The EIAR states that the loss of foraging habit at key periods of the breeding cycle can have knock on effects on breeding success of identified pairs nesting nearby, in particular where it occurs within 2km of a nest location. The surveys undertaken have identified a number of nests within the 2km zone, all within the SPA. The EIAR states that the significance of the impact of this permanent loss of habitat outside the SPA is moderate negative.

10.66 The NIS submitted does not address the permanent loss of habitat outside the SPA. Only the reduction in or loss of suitable or potentially suitable Hen Harrier Foraging Habitat within the Slievefelim to Silvermines Mountains SPA is evaluated in table 5.10. The lack of such an assessment regarding potential ex situ impacts, is in my view, a significant omission from the NIS. In the absence of such information and assessment, it is not possible to fully assess the potential impacts of the development on the Conservation Objectives of the SPA and in this regard, it is not possible to complete a full Appropriate Assessment as to whether the development will adversely affect the integrity of the European site.

10.67 There is also potential to cause inadvertent mortality of the Hen Harrier in or at nest or roost sites. A number of mitigation measures are set out to preclude such impacts. Confirmatory Hen Harrier breeding surveys will be completed prior to commencement of construction activity to ensure nesting activity and active nests are recorded within 2 km of the construction works boundary. No works will be undertaken within 500 metres of active Hen Harrier breeding attempts or active nesting activity during the breeding season and hours of construction will be restricted within 1,000m of a roost during roosting season. I am satisfied that these measures, coupled with the other mitigation measures set out in the NIS, will ensure no inadvertent mortality.

10.68 Impacts to the Hen Harrier can also occur during the construction phase from disturbance by noise and visual intrusion. The effects of disturbance in respect to Hen Harrier which may be present during the breeding season may be nest desertion, reduced incubation periods or additional stress on adult birds due to their propensity to alarm at intruders. Disturbance to roosting Hen Harrier in the winter months may have impacts on survival rates. The NIS sets out a range of mitigation measures controlling construction works to ensure no disturbance/displacement impacts occur.

10.69 In conclusion, I am not satisfied that the NIS has adequately assessed the implications of the short term and temporary loss of suitable or potentially suitable Hen Harrier Foraging Habitat within the SPA during the construction phase. Furthermore, in light of the opinion of the Advocate General on the Grace and Sweetman v An Bord Pleanála case (C-164/17), it is my view that the efficacy of measures proposed to mitigate potential permanent loss of suitable or potentially

suitable Hen Harrier Foraging Habitat within the SPA, including the use of concealed access roads has not be proven. This is because the future benefits to be derived from the adoption of such measures, which at the time my assessment is made, are only potential, and the measures have not yet been implemented, I cannot be sufficiently certain that these measures will make an effective contribution to avoiding harm and guarantee beyond all reasonable doubt, that the project will not adversely affect the integrity of the SPA. I also note that there is no evidence to demonstrate that concealed access roads have been previously used with effect within a Natura 2000 site. The NIS is also inadequate as the potential ex situ impacts of the permanent loss of foraging habitat outside the SPA is not fully assessed.

10.70 On the basis of the information provided with the application, 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 site no. 004165 Slievefelim to Silvermines Mountains SPA, in view of the site's Conservation Objectives. In such circumstances the Board is precluded from granting approval.

In Combination Effects

10.71 The NIS includes a detailed assessment of the potential in combination effects of all elements of the Whole UWF project. Section 5.3.6 also evaluates the in combination effects of other plans and projects. It is concluded that there will be no adverse effects on the integrity of any of the Natura 2000 sites.

10.72 A number of observers raised concerns regarding the potential cumulative effects of the proposed development in the context of the permitted wind farm development. When carrying out an Appropriate Assessment, the competent authority must have regard to potential in combination effects including extant permissions not yet started. As detailed previously, a full appropriate assessment of the Upperchurch Windfarm development has already been undertaken by the Board. I do not, therefore, intend to carry out an assessment of the efficacy of the mitigation measures already assessed and deemed appropriate by the Board under this decision. I am satisfied that under the parent permission, the development did

not result in the loss of habitat within the SPA. In this context, the proposal for the Hen Harrier Management Plan constitutes an appropriate mitigation measure. It is evident that under the parent permission that there were no adverse impacts to the SPA. Notwithstanding my concerns regarding the impact (alone) of the current proposal on the SPA, I am satisfied that no cumulative impacts arise.

Appropriate Assessment Conclusion

10.73 I consider it reasonable to conclude on the basis of the information on the file, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the European Site No. 002165 and European Site no. 002137.

10.74 On the basis of the information provided with the application, 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 site no. 004165 Slievefelim to Silvermines Mountains SPA, in view of the site's Conservation Objectives. In such circumstances the Board is precluded from granting approval.

11.0 Recommendation

11.1 On the basis of the above assessment, I recommend that the Board **REFUSE** the proposed development for the reasons and consideration set out below.

12.0 Reasons and Considerations

12.1 In coming to its decision, the Board had regard to the following:

(a) EU legislation including in particular Directive 92/43/EEC (Habitats Directive) and Directive 79/409/EEC as amended by 2009/147/EC (Birds Directive) which set the requirements for conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union.

- The relevant provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU (EIA Directive) on the assessment of the effects of certain public and private projects on the environment.
- EU Renewable Energy Directive 2009/28/EC which aims to promote the use of renewable energy.

(b) National Legislation including in particular:

Section 182A of the Planning and Development Act 2000 (as amended) which sets out the provisions in relation to electricity transmission lines.

(c) National Policy including in particular:

- The National Planning Framework (NPF), 2018.
- Government Policy Statement on the Strategic Importance of Transmission and Other Energy Infrastructure, July 2012.

(d) Regional Policy including in particular:

- Regional Planning Guidelines for the Mid West 2010-2016.

(e) Local Planning Policy including in particular:

- The provisions of the North Tipperary County Development Plan 2010-2016.

(f) The following matters:

- The likely consequences for the environment and the proper planning and

sustainable development of the area in which is it proposed to carry out the proposed development and the likely significant effects of the proposed development on European Sites.

- The conservation objectives, qualifying interests and special conservation interests of the Lower River Shannon SAC (site code 002165), Lower River Suir SAC (site code 002137) and Slievefelim to Silvermines SPA Mountains (site code 004165).
- The documentation and submissions of the applicant, including the environmental impact assessment report and associated documentation submitted with the application, and the range of mitigation and monitoring measures proposed.
- The submissions and observations made to An Bord Pleanála in connection with the application and the submission from the Local Authority.
- The nature and extent of the proposed development as set out in the application for approval.
- The report and recommendation of the inspector including the examination, analysis and evaluation undertaken in relation to appropriate assessment screening and environmental impact assessment.

12.2 **Proper Planning and Sustainable Development**

12.2.1 It is considered that the proposed development would accord with European, national, regional and local planning policy and is generally in accordance with the strategic policy in relation to provision of such infrastructure.

12.3 **Environmental Impact Assessment**

12.3.1 The Board complete an environmental impact assessment of the proposed development, taking into account:

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

(b) the environmental impact assessment report and associated documentation submitted in support of the application,

(c) the submission from the local authority, the observers and the prescribed bodies in the course of the application, and

(d) the Inspector's report.

12.3.2 The Board considered that the environmental impact assessment report, supported by the documentation submitted by the applicant, provided information which was reasonable and sufficient to allow the Board to reach a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment. The Board is satisfied that the reasoned conclusion is up to date at the time of taking the decision. The Board however, is not satisfied that the information contained in the EIAR complies with the provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU or Section 172 of the Planning and Development Act (as amended) with regard to providing an adequate or robust description of the reasonable alternatives studied, which are relevant to the proposed project and its specific characteristics.

12.3.3 The Board agreed with the summary and examination, set out in the Inspector's report, of the information contained in the environmental impact assessment report and associated documentation submitted by the applicant and submissions made in the course of the application. The Board is satisfied the Inspector's report sets out how these were addressed in the examination and recommendation and are incorporated into the Boards decision.

12.4 **Reasoned Conclusion on the Significant Effects**

12.4.1 Having regard to the examination of environmental information contained above, to the EIAR and the submissions from the observers and prescribed bodies, it is considered that the main significant direct and indirect effects of the proposed development in the environment are as follows:

Biodiversity: Impacts to aquatic habitats and species are likely to arise during the construction phase particularly in terms of decrease to water quality, changes in flow in watercourses, disturbance/displacement of fish, riparian habitat degradation and spread of aquatic invasive species. These impacts would be mitigated against by implementing a range of Project Design Environmental Measures set out in Table 8.40 of the EIAR. These include measures to prevent contamination of water and prevent sedimentation release to water.

Impacts to badgers may arise from disturbance and displacement during the construction phase. Measures including the preclusion of construction works in the

main breeding season within 50 metres of an active badger sett and no construction activity outside of daylight hours will mitigate this impact.

Impacts to bats could occur from destruction or disturbance of bat roosts in trees, severance of commuting routes or feeding areas and disturbance or displacement due to lighting. Significant effects can be mitigated by measures detailed in Table 8.73 of the EIAR.

Impacts to hen harrier will arise from a reduction in or loss of suitable foraging habitat. There will be a net permanent loss of 3.14ha in the wider study area. The significance of this impact is considered to be moderate (negative). The Board is not satisfied that adequate mitigation measures have been set out in the EIAR to address this issue and that adverse impacts will not occur. The efficacy of measures such as concealed roads within the SPA to mitigate against habitat loss may also be inadequate and, therefore, it cannot be ruled out beyond all scientific doubt that no adverse impacts to the integrity of the SPA will occur.

There is potential for significant negative effects to otters. Mitigation measures will be put in place during construction works including surveys by an experienced otter surveyor, communication of the survey results to the construction team, NPWS and the relevant authorities, control of works within 150m of holts including implementation of appropriate measures such as screening, restriction of working hours, restriction on scale of construction works and the provision of artificial holts if required. The implementation of measures will be supervised by a competent ecologist. Monitoring will take place three years after the completion of construction. The residual impact will be slight.

Soil: Impacts to soil could result from excavation and relocation of soils, subsoils and bedrock, compaction, erosion and contamination. Mitigation measures are detailed in Tables 10.17, 10.24 and 10.31 of EIAR. These include measures to prevent peat slippage; to reduce erosion to soils by ensuring that all excavations will be reinstated and landscape immediately after the works and permanent storage berms of soils will be graded and seeded immediately; to prevent compaction, construction traffic will be restricted to the footprint of the works only area and tracking across adjacent ground will not be permitted; and to prevent contamination, all fuels required for construction activities will be stored in bunded,

locked storage containers in a designated location and no refuelling, storage of fuel or overnight parking will be permitted within the designated sites.

Water: Potential indirect effects could be caused by construction activities such as sediment laden run off to rivers, streams and drains and surface water quality impacts during conifer plantation tree felling, earthwork excavations, dewatering of excavations, crossing works and directional drilling. Water quality can also be impacted by contaminated fuels, oils, chemical spills and cement run off as well as run off from permanent hardstanding areas and access roads. The morphology of watercourses themselves may be impacted by changes to the shape of the channel due to instream works. Groundwater bodies including local wells and springs can be contaminated by spillage of fuels, oils, cement, dewatering etc. The Bleanbeg NHA and local water dependent habitats may be impacted by changes in drainage regimes. Detailed mitigation measures are set out in tables 11.20, 11.27, 11.36, 11.43, 11.50, 11.57 and11.64 to prevent adverse impacts including sedimentation effects, to prevent contamination of surface water and groundwater and prevent increased flood risk. These will mitigate any significant effect. There will be slight to moderate impacts to the morphology of watercourses due to instream works. The magnitude of this impact however, is likely to be small due to the relatively minor nature of the watercourses being crossed (most are drains and are of low ecological importance) and the distributed nature of the works within several water bodies over a large geographical area.

Air: Impacts arising from noise and vibration levels and increases in airborne dust will be mitigated through appropriate construction management measures, limits to hours of construction activity and implementation of an Environmental Management Plan.

Material Assets Roads: Impacts during the construction phase include damage to the local road network and increases in traffic volumes particularly HGV's with potential for disruption to residents. In order to prevent or reduce such negative effects, mitigation measures will be implemented including the repair, resurfacing and reinstatement of road surfaces after the construction phase; the implementation of a Traffic Management Plan to control and minimise the traffic impacts of the construction stage and the appointment of a Community Liaison Officer to liaise with the local community on upcoming schedules.

Cultural Heritage: Impacts on Cultural Heritage during the construction stage would be mitigated by ensuring archaeological monitoring of all initial ground works during the construction stage with provision made for the resolution of any archaeological features or deposits that may be identified. Impacts on as yet unknown underwater archaeology would be mitigated by the carrying out of an underwater archaeological impact assessment in consultation with the DCHG including provision for resolution of any archaeogical finds, if necessary.

Alternatives: The development may have an adverse impact on biodiversity. This is as a result of the route selected for the grid connection, which runs in part through an SPA. The Board is not satisfied, based on the assessment and analysis set out in the EIAR, that in the consideration of potential route options, that adequate weight has been given to biodiversity matters. Lesser damaging alternatives are available that could avoid negative impacts on the environment with regard to biodiversity.

12.4.2 The Board completed an environmental impact assessment in relation to the proposed development. The EIAR has considered that the main direct and indirect effects of the proposed development on the environment would be primarily mitigated by environmental management measures. The Board is not satisfied however, that following mitigation, no significant residual negative impacts on the environment would remain as a result of the proposed scheme with respect to biodiversity and the Hen Harrier species. The proposed development may, therefore, have an unacceptable indirect effect on the environment.

12.4.3 Furthermore, having regard to the potential route options presented in the EIAR, it is considered that the selected route option will result in a significant intervention in the natural environment and adverse impacts to biodiversity. The Board is not satisfied that sufficient consideration has been provided regarding potential alternatives including the routing of the cable in the local road network or consideration of alternative grid connection technologies such as overhead line alternatives. Furthermore, no information has been provided in relation to alternative connection locations where the windfarm could potentially connect to the national electricity grid.

12.5 **Appropriate Assessment**

12.5.1 The Board agreed with the screening assessment and adopted the conclusion carried out in the Inspector's report that the Lower River Shannon SAC (site code 002165), Lower River Suir SAC (site code 002137) and Slievefelim to Silvermines Mountains SPA (site code 004165) are the only European sites in respect of which the proposed development has a significant effect.

12.5.2 The Board considered the Natura Impact Statement and associated documentation submitted with the application for approval, the mitigation measures contained therein, the submissions and observations on file, and the Inspector's assessment. The Board completed an appropriate assessment of the implications of the proposed development for the affected European sites, namely the Lower River Shannon SAC (002165), Lower River Suir SAC (002137) and Slievefelim to Silvermines Mountains SPA (004165) in view of the site's conservation objectives. In completing the appropriate assessment, the Board considered, in particular, the following:

- The likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects.
- The mitigation measures which are included as part of the current proposal, and
- The conservation objectives for the European sites.

In completing the appropriate assessment the Board accepted and adopted the screening and the appropriate assessment carried out in the Inspector's report in respect of the potential effects of the proposed development on the aforementioned European Sites, having regard to the site's conservation objectives.

Having regard to the scale and nature of the development and in particular the proposal to develop an underground cable through part of the Slievefelim to Silvermines Mountains Special Protection Area (Site Code 004165), the Board is not satisfied that the proposed development would not lead to adverse indirect effects on the special conservation interest of this European site, that is, the Hen Harrier, and that, notwithstanding the mitigation measures proposed by the applicant, there remains reasonable scientific doubt that there would be no such adverse effects. It is, therefore, considered that the Board cannot be satisfied that

the proposed development individually, or in combination with other plans or projects would not adversely affect the integrity of this European site in view of the site's Conservation Objectives. In such circumstances the Board is precluded from granting approval/permission and the proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

Erika Casey
Senior Planning Inspector

27th November 2018

Appendix to Chapter 1: Introduction

Appendix 1.6: UWF Related Works Response to Further Information 10.10.18

The data and descriptions in this appendix have informed Chapter 1: Introduction of the EIA Report. The information presented in this Appendix 1.6 is outlined below and the relevant element(s) of the Whole UWF Project are also identified.

Appendix	Title	Relevant EIAR
Appendix 1.6	UWF Related Works Response to Further Information 10.10.18	UWF Grid Connection

Planning Department
Tipperary County Council
Nenagh
County Tipperary

9th November, 2018

Re: Response to Request for Further Information on UWF Related Works dated 10th September, 2018, Planning Ref. 18/600913

A Chara,

Attached is Ecopower Developments Limited (EDL) response to Tipperary County Council's Request for Further Information dated 10th September 2018.

The response is set out in four sections per

- **Natura Impact Assessment**
- **Use of Upperchurch Windfarm EIS & EIA**
- **Mitigation, monitoring and compensatory measures**
- **Roads and Entrances**

Mise, le meas

_____

Philomena Kenealy (EIA Coordinator, UWF Related Works)

Tel: 086-8399193

Tab 1. Tipperary County Council Request No. 1

Request for Further Information in accordance with Article 243 (1) of the Planning & Development Regulations 2001 (as amended) as follows:

1. *The Natura Impact Assessment and associated appendices have been noted, however, the applicant is requested to address apparent inconsistencies in terms of the consideration of potential impacts including cumulative impacts. The NIS has excluded through the process of screening, both the UWF replacement forestry and the Upperchurch windfarm itself from Stage 2 of the Appropriate Assessment. Excluding these elements of the overall Windfarm project at stage 1 in close proximity to the SPA does not subsequently allow for cumulative impacts of these projects to be adequately assessed. The applicant is requested to address this issue.*

In the event that a modified NIS is required to address this issue the revised Appropriate Assessment should consider the characteristics of existing, proposed and other approved plans or projects which may cause interactive or cumulative impacts with this project and which may affect all Natura 2000 sites in the vicinity of this project namely the UWF replacement forestry and Windfarm itself.

The NIS should be undertaken in accordance with the guidance document, Appropriate Assessment of Plans and Projects in Ireland -Guidelines for Planning Authorities (2009).

In accordance with the above guidelines the NIS must be prepared by a person or persons with the requisite ecological expertise and experience, supplemented as necessary by additional expertise and experience (e.g. geology, hydrology, civil engineering or planning), and produced in a scientifically complete, professional and objective manner together with any other input legal or otherwise.

Note:

(a) In accordance with Article 238 of the Planning and Development Regulations 2001, as amended, it will be necessary for you to submit 10 hard copies and one electronic copy of any revised NIS. In accordance with Article 240 of the Planning and Development Regulations 2001, as amended, where an NIS is required by the Planning Authority under 177T(5) of the Act, the applicant shall, no more than two weeks before submitting the NIS, publish notice of the intention to submit the revised NIS in at least one newspaper approved under article 18(2). An NIS submitted in under Section 177T (5) shall be accompanied by a copy of the relevant page of the newspaper in which the notice referred to above was published. Attached are the relevant details which must be included in the public notice.

(b) You are advised that if a revised NIS is not provided within six (6) months from the date of this notice, the application shall be declared to be withdrawn.

1.1 EDL Response to Tipperary County Council Request - NIS

This Tab 1 sets out EDLs response to Tipperary County Council Request - NIS.

1.1.1 UWF Related Works as part of the Whole UWF Project

UWF Related Works is one element of the Whole Upperchurch Windfarm (UWF) Project, which comprises;

- Element 1– UWF Grid Connection (concurrent Strategic Infrastructure Development (SID) application to An Bord Pleanála)
- Element 2 – UWF Related Works (the subject application to Tipperary County Council)
- Element 3 - UWF Replacement Forestry (concurrent afforestation licence application to Department of Agriculture Forestry and the Marine (DAFM))
- Element 4 - Upperchurch Windfarm (subject to Environmental Impact Assessment (EIA) and Appropriate Assessment (AA) in 2014 by An Bord Pleanála and consented); and
- Element 5 - UWF Other Activities (no planning required).

1.1.2 The Layout of the Natura Impact Statement (NIS)

The NIS is contained within Volume E: Appropriate Assessment Reporting of the planning application. Volume E comprises Volume E1 to E6 and contains the NIS itself and 16 No. Appendices to the NIS.

The NIS is the 1st part of Volume E1, and is laid out as follows:

- **Section 2 of the NIS** comprises a description of the characteristics, purpose, location and layout of all five elements of the Whole UWF Project.
- **Section 3 of the NIS** lists the European Sites under consideration, identifies twenty-three potentially relevant European Sites, and includes the qualifying interests and short summary for each Site (**Page 10 to 20 of the NIS)**.
- **Section 4** - Pages 21 to 110 of the NIS comprises the **Stage One: Screening Report** which includes an evaluation of whether UWF Related Works, either alone or in-combination is likely, or has potential, to cause a significant effect on each of the twenty-three European Sites. The evaluation is carried out in **Tables 4.6 to 4.28 (Pages 27 to 109).** The result of the screening determined that UWF Related Works is likely, or has potential, to have significant effects on 3 No. European Sites (Slievefelim to Silvermines Mountain SPA; Lower River Shannon SAC; and Lower River Suir SAC). Therefore **UWF Related Works proceeds to Stage Two: Appropriate Assessment**.
- **Section 5** comprises the **Stage Two: Appropriate Assessment Report**. The Stage Two: Appropriate Assessment Report identifies and analyses, in the light of the best scientific knowledge in the field, all aspects of UWF Related Works which can, by itself or in combination with other plans or projects, affect the three European Sites in light of their conservation objectives. The evaluation distinguishes between temporary and permanent effects and addresses the effects on the flora, fauna and habitats for which the European Sites were designated.

1.1.3 Evaluation of Cumulative Effects on the Slievefelim to Silvermines Mountain SPA

The manner in which the in-combination effects on the Slievefelim to Silvermines Mountain SPA of UWF Related Works is carried out, is the subject of Tipperary County Council RFI on the NIS.

1.1.3.1 Evaluation of potential effects to the SPA in the Stage One Screening Report

An evaluation is included in the Stage One Screening Report of the potential for UWF Related Works, both alone and in-combination with other project elements, to cause significant effects to the Slievefelim to Silvermines Mountain SPA. **UWF Related Works is screened in for further examination at Stage Two** of the Appropriate Assessment process, as it is evaluated that there is potential for significant effects on the Slievefelim to Silvermines Mountain SPA.

1.1.3.2 Evaluation of effects to the SPA in the Stage Two Appropriate Assessment Report

In the Stage Two: Appropriate Assessment Report, an evaluation of individual and in-combination (interactive or cumulative) effects on the SPA is examined in detail in the NIS. The evaluation of in-combination (interactive or cumulative) effects includes the following projects: UWF Related Works and UWF Grid Connection, UWF Other Activities, **Upperchurch Windfarm, UWF Replacement Forestry**, and also Castlewaller Windfarm (consented), Bunkimalta Windfarm (consented), forestry activities, agricultural activities and turbury activities.

The process undertaken and location of the evaluations used is summarised in this Section 1.1.3.

1.1.3.3 Effects to the SPA evaluated in the Stage Two: Appropriate Assessment Report

The Slievefelim to Silvermines Mountain SPA is examined in detail for the following effects:

- Reduction in or Loss of suitable or potentially suitable Hen Harrier Foraging Habitat
- Inadvertent Mortality of Hen Harrier in or at Nest or Roost Sites
- Disturbance/Displacement of Nesting/Roosting Hen Harrier

This European Site and the three listed effects were identified in the Stage One Screening Report and brought forward for detailed examination in the Stage Two Appropriate Assessment Report.

1.1.3.4 Evaluation of the in-combination effect of all five elements of the Whole UWF Project on the SPA

The evaluation of individual and in-combination effects of the project elements of the Whole UWF Project is evaluated in **Section 5.3.5 of the NIS**, where the evaluation is presented in tabular form (Tables 5-10, 5-22 and 5.23 on pages 186 to 197 of the NIS):

- **Table 5-10:** Reduction in or Loss of suitable or potentially suitable Hen Harrier Foraging Habitat on **Page 186 to 190 of the NIS.**
- **Table 5-22:** Inadvertent Mortality of Hen Harrier in or at Nest or Roost Sites on **Page 191-193 of the NIS**.
- **Table 5-23:** Disturbance/Displacement of Nesting/Roosting Hen Harrier is evaluated in **Page 194 to 197 of the NIS.**

In these tables, an evaluation of the magnitude and significance of the effect of each individual

element (i.e. UWF Related Works, UWF Grid Connection, **UWF Replacement Forestry, Upperchurch Windfarm** and UWF Other Activities) is set out first and then an evaluation of the in-combination effects of the five project elements together, i.e. the Whole UWF Project effect, on the SPA, is presented at the end of each table.

1.1.3.5 Evaluation of the in-combination effect of the Whole UWF Project with Other Projects on the SPA

The in-combination effect of the Whole UWF Project along with other relevant projects or activities on the SPA is evaluated in **Section 5.3.6 of the NIS**.

Section 5.3.6.1 describes the geographical and time-frame study areas which were set for this evaluation, these boundaries relate to the spatial extent of, and relevant time period for, in-combination effects. Find Tables 5.11 – 5.13 (pages 199 to 207 of the NIS) for description and justification of the other projects and activities chosen. The other projects and activities examined for cumulative effects are Castlewaller Windfarm (consented); Bunkimalta Windfarm (consented); and forestry, agricultural and turbury activities.

The evaluation of in-combination effects of the Whole UWF Project with these other projects and activities are presented in tabular form (Tables 5-17, 5-18 and 5-19 on pages 220 to 227 of the NIS):

- **Table 5-17** Reduction in or Loss of suitable or potentially suitable Hen Harrier Foraging Habitat on **Page 220 to 223 of the NIS.**
- **Table 5-18** Inadvertent Mortality of Hen Harrier in or at Nest or Roost Sites on **Page 224 to 225**
- Disturbance/Displacement of Nesting/Roosting Hen Harrier on **Table 5-19 Page 226-227 of the NIS.**

In these tables, the magnitude and significance of the effect of the Whole UWF Project is set out first, followed by an evaluation of the magnitude and significance of the effect of each of the other projects (i.e. Castlewaller Windfarm, Bunkimalta Windfarm, forestry, agricultural and turbury activities). Finally, at the end of these three tables, an evaluation of the in-combination or cumulative effect of the Whole UWF Project with these other projects, on the SPA, is presented.

1.1.4 Supporting Biodiversity Information & Evaluations

1.1.4.1 Supplemental Information on Upperchurch Windfarm to the NIS

The information on Upperchurch Windfarm used to inform the evaluation in the NIS, and which can be used by Tipperary County Council for the Appropriate Assessment of UWF Related Works, was included as **Appendices A7 and A16** of the NIS **(Volumes E2 and E6 of the NIS)**. **Appendix A7** comprises a description of the consented Upperchurch Windfarm. **Appendix A16 comprises Supporting 2013/2014 Planning Documentation for Upperchurch Windfarm** (2013 Revised NIS, 2013 Ecological Management Plan for Hen Harrier, 2013 Surface Water Management Plan, 2013 preliminary Environmental Management Plan, 2014 ABP Inspectors Report).

It should be noted that the same three European Sites i.e. Slievefelim to Silvermines Mountain SPA; Lower River Shannon SAC and Lower River Suir SAC, were analysed in the Upperchurch Windfarm Appropriate Assessment in 2014.

1.1.4.2 Supplemental Information on UWF Replacement Forestry to the NIS

The information on UWF Replacement Forestry used to inform the evaluation in the NIS, and which can be used by Tipperary County Council for the Appropriate Assessment of UWF Related Works, was included as **Appendices A6 and A13** of the NIS **(Volumes E2 and E5 of the NIS)**.

Appendix A6 comprises a description of UWF Replacement Forestry. **Appendix A13** comprises Chapter 8: Biodiversity of the UWF Replacement Forestry EIA Report.

1.1.4.3 Supplemental Biodiversity Information and Evaluations

The NIS was not carried out in isolation, the competent experts who prepared the NIS also prepared the Biodiversity chapter (Chapter 8) and associated Appendix 8.1 of the UWF Related Works EIA Report. The Biodiversity information in the EIA Report includes supporting detailed information and evaluation on species and habitats which are listed as Qualifying Interests and Special Conservation Interests of the three European Sites which were evaluated in the NIS (see Section 1.1.4.4 and 1.1.4.5 below). These Biodiversity documents are included as Appendices to the NIS, per:

- **Appendix A12 in Volume E5: Chapter 8: Biodiversity of the UWF Related Works EIA Report**, planning application to Tipperary County Council.
- **Appendix A14 in Volume E4: Detailed Biodiversity Data and Supplementary information** (Appendix 8.1 of the Biodiversity chapter). This appendix also includes information on the Best Practice Survey Methods used to inform the biodiversity evaluations.
- Also included as an appendix to the NIS is a **Confidential Annex A15** in **Volume E4** (not for general public dissemination) which contains highly sensitive information on protected species that are vulnerable to persecution. It may be reviewed by the planning officers of the Competent Authorities and by the Statutory Consultees (e.g. the National Parks and Wildlife Service), but should not be published on any online system or made available in any other public format and should be made available for public inspection, by appointment only. **A15 Confidential Annex** was not included in Volume E4 but was kept separate and clearly marked.

1.1.4.4 Supplemental Evaluation informing the Slievefelim to Silvermines Mountain SPA evaluation in the NIS

There is one Special Conservation Interest listed for the SPA – Hen Harrier. As stated in Section 1.1.3 above, the following effects on Hen Harrier are evaluated in the NIS:

- Reduction in or Loss of suitable or potentially suitable Hen Harrier Foraging Habitat
- Inadvertent Mortality of Hen Harrier in or at Nest or Roost Sites
- Disturbance/Displacement of Nesting/Roosting Hen Harrier

These effects are also examined in detail in Chapter 8: Biodiversity of the **UWF Related Works EIA Report** - **Section 8.6: Sensitive Aspect No.5 Hen Harrier**, in

- **Section 8.6.4.1:** Impact Evaluation Table: Reduction in or loss of suitable foraging habitat, and
- **Section 8.6.4.2:** Description and Rationale for Excluded Impacts to Hen Harrier.

See Appendix **A12: UWF Related Works EIA Report Chapter 8: Biodiversity, Volume E5** of the NIS.

1.1.4.5 Supplemental Evaluation informing the Lower River Shannon SAC & Lower River Suir SAC evaluations in the NIS

The relevant Qualifying Interests for the SACs relate to **aquatic habitats and species**; and to **otter**. In the NIS both the Lower River Shannon SAC and the Lower River Suir SAC are examined for the following effects on aquatic habitats and species and on otter:

- Riparian Habitat Degradation
- Disturbance to Fisheries (Lower River Shannon only)
- Disturbance/displacement of Aquatic Species (Lower River Suir only)
- Changes to Flow Regime
- Spread of Aquatic Invasive Species
- Decrease in habitat quality
- Disturbance to Otter

These effects are also examined in detail in two sections of **Chapter 8: Biodiversity of the UWF Related Works EIA Report- Section 8.4: Sensitive Aspect No.3 Aquatic Habitats and Species**, and in **Section 8.9: Sensitive Aspect No.8 Non Volant Mammals** (in relation to Otter), specifically in:

- **Section 8.9.4.3:** Impact Evaluation Table: Otter – Disturbance/Displacement

and also in

- **Section 8.4.4.1:** Impact Evaluation Table: Decrease in instream aquatic habitat quality.
- **Section 8.4.4.2**: Impact Evaluation Table: Changes to flow regime,
- **Section 8.4.4.3:** Impact Evaluation Table:Disturbance/Displacement to fish & aquatic species
- **Section 8.4.4.4:** Impact Evaluation Table: Riparian habitat degradation,
- **Section 8.4.4.5:** Impact Evaluation Table: Spread of aquatic invasive species, and

See **Appendix A12: UWF Related Works EIA Report Chapter 8: Biodiversity**, **Volume E5** of the NIS

1.1.4.6 Legitimate sources of information

The use of these appendices including the supplementary evaluations is supported by national legislation. The documents that can be used as sources of information to inform the competent authority's appropriate assessment are set out in the Planning & Development Act (as amended): Part XAB: Appropriate Assessment, Section 177V Appropriate Assessment per:

177V (2) I*n carrying out an appropriate assessment under subsection (1) the competent authority shall take into account each of the following matters:*

(a) the Natura impact report or Natura impact statement, as appropriate;

(b) any supplemental information furnished in relation to any such report or statement;*

(c) if appropriate, any additional information sought by the authority and furnished by the applicant in relation to a Natura impact statement;

(d) any additional information furnished to the competent authority at its request in relation to a Natura impact report;

(e) any information or advice obtained by the competent authority;

(f) if appropriate, any written submissions or observations made to the competent authority in relation to the application for consent for proposed development;

(g) any other relevant information.

**authors emphasis*

1.1.5 Requirement for a Revised NIS

In the Stage One: Screening Report in the NIS, **UWF Related Works is screened in for further examination at Stage Two** of the Appropriate Assessment process.

In the **Stage Two Appropriate Assessment Report in the NIS**, the UWF Related Works project is examined in detail for effects on the SPA. The evaluation includes both an evaluation of the effect of UWF Related Works project on its own, and an evaluation of the in-combination or cumulative effects of the UWF Related Works project with other projects, which included the UWF Grid Connection, UWF Other Activities, *Upperchurch Windfarm and UWF Replacement Forestry*, and also the consented Castlewaller Windfarm, consented Bunkimalta Windfarm, forestry activities, agricultural activities and turbury activities.

As an evaluation of in-combination effects on the Slievefelim to Silvermines Mountain SPA, which includes Upperchurch Windfarm and UWF Replacement Forestry, has been presented in the Stage Two Appropriate Assessment Report, and in the context of the supplemental information and evaluations furnished in the appendices to the NIS, EDL respectfully submits that there is adequate information provided to facilitate the competent authority to carry out Appropriate Assessment, including an assessment of in-combination effects, in relation to the UWF Related Works project.

Because no revised NIS is being submitted, EDL assumes that the requirement set out in the Note to Tipperary County Council Request No.1 does not apply.

Question 2 – Use of Upperchurch Windfarm EIS & EIA

Request for Further Information under S.172 (1D) of the Planning and Development Act 2000 (as amended), as follows:

The applicant is advised that the Planning Authority is not satisfied as to the completeness of the EIAR submitted as the EIAR relies upon the EIS and EIA of the 2013 application in the presentation of cumulative effects. The applicant is requested to consider the impact of time since the collation and assessment of same and provide any update and revisions accordingly within 6 months of the date of this request.

2.1 EDL Response to Tipperary County Council Request No. 2

This Tab 2 sets out EDLs response to Tipperary County Council Request – Use of Upperchurch Windfarm EIS & EIA.

2.1.1 Use of Previous Assessments

The use of previous assessments is established in the EIA Directive where it states that, with a view to avoiding duplication of assessments, the results of other assessments should, where relevant and available, be taken into account (Recital 32 and Article 5 of the EIA Directive).

An EIA was carried out by An Bord Pleanála in 2014 for the Upperchurch Windfarm planning application, and that 2013 planning application was accompanied by an EIS and a Response to RFI. These EIA documents remain relevant today because, in general, there have been no significant material changes in the baseline environment for any of the EIA topics i.e. population and human health, biodiversity, land, soil, water, air and climate, material assets, cultural heritage and the landscape, over the relatively short period of 5 years since the Upperchurch Windfarm project was submitted into planning. In relation to the landscape in particular, the impact of the construction of Milestone windfarm in the near vicinity of Upperchurch Windfarm and the subsequent cumulative visual impact on the landscape of the two windfarms and of all other windfarms, existing or permitted at the time, within 15km of the nearest Upperchurch Windfarm turbine, was evaluated in the 2013 planning documentation (Answer to Q.1 (b) of the 2013 RFI for Upperchurch Windfarm).

In addition, under Condition 2 of the Grant of Permission of Upperchurch Windfarm from the Board, the period during which the development is permitted to be carried out is ten years from the date of the order (12/08/14) therefore it can be assumed that the competent authority considers that all assessments are relevant for the period upto 2024.

EDL respectfully submits that the EIA Report submitted can rely on the 2013 application in the presentation of cumulative effects, because the 2013 EIS and 2014 EIA are valid sources of information on Upperchurch Windfarm, to inform the evaluation of cumulative effects in the UWF Related Works EIA Report.

2.1.2 Consideration of the Impact of Time since the Previous Assessment

2.1.2.1 Impact of time

The 2013 EIS, 2013 RFI and the 2014 EIA are used as sources of information as already stated, but these documents are not the only source of information used for the Upperchurch Windfarm in relation to the cumulative evaluations.

Spatially, UWF Related Works, is located in the same area as Upperchurch Windfarm and the Internal Windfarm Cabling (part of UWF Related Works) is located between the turbine locations and the windfarm substation location and along the windfarm roads. In addition the windfarm roads will provide access to UWF Related Works construction works areas.

- The competent experts who prepared the 2018 UWF Related Works EIA Report, reviewed the Upperchurch Windfarm 2013 and 2014 assessments as part of their studies of the baseline environment and studied the area again in 2017, as part of site visits and desktop studies for the current application. These site visits and desktop studies enabled the experts to ascertain the existing environment and the trends in the existing environment.
- **Section X.X*.1.2 Baseline Characteristics** examines the current baseline environment context and character for each of the thirty-seven Sensitive Aspects examined in the EIA Report environmental topic chapters.
- **Section X.X*.1.5 Trends in the baseline environment** examines trends for the baseline environment of each sensitive aspect. The periods covered by trends analysis are generally a decade long or more, because change in this rural upland environment happens slowly, over a long period of time and therefore the analysis encompasses the 2012-2014 assessment period for Upperchurch Windfarm.

(* *X.X relates to the Chapter Number, and Section Number of Sensitive Aspect*)

2.1.2.2 Updates and Revisions included in the 2018 EIA Report

The impact of time since the 2013 EIS and 2014 EIA for Upperchurch Windfarm was considered by these experts for each environmental factor topic, and they took into account any updates, revisions or other changes in the existing environment or any new impact pathways or new environmental topics that ought to be considered.

Upperchurch Windfarm was specifically evaluated for any additional matters, in the UWF Related Works EIA Report in order to provide information for the evaluation of cumulative impacts of the UWF Related Works with Upperchurch Windfarm. Examples of additional matters included in the 2018 UWF Related Works EIA Report are: the newly prescribed EIA environmental factor topics of Human Health and Land; new sensitive environmental receptors - Marsh Fritillary and associated Local Water Dependent Habitats; the additional one wind turbine to Milestone windfarm; and electromagnetic fields as a source of effects.

2.1.3 The Impact of Time Conclusion

The EIA Co-ordinator considers that the impact of time since the collation and assessment of the 2013 EIS and 2014 EIA for Upperchurch Windfarm, has been adequately considered in the 2018 UWF Related Works EIA Report to facilitate the competent authority's assessment of the cumulative effects of the subject development, with Upperchurch Windfarm.

Question 3 – Mitigation, Monitoring and Compensatory Measures

Request for Further Information under S.172 (1E) of the Planning and Development Act 2000 (as amended), as follows:

The applicant is requested to submit a comprehensive

- *Schedule of features/measures to avoid, prevent or reduce/offset adverse effects on the environment;*
- *Schedule of monitoring measures;*
- *Schedule of compensatory measures.*

3.1 EDL Response to Tipperary County Council Request No. 3

This Tab 3 sets out EDLs response to Tipperary County Council Request – Mitigation, monitoring and compensatory measures.

3.1.1 Schedule of features/measures to avoid, prevent or reduce/offset adverse effects

The Project Design Environmental Protection Measures included in the application documents, constitute the ***features/measures to avoid, prevent or reduce/offset adverse effects on the environment***. There are forty-three Project Design Environmental Protection Measures in total – named **PD01 to PD43**.

The Project Design Environmental Protection Measures (PDs) are located in the EIA Report in

- **Volume C2 EIA Report: Chapter 5: Description of Development: Section 5.2.4: Table 5-4**
- **Volume C2 EIA Report: Chapters 6 to 17** where relevant
- **Volume B: Planning Drawings: Drawing UWF RW 24**
- **Volume D: Environmental Management Plan (EMP): Table 7 (P. 19)**

In response to RFI, the features/measures to avoid, prevent or reduce/offset adverse effects on the environment are reproduced here in a Schedule of Project Design Environmental Protection Measures.

Attachment 1 to EDL Response to RFI

UWF Related Works RFI Attachment 1 - Schedule of Project Design Environmental Protection Measures

3.1.2 Schedule of monitoring measures

Monitoring measures are included throughout the EIA Report and Environmental Management Plan (EMP). In particular, monitoring measures are part of the Project Design Environmental Protection Measures (PDs), the Traffic Management Plan, the Surface Water Management Plan, the Invasive Species Management Plan, the Waste Management Plan and the Best Practice Measures (BPMs), which plans are all part of UWF Related Works Environmental Management Plan (EMP).

In response to RFI, a Schedule of these Monitoring Measures has been collated from the EIA Report and the EMP.

Attachment 2 to EDL Response to RFI

UWF Related Works RFI Attachment 2 – Schedule of Monitoring Measures.

3.1.3 Schedule of compensatory measures

There is only one compensatory measure included in the UWF Related Works project:

Project Design Environmental Protection Measure PD41

PD41: Where the felling of trees with bat suitability is carried out, robust, weather-proof bat-boxes, for example Schwegler type 1FF and 2F models, will be placed in each of the affected sections to compensate for the loss of potential tree roosts. The number of bat boxes will match the number of trees with bat suitability to be felled.

UWF Related Works RFI Attachment 1

Schedule of

Project Design Environmental Protection Measures

The Project Design Environmental Protection Measures included in the application documents, are the ***features/measures to avoid, prevent or reduce/offset adverse effects on the environment***. There are forty-three Project Design Environmental Protection Measures in total – named **PD01 to PD43**.

Schedule of Project Design Environmental Protection Measures	
PD ID	**Project Design Environmental Protection Measure**
PD01	All construction works will be carried out during daylight hours.
PD02	Flag-men will be used at temporary site entrances rather than creating sightlines by the removal of roadside boundaries. These flagmen will control the movement of traffic on the public road, so that road users can continue to use the local road network in a in a safe and efficient manner.
PD03	Construction works in Knockmaroe and Knockcurraghbola Commons townlands, which are within 350m of local residences, will not take place at the same time as either the UWF Grid Connection or Upperchurch Windfarm.
PD04	Confirmatory consultations with Irish Water, Eir and ESB and confirmatory ground surveys at service locations will be carried out ahead of works; 'Goal Posts' will be used to identify and highlight the height of nearby overhead lines; and a foreman will look out for underground pipes during excavations near services.
PD05	Land reinstatement will not be carried out during very wet weather or when the soil is waterlogged.
PD06	If any compaction has occurred along the construction works area, these areas will be ploughed with a sub-soiler to loosen the subsoil layer
PD07	Construction traffic will be restricted to the construction works area and tracking across adjacent ground will not be permitted
PD08	All initial groundworks will be monitored by an archaeologist under license from the National Monuments Service, to archaeologically record and preserve, either in situ or by record, any structures, features or objects of archaeological significance which may be encountered during the works.
PD09	New permanent access roads will have a permanent surface water drainage network in place which will include check dams. These check dams will settle suspended solids in water runoff while also slowing down the rate of water run-off from these areas.
PD10	Only precast concrete culverts or structures will be used at watercourse crossing locations. No batching of wet cement will take place on-site.
PD11	Instream construction works will be followed by site-specific reinstatement measures to ensure the restoration of flow character and morphology within the affected reach. Measures will include: bank stabilisation using boulder armour or willow/brush bank protection; reinstatement of bank slope and character, creation of compound channels where necessary; reinstatement of instream flow features such as boulder substrates, pool / riffle sequences, or spawning cobbles; and planting along the riparian margin to stabilise banks, add flood protection and provide riparian buffer.
PD12	A phased approach will be undertaken in relation to watercourse crossing works, earthworks, forestry felling and excavation dewatering, where these works occur within 50m of a Class 1 or Class 2 watercourse. The phased approach will only permit one of main potential sediment producing activities, listed above, to be carried out within 50m of a Class 1 or Class 2 watercourse, at any one time.
PD13	All excavated material will be removed for temporary or permanent storage at a suitable location more than 50m away from all other Class 1 and Class 2 watercourses.
PD14	Temporary silt control methods such as silt fencing or containment berms will be placed around all overburden storage areas.
PD15	Permanent overburden storage berms will be graded and seeded immediately after emplacement.
PD16	For works within 50m of a Class 1 or Class 2 watercourse, additional mitigation measures include double silt fencing, temporary drain blocking, placement of straw bale arrangements along preferential surface water flowpaths and, where necessary, the use of matting to prevent ground erosion and rutting.

Schedule of Project Design Environmental Protection Measures	
PD ID	**Project Design Environmental Protection Measure**
PD17	Where dewatering of trenches or excavations is required, there will be no direct discharge of treated water into any watercourse or drain. Rather all pumped water will be treated prior to discharge using an infiltration trench or settlement pond or suitable water treatment train such as a Siltbuster, as appropriate.
PD18	There will be no refuelling of vehicles or plant permitted within 100m of a watercourse
PD19	The main fuel stocks for, and chemical wastes arising from, construction activities will be stored in a designated location, away from main traffic activity, within the temporary compound. All fuel will be stored in bunded, locked storage containers.
PD20	Overnight parking of plant and machinery will only be permitted at locations which are greater than 50m from watercourses and where there is an existing hard-core surface in place.
PD21	No refuelling of plant or equipment will be permitted within 100m of identified wells
PD22	In-stream works at Class 1 and Class 2 watercourses will only be undertaken during the IFI specified period (July, August and September) and will be carried out to best practice (IFI, 2016).
PD23	In-stream works will not be undertaken without isolation of flow within the watercourse, any fish within the isolated section will be removed using electrofishing and, following collection of biometrics, transferred immediately downstream of the crossing point and placed back in the water. The water will then be isolated from the works by over pumping, flume (pipe) or channel diversion methods.
PD24	All new permanent watercourse culverts will be sized to cope with a minimum 100-year flood event. All pipe culverts will be a minimum of 900mm in diameter regardless of the anticipated flood flow.
PD25	All new permanent culverts on Class 1 and Class 2 type watercourses will be bottomless or clear spanning.
PD26	If works are programmed to begin in the Hen Harrier breeding season (March to August) confirmatory hen harrier breeding surveys will be completed, before such works initiate, such that all pre breeding nuptial activity, nesting activity and active nests are recorded within 2km of the construction works area boundary. These surveys will be completed prior to the start-up of all construction activities, until construction is complete and for 3 years thereafter. No construction works will take place within 500m of an active hen harrier breeding attempt or active nesting activity, during the breeding season (March to August).
PD27	During the hen harrier roosting season (October to February inclusive), construction works within 1000m of a roost will be limited to the period between one hour after sunrise to one hour before sunset.
PD28	Hedgerow removal and clearance of any other breeding bird vegetation will take place outside of the bird breeding season *i.e.* not during the period of March to August inclusive where possible. This includes hedgerow and scrub removal in addition to hedgerow trimming.
PD29	Confirmatory surveys for active Otter holts and activity (particularly holts at which breeding females or cubs are present) will be carried out 150m upstream and downstream of watercourse crossing locations.
PD30	All construction works within 150m of an active otter holt, will be carried out during daylight hours and outside of 2 hours after sunrise or before sunset during summer/outside of 1 hours after sunrise or before sunset during winter.
PD31	If an active holt (particularly holts at which breeding females or cubs are present) is located within 150 meters of the watercourse crossing points, no works will be undertaken *while cubs are present in the holt* and NPWS will be notified immediately
PD32	No wheeled or tracked vehicles (of any kind) will be used within 20m of active, but non-breeding otter Holts, and light work, such as digging by hand or scrub clearance will not take place within 15m of such holts, except under license.

Schedule of Project Design Environmental Protection Measures	
PD ID	**Project Design Environmental Protection Measure**
PD33	The prohibited working area associated with otter holts will, where appropriate, be fenced with temporary fencing prior to any possibly invasive works and declared as 'out of bounds'. Fencing will be in accordance with Clause 303 of the NRA's Specification for Roadworks (National Roads Authority). Appropriate awareness of the purpose of the enclosure will be conveyed through toolbox talks with site staff and sufficient signage will be placed on each exclusion fence. All contractors or operators on site will be made fully aware of the procedures pertaining to each affected holt (NRA, 2006) and subject to audits and non-conformance records in the event of non-compliance, to be included in reports submitted to Local Authorities and relevant Statutory Consultees.
PD34	Confirmatory surveys will be carried out within 50 m of either side of the construction works area boundary of identified badger setts to determine the current status of known badger setts (i.e. active or inactive) and to determine if any new setts have been established in the intervening period following initial pre-planning surveys and the commencement of construction activity. These confirmatory badger surveys will be undertaken no more than 10-12 months in advance of proposed construction activities, during the period November and April when vegetation cover is reduced. NWPS will be notified immediately if the sett previously identified is confirmed as active or if a further active sett is located within 50 meters of the footprint of the development. If sett exclusion is required, this will be undertaken by an experienced ecologist under the necessary license and following best practice guidance (NRA, 2005).
PD35	No construction works will be carried within 50m of an active sett during the main breeding season (December 1st to June 30th).
PD36	Construction activity in the environs of a known active badger sett outside of the breeding period will follow NRA (2005) guidelines, i.e. no heavy machinery will be used within 30m of badger setts (unless carried out under license); lighter machinery (generally wheeled vehicles) will not be used within 20m of a sett entrance; light work, such as digging by hand or scrub clearance will not take place within 10m of sett entrances.
PD37	All construction works will be carried out during daylight hours. Security lighting will be used at compounds. All lighting will be cowled in order to prevent light spill and no lighting will be left turned on overnight. Lighting will be controlled by motion and time sensors to minimise the amount of time the lights are operational.
PD38	Confirmatory surveys will be carried out at all trees with bat suitability that will require felling or other major modifications (e.g. removal of rotten branches). These trees will be subject to a ground-level visual inspection by the Project Ecologist (or a bat specialist acting on their behalf) prior to site clearance works in order to confirm the findings of the 2016 / 2017 surveys.
PD39	Where a tree with moderate or high bat suitability is to be felled, a presence/absence bat surveys will be carried out. (Note. It is not expected that any trees with moderate or high suitability will be felled).
PD40	Felling of trees with bat roost suitability will be undertaken in the period late-August to late-October/early-November. Trees with low suitability for bats will be felled carefully and slowly in order to avoid impact-related injuries to any bats that may be roosting inside them. Sections of the tree with potential roost features for bats (e.g. crevices, damaged branches) will be cut in sections, lowered carefully to the ground and left undisturbed for 48 hours before removal.
PD41	Where the felling of trees with bat suitability is carried out, robust, weather-proof bat-boxes, for example Schwegler type 1FF and 2F models, will be placed in each of the affected sections to compensate for the loss of potential tree roosts. The number of bat boxes will match the number of trees with bat suitability to be felled.
PD42	Installation of bat crossing structures at severed hedgerows, proximate to areas of high bat activity or roost locations. And following the completion of construction works, the replanting of these severed hedgerows with semi-mature shrubs/trees (like for like) and limits on temporary lighting near hedgerows.

Schedule of Project Design Environmental Protection Measures	
PD ID	**Project Design Environmental Protection Measure**
PD43	Pre-construction survey of the distribution of Devil's-bit Scabious (larval food plant of Marsh Fritillary) during the last available April prior to the commencement of construction works. This requires that any areas of Devil's-bit Scabious that are located within the construction works area boundary, will be strimmed/cut to ground level in the last available late April / early May period prior to the commencement of construction.

UWF Related Works RFI Attachment 2

Schedule of Monitoring Measures

This schedule of monitoring measures has been collated from the EIA Report and Environmental Management Plan (EMP). In particular, monitoring measures are collated from the Project Design Environmental Protection Measures (PDs), the Traffic Management Plan, the Surface Water Management Plan, the Invasive Species Management Plan, the Waste Management Plan and the Best Practice Measures (BPMs).

Schedule of Monitoring Measures		
Location in EIAR or EMP	**Measure/ Section No.**	**Description of Monitoring Measure**
EIA Report EMP	PD4	Confirmatory consultations with Irish Water, Eir and ESB and confirmatory ground surveys at service locations will be carried out ahead of works; 'Goal Posts' will be used to identify and highlight the height of nearby overhead lines; and a foreman will look out for underground pipes during excavations near services.
EIA Report EMP	PD8	All initial groundworks will be monitored by an archaeologist under license from the National Monuments Service, to archaeologically record and preserve, either in situ or by record, any structures, features or objects of archaeological significance which may be encountered during the works.
EIA Report EMP	PD26	If works are programmed to begin in the Hen Harrier breeding season (March to August) confirmatory hen harrier breeding surveys will be completed, before such works initiate, such that all pre breeding nuptial activity, nesting activity and active nests are recorded within 2km of the construction works area boundary. These surveys will be completed prior to the start-up of all construction activities, until construction is complete and for 3 years thereafter. No construction works will take place within 500m of an active hen harrier breeding attempt or active nesting activity, during the breeding season (March to August).
EIA Report EMP	PD29	Confirmatory surveys for active Otter holts and activity (particularly holts at which breeding females or cubs are present) will be carried out 150m upstream and downstream of watercourse crossing locations.
EIA Report EMP	PD34	Confirmatory surveys will be carried out, within 50 m of either side of the construction works area boundary, of identified badger setts to determine the current status of known badger setts (i.e. active or inactive) and to determine if any new setts have been established in the intervening period following initial pre-planning surveys and the commencement of construction activity. These confirmatory badger surveys will be undertaken no more than 10-12 months in advance of proposed construction activities, during the period November and April when vegetation cover is reduced.
EIA Report EMP	PD38	Confirmatory surveys will be carried out at all trees with bat suitability that will require felling or other major modifications (e.g. removal of rotten branches). These trees will be subject to a ground-level visual inspection by the Project Ecologist (or a bat specialist acting on their behalf) prior to site clearance works in order to confirm the findings of the 2016 / 2017 surveys.
EIA Report EMP	PD39	Where a tree with moderate or high bat suitability is to be felled, a presence/absence bat surveys will be carried out. (Note. It is not expected that any trees with moderate or high suitability will be felled).
EIA Report	PD40	Confirmatory consultations with Irish Water, Eir and ESB and confirmatory

Schedule of Monitoring Measures		
Location in EIAR or EMP	**Measure/ Section No.**	**Description of Monitoring Measure**
EMP		ground surveys at service locations will be carried out ahead of works; 'Goal Posts' will be used to identify and highlight the height of nearby overhead lines; and a foreman will look out for underground pipes during excavations near services.
EIA Report EMP	PD43	Pre-construction survey of the distribution of Devil's-bit Scabious (larval food plant of Marsh Fritillary) during the last available April prior to the commencement of construction works. This requires that any areas of Devil's-bit Scabious that are located within the construction works area boundary, will be strimmed/cut to ground level in the last available late April / early May period prior to the commencement of construction.
EMP Tab 3 Traffic Management Plan	1.3.8. and 1.4.4	Along construction materials haulage routes, confirmatory condition surveys involving pre-construction and post-construction inspections, high definition video surveys and falling weight deflectometer (FWD) surveys will be undertaken along the routes of concentrated construction traffic between the R503 and the site access points. Whilst it is not expected to occur, any damage to structures or road pavements will be repaired to at least as good a condition as pre-works, and on damaged sections of roads where the Surface Curvature Index (SCI), measured during FWD testing, is greater than 250, full-width surface overlay will be carried out.
EMP Tab 4 Surface Water Management Plan	3.4	Water quality monitoring will be undertaken visually, and the contractor will have informed the Environmental Clerk of Works of any observed issues Work will not continue again until the source of the pollution is identified and eliminated
EMP Tab 4 Surface Water Management Plan	4.1	• Daily general visual inspections by Environmental Clerk of Works; • Weekly (existing & new drains) inspections by site Construction Manager; • All inspection to include all elements of drainage systems; • Inspections required to ensure that drainage systems are operating correctly and to identify any maintenance that is required; • Any changes, such as discolouration, odour, oily sheen or litter should be noted and corrective action should be implemented immediately. • High risk locations such as settlement ponds will be inspected on a daily basis by the Construction Manager; • Daily inspections checks will be completed on plant and equipment, and whether materials such as straw bales or oil absorbent materials need replacement; • Event based inspections by the Environmental Clerk of Works as follows: ○ >10 mm/hr (*i.e.* high intensity localised rainfall event); ○ >25 mm in a 24 hour period (heavy frontal rainfall lasting most of the day); or, ○ Rainfall depth greater than monthly average in 7 days (prolonged heavy rainfall over a week). • Monthly site inspections by the Project Hydrologist during construction phase; and,

Schedule of Monitoring Measures		
Location in EIAR or EMP	**Measure/ Section No.**	**Description of Monitoring Measure**
		• Quarterly site inspections by independent hydrologist during the construction phase and for a period of 6 months following construction.
EMP Tab 4 Surface Water Management Plan	4.2.1	Field monitoring of water quality parameters and collection of samples will be undertaken by the Environmental Clerk of Works. He/she will be appropriately trained on the required monitoring methods and the use, calibration and maintenance of all monitoring equipment used.
EMP Tab 4 Surface Water Management Plan	4.2.2	Surface water quality will be monitored during the construction phase and this monitoring will also extend into the post construction phase. Proposed monitoring locations downstream of the works areas (no. 6 in total) within the local surface water bodies (i.e. Clodiagh River, Owenbeg River, Turraheen River and Bilboa River) are shown on Figure SWMP 3.
EMP Tab 4 Surface Water Management Plan	4.2.3	Laboratory analysis of water samples will also be undertaken as part of the monitoring programme by an independent and appropriately certified laboratory.
EMP Tab 4 Surface Water Management Plan	4.2.4	Monitoring frequency will be specified and finalised following consultation with Inland Fisheries Ireland and Tipperary County Council prior to commencement of construction. As a minimum, the monitoring programme will include: • Daily visual checks; • Weekly sampling for suspended solids and turbidity in catchments where tree felling, earthworks or watercourse crossing work is on-going and monthly monitoring for all other parameters; • Event based sampling, e.g. after heavy rainfall; • Additional sampling in the event of trigger level exceedance, after heavy rainfall, etc., • Post construction sampling programme (monthly sampling) for a period of six months. • The plant, machinery and tools used during construction will be regularly inspected for leaks and fitness for purpose.
EMP Tab 5 Invasive Species Management Plan	Appendix R2 – Biosecurity Measures	A full time invasive species specialist will be appointed to monitor key stages in construction, particularly when soil excavation begins near infested areas. The invasive species specialist will have a 'stop works' authority;
EMP Tab 6 Waste Management Plan	1.5.1	The measured waste quantities will be used to quantify the costs of management and disposal in a Waste Audit Report, which will also record lessons learned from these experiences which can be applied to future projects. This report will be produced by the PSCS using inputs from the Waste Audit. The total cost of construction waste management will be measured and will take account of the purchase cost of materials, handling costs, storage costs, transportation costs, revenue from sales, disposal costs etc.

Schedule of Monitoring Measures		
Location in EIAR or EMP	**Measure/ Section No.**	**Description of Monitoring Measure**
EMP Tab 7 Best Practice Measures	BPM 3	• All plant will be checked for purpose of use prior to mobilisation at the watercourse crossing.
EMP Tab 7 Best Practice Measures	BPM 6	• Inspection of main drainage ditches and outfalls will be completed during wet periods, and well in advance of the proposed felling works; • Another full inspection of the proposed felling area will be completed by the Construction Manager one day in advance of the proposed felling works; • Inspection of all areas reported as having unusual ground conditions, • Pre-felling surface water sampling will be undertaken at the main watercourse downstream of the works area (sampling will be completed during a wet period). • Surveying of drainage and ground conditions before and during tree felling activities.
EMP Tab 7 Best Practice Measures	BMP 07	Regular pH monitoring of the construction drainage water will be completed. When there is an increase of pH above the natural baseline in the local stream, pH adjustment will be undertaken prior to the release of the surface water drainage.
EMP Tab 7 Best Practice Measures	BPM 12	• Monthly surveys following (SNH) guidance will be undertaken by a suitably qualified Ornithologist • Confirmatory hen harrier breeding surveys will be completed, before construction works initiate, such that all pre breeding nuptial activity, nesting activity and active nests are recorded within 2km of the construction works area boundary (Project Design Measure). Breeding Surveys will take place monthly between February and August of the construction year and will be targeted at confirming breeding attempts and/or nest locations within the 2km buffer area utilized to establish baseline conditions. • Confirmatory hen harrier roosting surveys will be completed, within 1000m of the construction works boundary. Roosting surveys will take place monthly between October and February of the construction year and will be targeted at confirming roosting locations within the 1km buffer area utilized to establish baseline conditions. • These surveys (both breeding and roosting) will be completed prior to the start-up of all construction activities, until construction is complete and for 4 years thereafter (Years 1-3 and Year 5) (Project Design Measure). • Surveys will also be undertaken in years coinciding with any National Surveys of Hen Harrier to fully inform future trends in respect of the Slievefelim to Silvermines Mountains SPA. The Project Ecologist will keep NPWS informed of the real-time status of nesting Hen Harrier as a result of the monitoring associated with this project.
EMP Tab 7	BPM 13	• All known bat roosts within 150m of the construction works areas will be

Schedule of Monitoring Measures		
Location in EIAR or EMP	**Measure/ Section No.**	**Description of Monitoring Measure**
Best Practice Measures		subject to confirmatory survey prior to the onset of construction works in order to identify any changes in the interim period since baseline establishment. Surveys will be carried out at a time of year that is appropriate to the type of roost e.g. June to August for maternity roosts, or November to February for hibernation roosts. This will ensure that the Project Ecologist has accurate information regarding the location and status of roosts, and that the lighting proposals can be adapted accordingly, if required. • The Project Ecologist will communicate all bat survey results and information to the Project Team. This information will also be issued to the Local Authority and relevant statutory consultees, as agreed at the consenting stage.
EMP Tab 7 Best Practice Measures	BPM 14	• All bridges which were previously identified as having evidence of bats or suitable crevices for bats (Grade 1 to 3; Billington and Norman, 1997) will have a visual inspection (using lights, fiberscope, etc.) and bat detector surveys (to be undertaken throughout the duration of the night and include dusk emergence and dawn swarming periods) will be undertaken prior to the commencement of bridge maintenance/upgrade works to determine if bats are using the structure at the time of any works.
EMP Tab 7 Best Practice Measures	BMP 15	• Operational monitoring of bat roosts and sensitive severed hedgerow locations post construction to monitor effects (if any) from the construction of the UWF Related Works • Post-construction activity surveys will be carried out annually by the Project Ecologist Roost surveys on roosts identified as part of baseline evaluation will be carried out under Licence within the suitable survey season as per Best Practice, • All hedgerow locations subject to Bat Crossing Structures and reinstatement measures will also be surveyed by a suitably qualified Bat expert within the suitable survey season as per Best Practice. • Surveys will be carried out annually during the early operational years and will continue until all revegetation has reached maturity and bat habitat severance effects are closed out. i.e. 6 years • At the end of this period, if necessary, recommendations will be made on further survey requirements following consultation with NPWS.
EMP Tab 7 Best Practice Measures	BPM 16	• Monitoring in the form of confirmatory surveys will be carried out by the Project Ecologist to accurately determine the current status of invasive species locations identified during baseline studies. • Surveying will be carried out each year of operation and this survey information will be used to inform any operational stage maintenance activities. Surveys will focus always on the works area plus 7m. Surveying of municipal areas – i.e. public road haulage routes, will not be included

Schedule of Monitoring Measures		
Location in EIAR or EMP	**Measure/ Section No.**	**Description of Monitoring Measure**
		in surveys.
EMP Tab 7 Best Practice Measures	BPM 17	• Where clearance is required within the closed season, a survey will be carried out by the Project Ecologist for the presence of active birds' nests (i.e. nests with eggs or young birds).
EMP Tab 7 Best Practice Measures	BPM 18	• All works within a Root Protection Area (RPA) (see NRA guidance (2006) for calculation of the RPA) will be supervised by the Project Ecologist.
EMP Tab 7 Best Practice Measures	BPM 19	• Kingfisher: Confirmatory surveys will be carried out by a suitably qualified Ornithologist and will follow standard methodology (Cummins *et al*, 2010), • Surveys will be undertaken between March and April (early visit) and again between May and June (late visit) of the construction year and will be targeted at confirming breeding attempts and/or nest locations along rivers within 300m of works area boundary (No nests were located within 300m during baseline surveys). • All crossing locations will be also be surveyed to confirm Kingfisher suitability both in terms of nest banks and suitable bankside vegetation at the time of construction. • No construction activities will be permitted within the temporal construction exclusion zone (500m) around identified nest locations during the bird breeding season (March – August inclusive or until nesting is confirmed as complete following supervision by a suitably qualified Ornithologist). • During Kingfisher surveys, all crossing locations will also be surveyed to confirm the presence or absence of other aquatic/riparian species such as Dipper, Grey Wagtail.
EMP Tab 7 Best Practice Measures	BPM 20	• Badger: Surveying of identified badger setts within 50 m of either side of the construction works area boundary to determine the current status of known badger setts (i.e. active or inactive) and to determine if any new setts have been established in the period following the completion of construction. • Surveys will be undertaken annually in Operational Years 1, 2, 3, 4 and 5. • These surveys can be undertaken at any time of the year, but are most effective between November and April when vegetation cover is reduced. However, until mid-January, badgers are less active during colder weather and setts can appear less well-used (NRA, 2008).
EMP Tab 7 Best Practice Measures	BPM 21	• Other Mammals: • Monitor the construction activities to ensure that mitigation measures are strictly adhered to at all times. • Confirmatory surveys (of suitable habitat) for the presence/absence of

Schedule of Monitoring Measures		
Location in EIAR or EMP	**Measure/ Section No.**	**Description of Monitoring Measure**
		other mammals or their breeding/resting places within 50m of the construction works area will be undertaken prior to the commencement of vegetation and/or hedgerow clearance and excavations. • Confirmatory surveys to check for any new dens/dreys that may have arisen between the time of the original survey and start of works will be carried out by the Project Ecologist; • The Project Ecologist will communicate all confirmatory survey results and information to the Project Team. This information will also be issued to the Local Authority and relevant statutory consultees, as agreed at the consenting stage. • On-going survey of any dreys within 50m of works areas to monitor the breeding status of the drey, (red squirrels can move dreys during the breeding season, so a non-breeding drey could change status).
EMP Tab 7 Best Practice Measures	BPM 22	• Visual inspections will be carried out on all machinery and equipment (particularly for machinery and equipment exiting the site and which has come into contact with water or soils) for evidence of attached plant or animal material, or adherent mud or debris. Any attached or adherent material will be removed before entering or leaving the site of operation, securely stored away from traffic for removal to the waste storage area in the Temporary Compound at the end of the work day.
EMP Tab 7 Best Practice Measures	BPM 23	• Monitor the construction activities when working adjacent to amphibian breeding habitat to ensure that mitigation measures are strictly adhered to at all times. • Should construction activities be scheduled for areas proximal to previously identified habitat suitable for breeding common frog or smooth newt during the species' respective breeding seasons (frogs: January-March and newts: March-May), confirmatory surveys following standardised methodologies will be carried out at those locations to confirm the presence/absence of breeding adults and/or spawn.
EMP Tab 7 Best Practice Measures	BPM 24	• Monitor the construction activities to ensure that mitigation measures are strictly adhered to at all times. • As Viviparous lizards are widespread in Ireland and can be found in a range of habitat types such as in bog, heath, the margins of coniferous woodlands, in addition to being common in a range of grassland habitats, particularly those not subject to heavy grazing pressure, a spot-check confirmatory survey by the Project Ecologist will be required within these habitats prior to the commencement of the construction stage to confirm the presence/absence of individuals.
EMP Tab 7 Best Practice	BPM 25	• March Fritillary: Carrying out of Confirmatory Survey of suitable habitat • Monitor the construction works when working adjacent to Marsh Fritillary habitat to ensure that mitigation measures are strictly adhered

Schedule of Monitoring Measures		
Location in EIAR or EMP	**Measure/ Section No.**	**Description of Monitoring Measure**
Measures		to at all times. • Confirmatory survey of the distribution of Devil's-bit Scabious (larval food plant of Marsh Fritillary) (project design measure) • The survey will be carried out during the last available April prior to the commencement of construction in suitable habitat within 50m of the construction works area • Surveys will be completed within 12 months prior to the commencement of the construction stage, within the correct seasonal period as per Best Practice. • Survey all areas with identified Marsh Fritillary colonies within the correct seasonal period annually, in years 1, 2, 3 of operation as per Best Practice, • Surveying will monitor the status of Marsh Fritillary colonies and record any change to baseline trends as a result of the development of the UWF Related Works.
EMP Tab 7 Best Practice Measures	BPM 26	• Monitor the recruitment and training of local employees in line with Policy
EMP Tab 7 Best Practice Measures	BPM 29	• During movement of materials both on and off-site, trucks will be covered with tarpaulin at all times. Before entrance onto public roads, trucks will be adequately inspected by a visual inspection by a competent person to ensure no potential for dust emissions. If dust potential exists it will be mitigated using the appropriate measures such as wheel washing or covering of materials.
EMP Tab 7 Best Practice Measures	BPM 30	• Public Roads: Along construction materials haulage routes, confirmatory condition surveys involving pre-construction and post-construction inspections, high definition video surveys and FWD surveys will be undertaken along the routes of concentrated construction traffic between the R503 and the site entrances on the local road network. Whilst it is not expected to occur, any damage to structures or road pavements will be repaired to at least as good a condition as pre-works, and on damaged sections of roads where the Surface Curvature Index (SCI), measured during FWD testing, is greater than 250, full-width surface overlay will be carried out.
EMP Tab 7 Best Practice Measures	BPM 31	• A confirmatory survey of Electromagnetic Field emissions from locations along the Internal Windfarm Cabling will be carried out by a competent engineer. The locations along the Internal Windfarm Cabling will include the following 9 No. local road crossings in Knockmaroe/Knockcurraghbola Crownlands, Knockcurraghbola Commons and Foilnaman. • Reporting by the competent engineer of the compliance of operational EMF emission levels with the levels predicted in the 2018 EIA Report.

Schedule of Monitoring Measures		
Location in EIAR or EMP	**Measure/ Section No.**	**Description of Monitoring Measure**
EMP Tab 7 Best Practice Measures	BPM 32	• Recording and reporting of the annual renewable electricity production of the operational UWF.
EMP Tab 8 OCM's	RW-OCM-01	Pre-Construction Windfarm Monitoring Activities • Road condition monitoring surveys, the first of which will take place prior to the commencement of construction activities. • Pre-construction water quality monitoring surveys, will be carried out • Pre-construction ecological confirmatory surveys.

Question 4 – Roads and Entrances

Request for Further Information under Article 33 of the Planning and Development Regulations (as amended), as follows:

The applicant is requested to provide:

(a) a schedule and accompanying road network map of public roads by road number identifying all roads impacted by haulage operations and construction traffic associated with the development. Same shall set out the length, width and grid coordinates of the start and finish point of each section of road together with facilitation and remedial works proposed,

(b) a schedule and accompanying map of all new entrances/amendments to existing entrances together with a layout plan for each entrance demonstrating appropriate sightlines, setbacks and forward stopping distances to satisfy the County Development Plan. Pavement construction specifications and surface water measures for each entrance are to be detailed,

(c) proposals for contribution or upgrade of the junction of the R497/L2264-50/R503 to accommodate the proposed development. A proposed upgrade may require revised site boundary and public notices.

4.1 EDL Response to Tipperary County Council Request – Roads and Entrances

This Tab 4 sets out EDLs response to Tipperary County Council Request – Roads and Entrances.

4.1.1 (a) Public road network impacted by haulage operations and construction traffic

A schedule of the public roads impacted by haulage operations and construction traffic has been compiled in reply to this request. The schedule sets out the length, width, and grid coordinates of the start and finish points of each section of road, together with a summary of the road works proposed for each section of road. These road sections are identified on the accompanying maps.

Attachment 3 to EDL Response to RFI

Schedule of the Public Roads impacted by haulage operations and construction traffic and description of Haul Route Works.

Figure UWF.RW.RFI-01: Reply to RFI Site Location Map

Figure UWF.RW.RFI-02: **Public Road Network Map.**

4.1.2 (b) New entrances/Amendments to existing entrances

4.1.2.1 Temporary Site Entrances

To facilitate the construction of UWF Related Works, specifically the installation of the Internal Windfarm Cabling and the construction of the Haul Route Works for the delivery of turbine components, fourteen temporary site entrances will be required. These entrances will be used temporarily during the construction period for a short period of time. All temporary entrances, roadside boundaries, verges and roadside drainage will be reinstated to the satisfaction of Tipperary County Council following the completion of the works and following the delivery of turbine components, as relevant. It was agreed during consultation with Peter Fee, Executive Engineer Nenagh Municipal District, that flagmen may be used at these temporary entrances

instead of providing sightlines and forward stopping distances, thereby avoiding the environmental effects which would have resulted from the removal of hedgerows and earthen banks to provide temporary sightlines.

Attachment 4 to EDL Response to RFI

Figure UWF.RW.RFI-03: **Site Entrances (overview map)**

Figures UWF.RW.RFI-03: Site Entrances Maps 1 to 11 comprising a layout plan; ITM co-ordinates; photo; description of works required; width of public road at that point; drainage; duration of use; total traffic movements and 85 percentile traffic design speed for the fourteen temporary site entrances and 'one change of use' entrance (see 1.1.2.3 below).

Figures UWF.RW.RFI-04: Temporary Site Entrance Drainage Arrangements

Roads Figures in the Planning Application

Volume C3: EIAR Figures: Figure RW 5.2, Figure RW 5.4 and Figure RW 5.9 wherein the temporary entrances are identified as EW1 to EW9, and EW11 to EW15.

4.1.2.2 Already consented entrances (as part of Upperchurch Windfarm)

There are eleven other site entrances to be used to gain access to UWF Related Works, these entrances are the Upperchurch Windfarm entrances which have already been permitted under Upperchurch Windfarm planning permission Ref: 13/510003 and are identified as 'Consented UWF Site Entrance' on **Drawing Numbers UWF RW 04 to 11: Site Layout Maps 1 to 8 in Volume B: Planning Drawings** submitted with UWF Related Works planning application.

4.1.2.3 Change of Use of Existing Entrance EW10

There is a 'change of use' permit required for an existing permanent entrance off the L2264-34 at Foilnaman. This will be used as access to sow/plant and maintain replacement forestry which is required for any forestry felling that occurs during the construction works for the whole Upperchurch Windfarm project. UWF Replacement Forestry is subject of a current afforestation licence application to the Minister for Agriculture, Forestry and the Marine.

The existing entrance (E10) is an agricultural (farm) entrance leading onto a farm track. This will change use to an 'agricultural and forestry entrance' and as before, remain in permanent use. A change of use from 'agriculture' to 'agriculture and forestry' is now being sought from the local authority for EW10 as part of this UWF Related Works application.

The L2264-34 local road is a very lightly trafficked with 99.5% spare capacity. There will be no noticeable increase in traffic volumes on this road due to the extremely low traffic volumes associated with the UWF Replacement Forestry - the planting stage will generate 1-2 van/jeep vehicles movements per day over a one-month period, and as a comparative example this level of traffic is substantially less than the daily level of traffic generated by a single residential dwelling. During the growth stage, traffic will be in the region of a negligible 2 to 4 van/jeep vehicle movements per year. The UWF Replacement Forestry is a permanent native woodland and will not be harvested and therefore no harvesting traffic will occur. The change of use and necessary sightlines was discussed and agreed with Peter Fee during the pre-planning stage.

Attachment 4 to EDL Response to RFI

Figure UWF.RW.RFI-03: **Site Entrances (overview map)**

Figure UWF.RW.RFI-03: Site Entrance Map 8 of 11 comprising a layout plan including sightlines, set back, and forward stopping distances; ITM co-ordinates; photo; description of works required; width of public road at that point; drainage; duration of use; total traffic movements and 85 percentile traffic design speed at EW10.

4.1.3 (c) Junction of the R497/L2264-50/R503

The Haul Route Works, which are included in the UWF Related Works, will facilitate the delivery of large turbine components. There are no Haul Route Works proposed or required at the junction of the R497/L2264-50/R503.

To clarify, the delivery of turbine components coming from the Thurles direction, will pass off the R497/L2264-50/R503 junction, and will continue down the regional road and turn in the area known locally as 'the Christmas Tree yard' (HW7). The delivery can then approach the R497/L2264-50/R503 junction from the south/Newport side and make the turn onto the L2264-50 without requiring modifications to the junction, save some hedge trimming and road sign removal and replacement.

EDL confirm that no works are required at the junction of the R497/L2264-50/R503 to accommodate the proposed development – UWF Related Works, or indeed to accommodate the already permitted Upperchurch Windfarm

Attachment 5 to EDL Response to RFI

Figure OA2 Map 8 of 8 from Appendix A5.6 to Chapter 5: Description of Development, where UWF Other Activities are described, is reproduced here. This Figure shows the vegetation trimming and temporary traffic sign removal required at this junction (**HA23 on Figure OA2**).

UWF Related Works RFI Attachment 3

- Schedule of Public Roads impacted by haulage operations and construction traffic and description of Haul Route Works
- Figure UWF.RW.RFI-01: Reply to RFI Site Location Map
- Figure UWF.RW.RFI-02: Public Road Network Map.

Schedule of the Public Roads impacted by haulage operations and construction traffic								
Local Road No.	**Figure UWF.RW.RFI-02 Start/Finish Ref.**	**Figure UWF.RW.RFI-02 Works Location Ref.***	**Works Section Start Co-Ordinate - ITM**	**Works Section End Co-Ordinate - ITM**	**Remedial Works Proposed (full description on next page)**	**Road Width - m**	**Works Length - m**	**Works Width (Widening) - m**
L-4139-0	A to B	HW1	595755,660208	595760,660342	Widening by 0.5m into both verges	3.5	120	1.0
L-4139-0	A to B	HW2 / HW3/ HW4	595839,660476	595780,661016	Widening by 1.5m eastern side/1.5m western side/1.5m western side	3	620	1.5
L-4139-0	A to B	WW12	595912,660711		Concrete culvert	3		1.5
L-4138-12	B to C	HW6	595747,661175	595933,661253	Widening by 0.5m into both verges	3.5	170	1.0
L-2264-50	F to G	HW8	592924,659752	592941,659807	Widening by 13m on eastern side	5	40	13
L-2264-50	F to G	HW8	592941,659807	593006,659930	Widening by 1.5m on eastern side	5	190	1.5
L-2264-50	F to G	HW9	593485,660103	593508,660138	Widening by 1.5m on northern side	5	40	1.5
L-2264-50	F to G	HW10	593539,660185	593573,660209	Widening by 0.5m on northern side	5	40	0.5
L-6188-0	B to D	HW12	594094,660706	594282,660796	Widening by 0.5m into both verges	3.5	280	1.0
L-6188-0	B to D	WW31	594277,660793		Concrete culvert	3.5		1.0
L-6185-13	J to K	HW13	593142,661686	593365,661700	Widening by 1.5m on southern side	3	210	1.5
*HW - Haul Route Works								
WW Watercourse Crossing								

See **Figure UWF.RW.RFI-01**: **Public Road Network Map** (at the end of this schedule)

Description of Haul Route Works

Table 5-1 from Chapter 5: Description of Development of the EIA Report

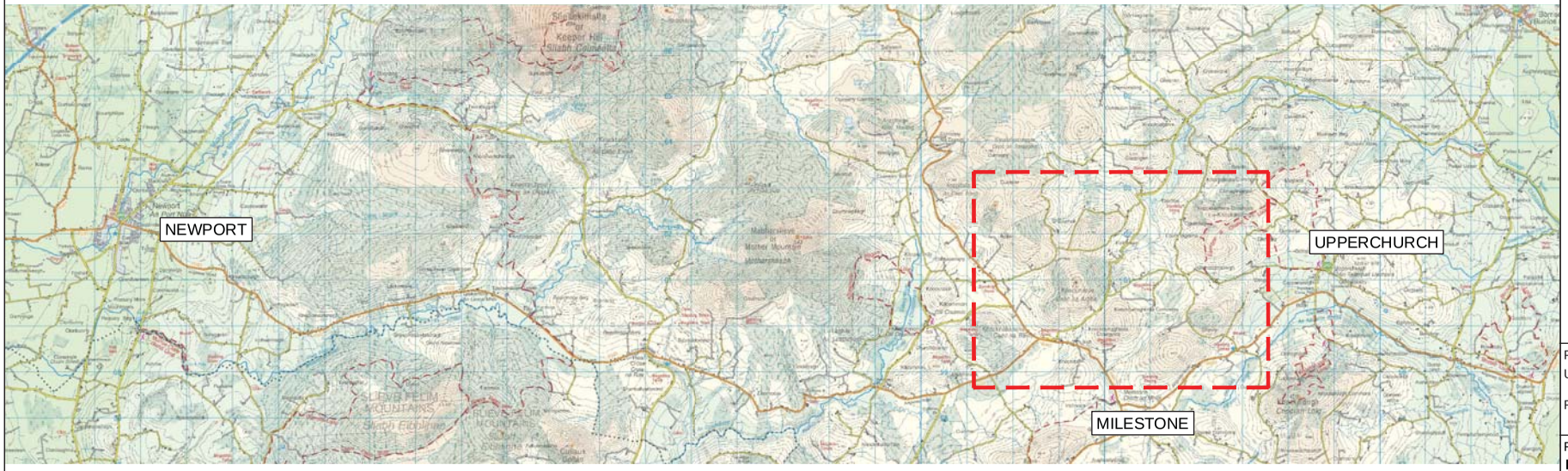
Haul Route Works ID	Description of the Haul Route Works
HW1	Widening of the L4139-0 by 0.5m into both verges for a length of c.120m. Temporary removal of 130m of roadside boundary.
HW2	Widening of the L4139-0 by 1.5m on the eastern side, for a length of c.280m, by moving the roadside drain and roadside boundary (earthen bank) onto agricultural grassland. Temporary removal of 150m of roadside boundary. As a result the existing concrete culvert at watercourse WW12 will be widened by 1m, with minimal interference to the existing structure.
HW3	Widening of bend along the L4139-0 by 1.5m on western side and 3.5m on eastern side in agricultural grasslands for a length of c.70m. Temporary removal of 100m of roadside boundary.
HW4	Widening of the L4139-0 by 1.5m on the eastern side, for a length of c.270m, by moving the roadside drain and earthen bank onto agricultural grassland. Temporary removal of 130m of roadside boundary.
HW5	Construction of 170m of new temporary site access road on agricultural lands between the L4139-0 and the L4138-12. Temporary removal of 40m of roadside boundary.
HW6	Widening of the L4138-12 by 0.5m into both verges for a length of c.170m. Temporary removal of 45m of roadside boundary.
HW7	Widening of Coillte entrance on the R503 by 30m, construction of 40m of new temporary site access road on forestry lands and the use of an existing hardcored yard for turning manoeuvres. Temporary removal of 70m of roadside boundary. Clearance of scrub and use of matting where required.
HW8	Widening of the L2264-50 on the eastern side by 13m for the initial 40m and then by 1.5m for the next 190m, by moving the roadside boundary (earthen bank) onto agricultural grassland. Temporary removal of 180m of roadside boundary.
HW9	Widening of the L2264-50 by 1.5m on the northern side, for a length of c.40m, by moving the roadside boundary (earthen bank) onto agricultural grassland. Temporary removal of 10m of roadside boundary.
HW10	Widening of the L2264-50 by 0.5m on the northern side, for a length of c.40m, by widening into the roadside verge.
HW11	80m of new temporary site access road on agricultural lands between the L2264-50 and the L6188-0. Temporary removal of 20m of roadside boundary.
HW12	Widening of the L6188-0 by 0.5m into both verges for a length of c.280m. Temporary removal of 160m of roadside boundary. As a result the existing concrete culvert at watercourse WW31 will be widened by 1m, with minimal interference to the existing structure.
HW13	Widening of the L6185-13 by 1.5m on the southern side, for a length of c.210m, by widening into the roadside verge. Permanent removal of 25m of roadside boundary. The public road pavement over watercourse crossing WW32 will be widened, by 1m, into the roadside verge with minimal interference to the existing structure.

In summary, the above Haul Route Works include

- widening of roadside verges for 1710m in total;
- temporary removal and reinstatement of 1035m of hedgerow and earthen banks which form roadside boundaries;
- permanent removal of 25m of roadside boundary and
- the construction of 290m temporary access roads on private lands.

All road works will be subject to a Road Opening Licence application to Tipperary County Council and will be carried out in accordance with the Tii Guidelines on the Opening, Backfilling and Reinstatement of Openings in Public Roads. The extensions to the existing structures at HW2 and HW12 will be carried out in accordance with the OPW guidelines Construction, Replacement or Alteration of Bridges and Culverts (2013). The detailed design will be agreed with the Tipperary County Council District Engineer prior to these extension works.

Following the delivery of turbine components to Upperchurch Windfarm, the Haul Route Works areas will be reinstated and roadside boundaries will be put back along their original alignment.



Legend:

Project:
UWF Related Works

Request for Further Information 18/600913

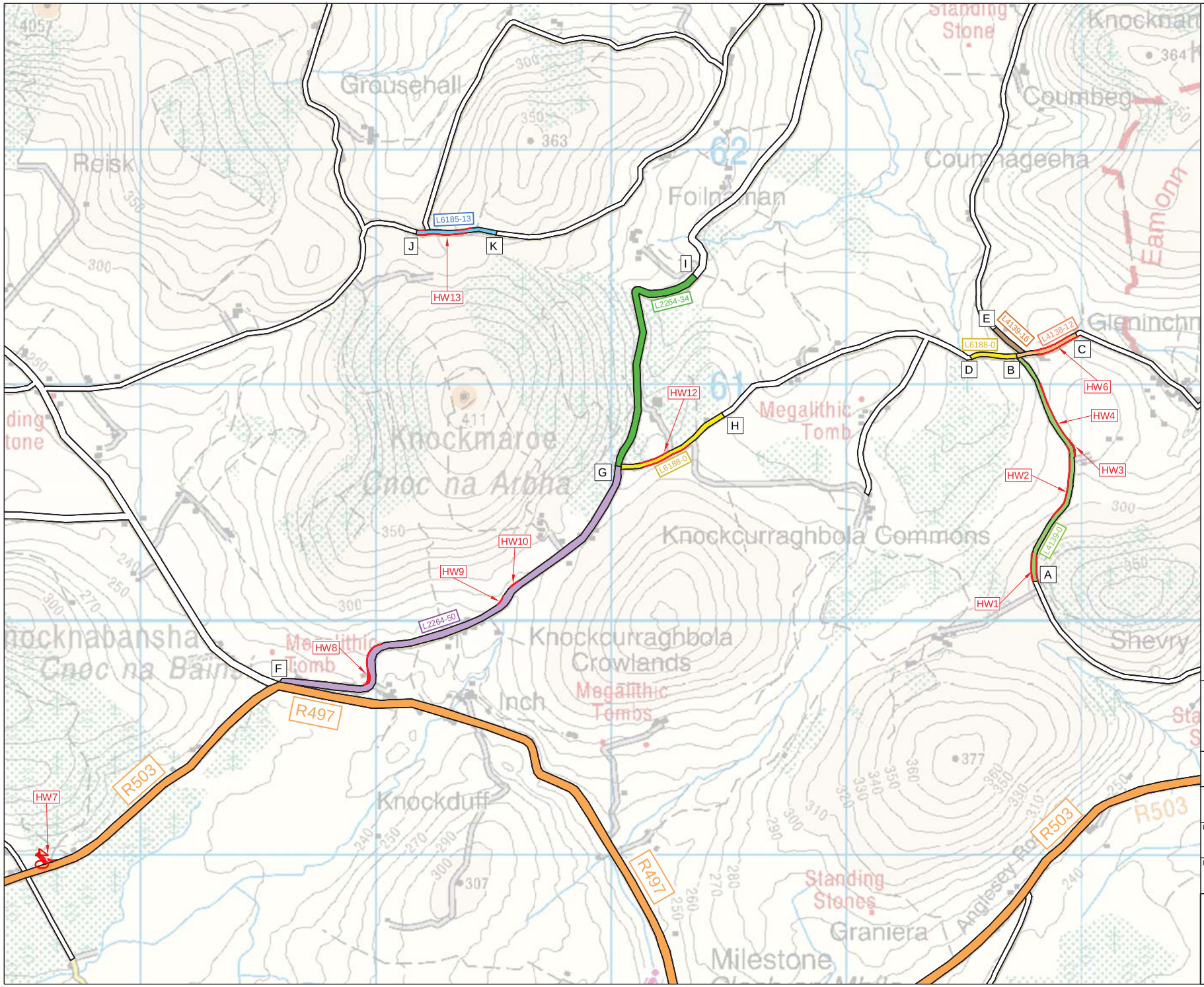
Figure Number:
Figure UWF.RW.RFI-01

Title:
Reply to RFI Site Location Map

Drawn by:	Checked by:
CB	PK
Date:	Scale & Sheet Size:
2-Nov-18	1 : 100000 @ A3

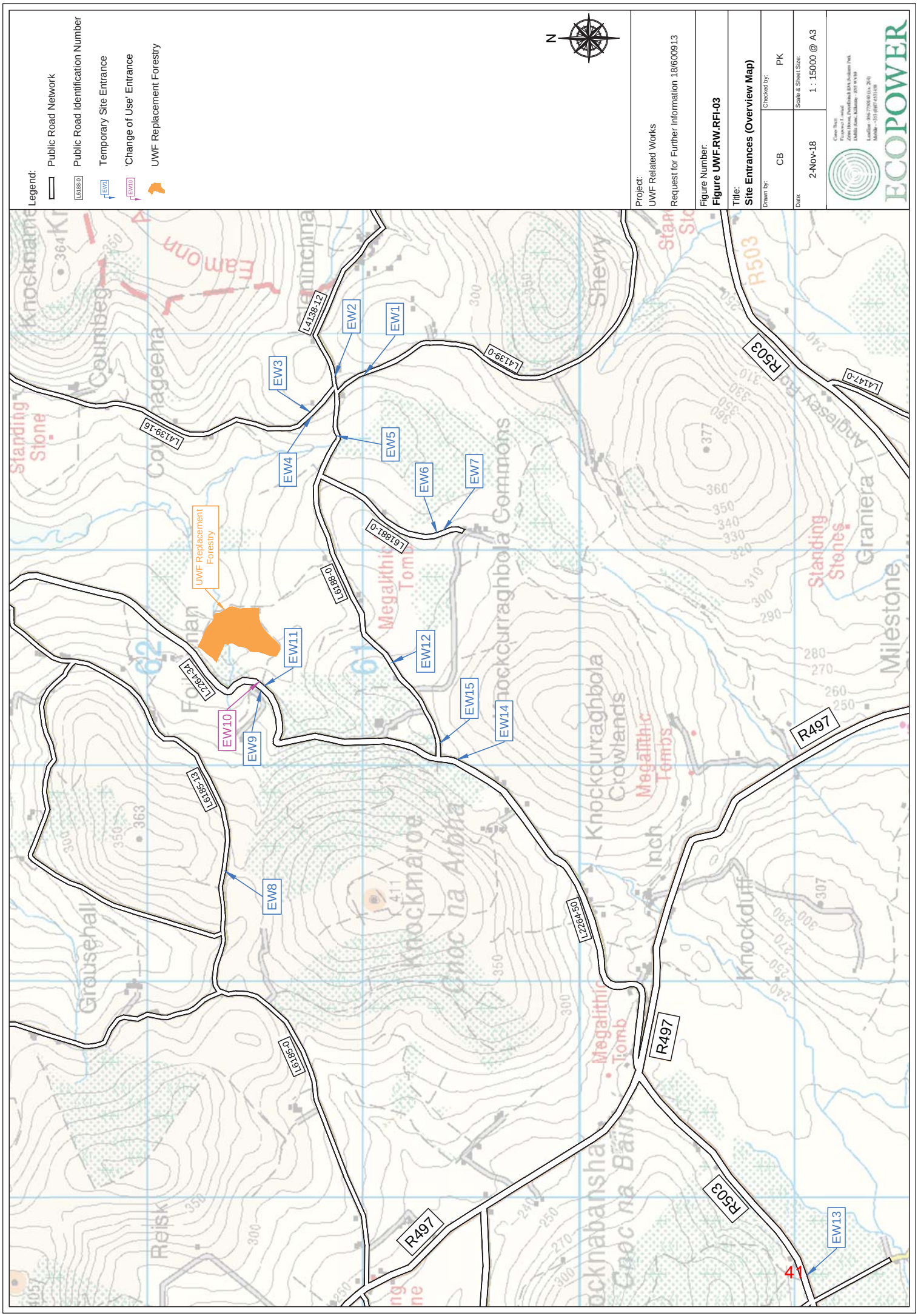
ECOPOWER

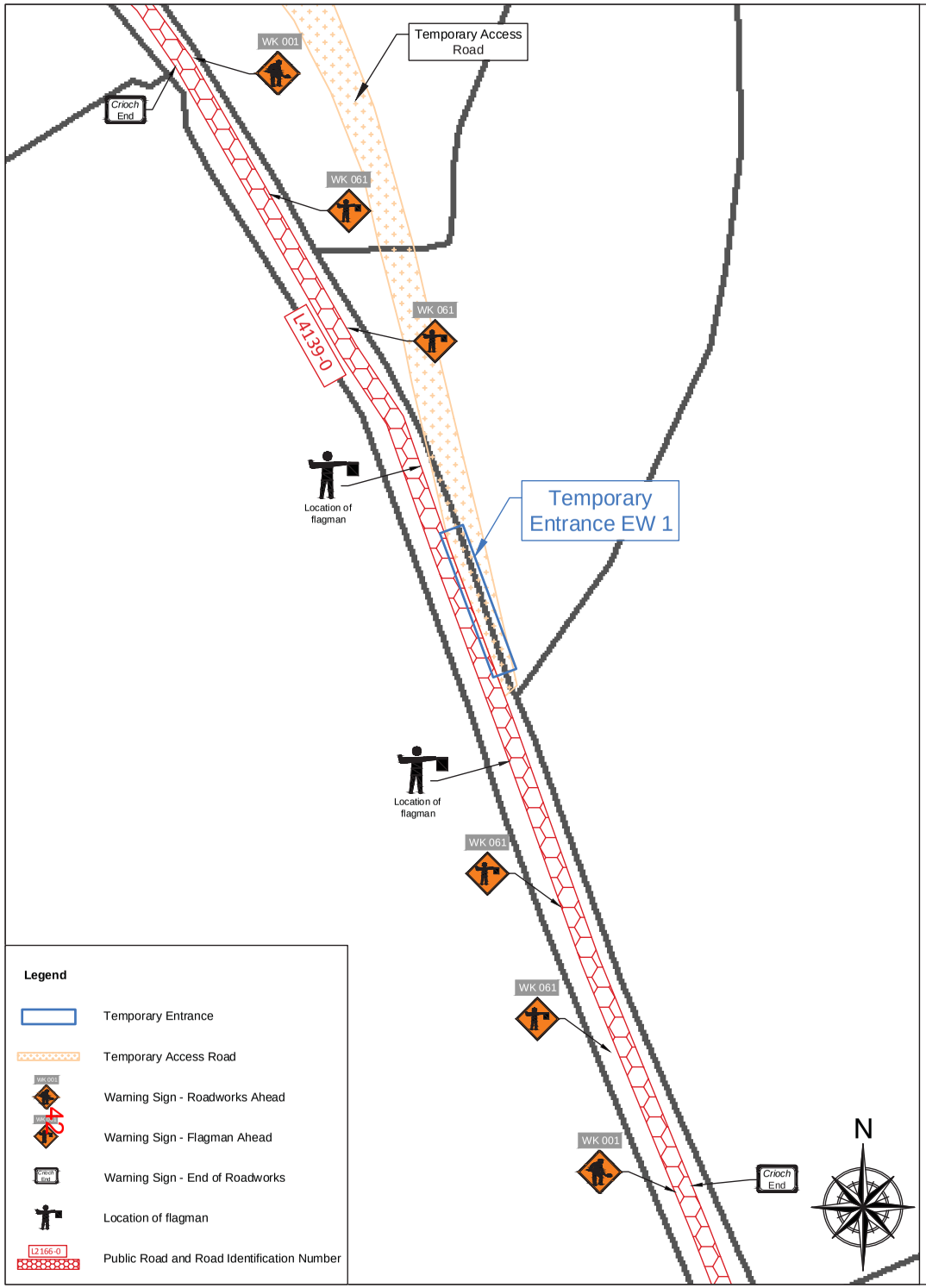
Appendix 1.6


Legend:
Haul Route Works
HW1
Haul Route Works Identification Number
Local Road L4139-0 (A-B)
Local Road L4138-12 (B-C)
Local Road L61880-0 (B-D) (G-H)
Local Road L4139-16 (B-E)
Local Road L2264-50 (F-G)
Local Road L2264-34 (G-I)
Local Road L6185-13 (J-K)
Regional Road
Public Roads not impacted by haulage operations and construction traffic
L6185-13
L2264-34
L4139-16
L4138-12
L6188-0
L2264-50
L4139-0
HW1
HW2
HW3
HW4
HW6
HW7
HW8
HW9
HW10
HW12
HW13
A
B
C
D
E
F
G
H
I
J
K
R497
R503
Grousehall
Reisk
Foilnamuan
Coumbeg
Coumnageeha
Knockmarore
Cnoc na Arbha
Knockcurraghbola Commons
Knockcurraghbola Crowlands
Megalithic Tomb
Megalithic Tombs
Knockduff
Standing Stone
Standing Stones
Graniera
Milestone
Shevry
Glenanchr
Eamona
Anglesey Rd
Project:
UWF Related Works
Request for Further Information 18/600913
Figure Number:
Figure UWF.RW.RFI-02
Title:
Public Road Network
Drawn by:
CB
Checked by:
PK
Date:
2-Nov-18
Scale & Sheet Size:
1 : 15000 @ A3
ECOPOWER

Appendix 1.6

Appendix 1.6


Legend:
Public Road Network
Public Road Identification Number
Temporary Site Entrance
'Change of Use' Entrance
UWF Replacement Forestry
N
Project:
UWF Related Works
Request for Further Information 18/600913
Figure Number:
Figure UWF.RW.RFI-03
Title:
Site Entrances (Overview Map)
Drawn by:
CB
Checked by:
PK
Date:
2-Nov-18
Scale & Sheet Size:
1 : 15000 @ A3
ECOPOWER
EW1
EW2
EW3
EW4
EW5
EW6
EW7
EW8
EW9
EW10
EW11
EW12
EW13
EW14
EW15
UWF Replacement Forestry
L4138-12
L4139-0
L4139-16
L4147-0
L6188-0
L6188-1
L6188-2
L6185-13
L2264-34
L2264-50
R503
R497
Standing Stone
Megalithic Tomb
Standing Stones
Milestone
Knockcurraghbola Commons
Knockcurraghbola Crowlands
Knockmarore
Cnoc na Árdna
Knockduff
Inch
Granieragh
Shevry
Coumbeg
Coumhageena
Reisk
Grousehall
Foilnahan
41



Temporary Entrance EW 1

Temporary Entrance EW 1

ITM Coordinate E 595779, N 661017

Description of works required:

- Temporary Entrance EW 1 to be used for the haulage of turbine components. EW 1 is part of Haul Route Works HW 5. EW 1 will be located on the eastern side of the L4139-0 public road. 30m of earthen bank will be removed.
- The turbine components for the Upperchurch Windfarm turbines T9 to T16 will be delivered through EW 1. Temporary post and rail fencing with gates will be erected at EW 1 until immediately prior to turbine component delivery, at which stage the fencing will be removed. Once all turbine components for T9 to T16 have been delivered EW 1 will be closed by reinstating the earthen bank along the existing alignment.Turbine component loads will be escorted by An Garda Siochana.

Width of L4139-0 at EW 1: 3.1 meters.

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

Duration of use and number of delivery vehicles using this entrance: intermittently over 6 to 8 weeks with c.64 component delivery loads in total.

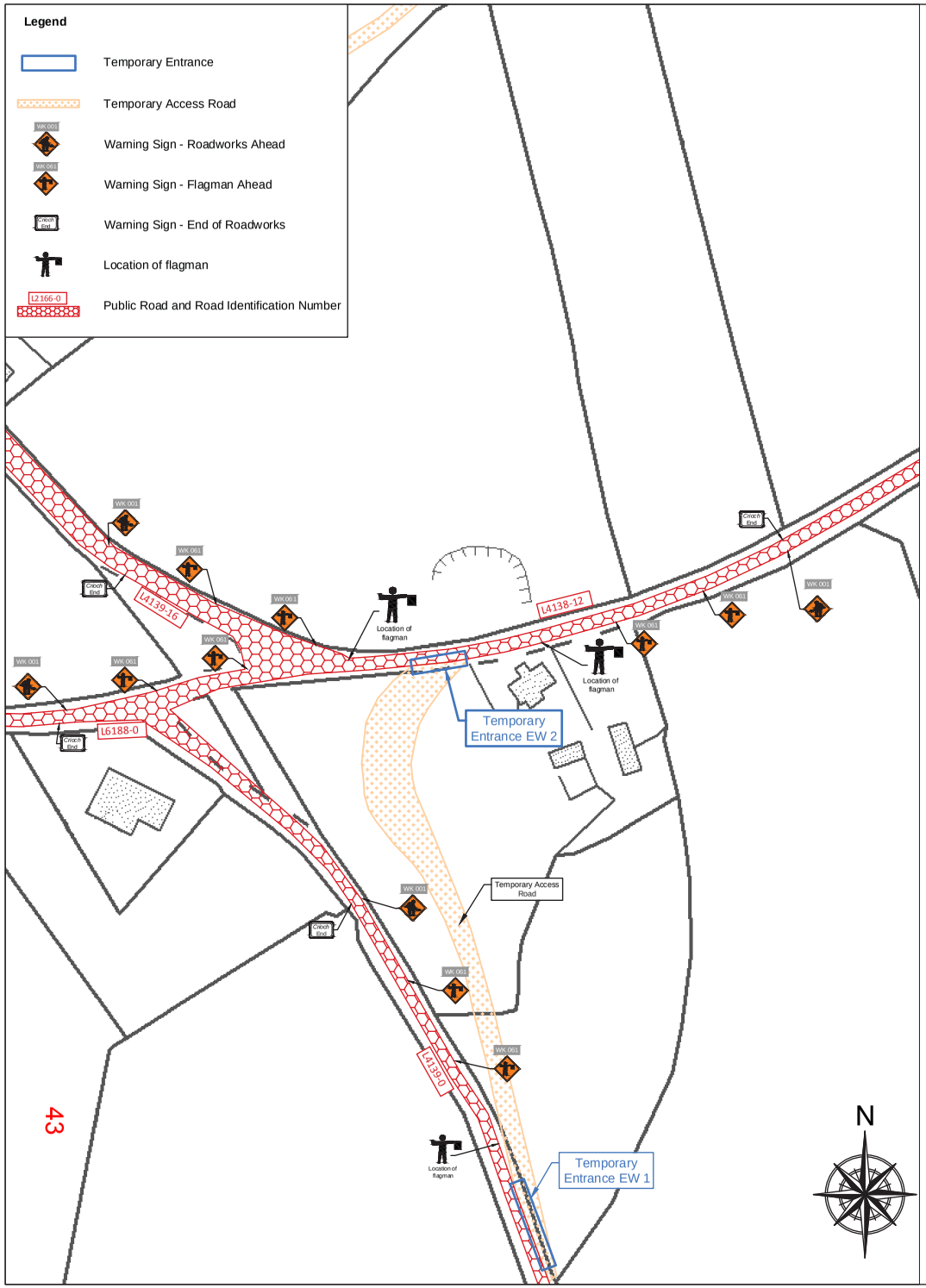
Total traffic (local traffic & construction traffic) movements along the L4139-0 during construction period: 66 vehicles per day.

85 Percentile Traffic Design Speed of the L4139-0: 49 km/hr

All signage designed in accordance with the Department of Transport Traffic Signs Manual Table 8.3.2 for single carriageway up to 60km/h

Figure UWF.RW.RFI-03 **Temporary Site Entrance EW 1**		Project: UWF Related Works Request for Further Information 18/600913				
Map Number: Map 1 of 11	Map Scale: 1 : 750	Drawn by: CB	Checked by: PK	Date: 2-Nov-18	Sheet Size: A3	ECOPOWER

Appendix 1.6



Temporary Entrance EW 2

Temporary Entrance EW 2

ITM Coordinate E 595753, N 661174

Description of works required:

- Temporary Entrance EW 2 to be used for the haulage of turbine components. EW 2 is part of Haul Route Works HW 5. EW 2 will be located on the southern side of the L4138-12 public road. 10m of concrete block wall will be removed.
- The turbine components for the Upperchurch Windfarm turbines T9 to T16 will be delivered through EW2. Temporary post and rail fencing with gates will be erected at EW 2 until immediately prior to turbine component delivery, at which stage the fencing will be removed. Once all turbine components for T9 to T16 have been delivered EW 2 will be closed by reinstating the concrete block wall along the existing alignment.Turbine component loads will be escorted by An Garda Siochana.

Width of L4138-12 at EW 2: 3.2 meters.

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

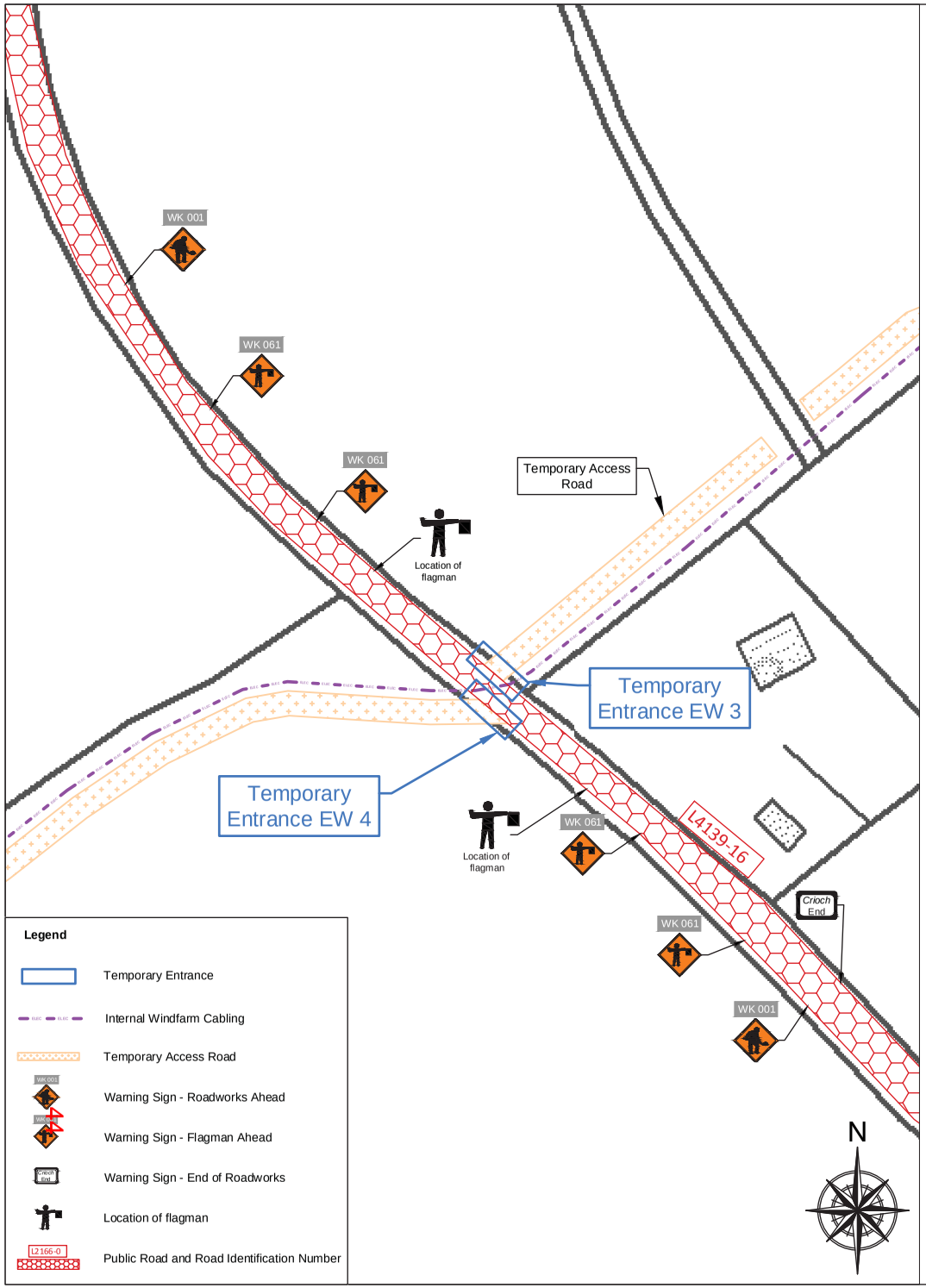
Duration of use and number of delivery vehicles using this entrance: intermittently over 6 to 8 weeks with c.64 component delivery loads in total.

Total traffic (local traffic & construction traffic) movements along the L4138-12 during construction period: 129 vehicles per day.

85 Percentile Traffic Design Speed of the L4138-12: 58 km/hr

All signage designed in accordance with the Department of Transport Traffic Signs Manual Table 8.3.2 for single carriageway up to 60km/h

Figure UWF.RW.RFI-03 **Temporary Site Entrance EW 2**		Project: UWF Related Works Request for Further Information 18/600913				
Map Number: Map 2 of 11	Map Scale: 1 : 1250	Drawn by: CB	Checked by: PK	Date: 2-Nov-18	Sheet Size: A3	ECOPOWER



Temporary Entrance EW 3

Temporary Entrance EW 3

ITM Coordinate E 595586, N 661278

Description of works required:

- Temporary Entrance EW 3 to provide access to the works area of 430 meters of Internal Windfarm cable route. EW 3 will be located on the northern side of the L4139-16 public road. 6 meters of hedgerow will be removed. Hedgerow will be replanted immediately after works are complete.

Width of L4139-16: 3.2 meters

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

Duration of use and number of construction vehicles using this entrance: 8 days - 4 to 6 vehicles per day

Total traffic (local traffic & construction traffic) movements along the L4139-16 during the windfarm construction period: 46 per day

85 Percentile Traffic Design Speed of the L4139-0: 50 km/hr

Temporary Entrance EW 4

Temporary Entrance EW 4

ITM Coordinate E 595585, N 661272

Description of works required:

- Temporary Entrance EW 4 tto provide access to the works area of 170 meters of Internal Windfarm cable route. EW 4 will be located on the eastern side of the L4139-16 public road. 6 meters of hedgerow will be removed. Hedgerow will be replanted immediately after works are complete.

Width of L4139-16: 3.2 meters

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

Duration of use and number of construction vehicles using this entrance: 3 days - 4 to 6 vehicles per day

Total traffic (local traffic & construction traffic) movements along the L4139-16 during the windfarm construction period: 46 per day

85 Percentile Traffic Design Speed of the L4139-16: 50 km/hr

All signage designed in accordance with the Department of Transport Traffic Signs Manual Table 8.3.2 for single carriageway up to 60km/h

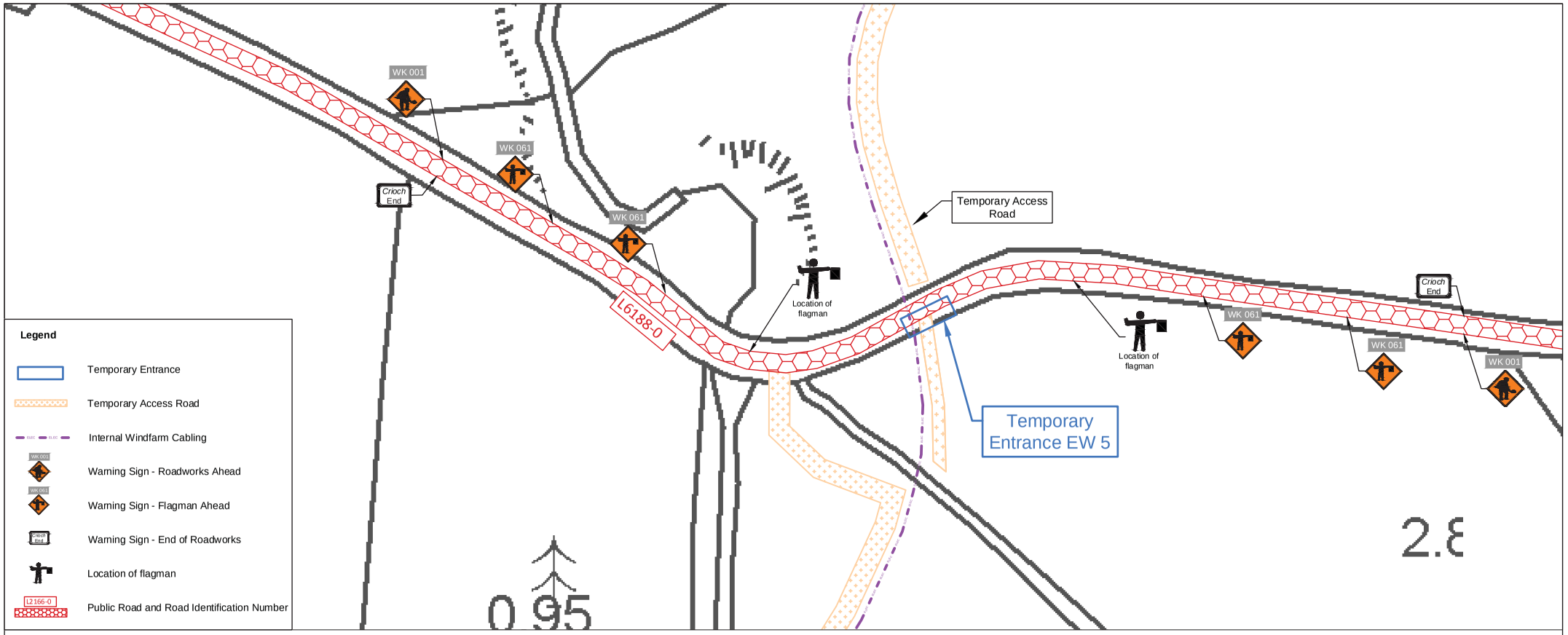
Figure UWF.RW.RFI-03
Temporary Site Entrances EW 3 and EW 4

Project:
UWF Related Works
Request for Further Information 18/600913

Map Number:	Map Scale:	Drawn by:	Checked by:	Date:	Sheet Size:
Map 3 of 11	1 : 750	CB	PK	2-Nov-18	A3

ECOPOWER

Appendix 1.6



Temporary Entrance EW 5

Temporary Entrance EW 5

ITM Coordinate E 595497, N 661164

Description of works required:

- Temporary Entrance EW 5 to provide access to the works area of 100 meters of Internal Windfarm cable route. EW 5 will be located on the eastern side of the L6188-0 public road. 6 meters of post and wire fence will be removed. Fencing will be reinstated immediately after works are complete.

Width of L6188-0: 3 meters

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

Duration of use and number of construction vehicles using this entrance: 3 days - 4 to 6 vehicles per day

Total traffic (local traffic & construction traffic) movements along the L6188-0 during the windfarm construction period: 127 per day

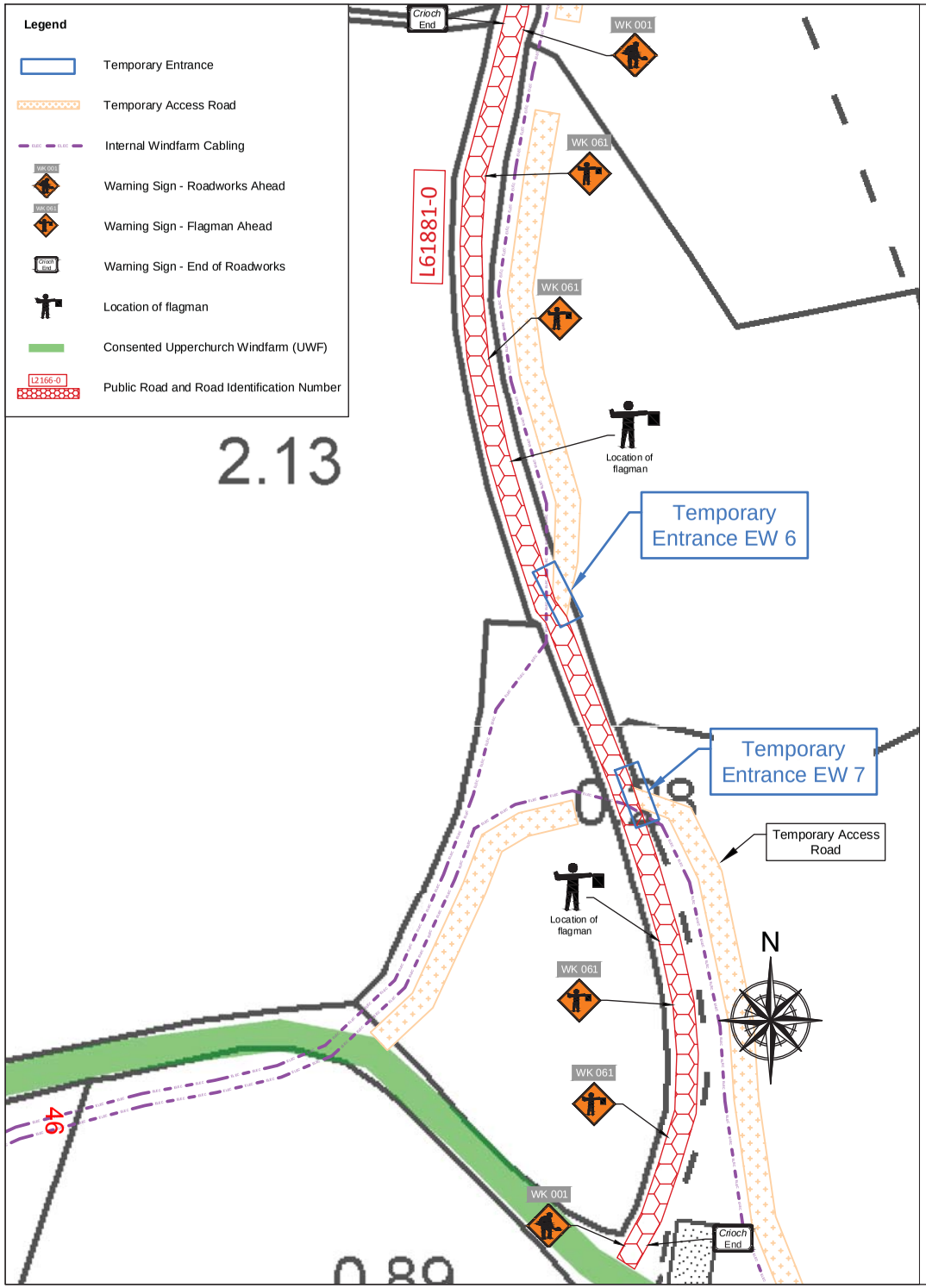
85 Percentile Traffic Design Speed of the L6188-0: 49 km/hr

N

All signage designed in accordance with the Department of Transport Traffic Signs Manual Table 8.3.2 for single carriageway up to 60km/h

Figure UWF.RW.RFI-03 Temporary Site Entrance EW 5		Project: UWF Related Works Request for Further Information 18/600913			
Map Number: Map 4 of 11	Map Scale: 1 : 750	Drawn by: CB	Checked by: PK	Date: 2-Nov-18	Sheet Size: A3

ECOPOWER



Temporary Entrance EW 6

Temporary Entrance EW 6

ITM Coordinate E 595023, N 660689

Description of works required:

- Temporary Entrance EW 6 to be used to construct 750 meters of Internal Windfarm cable route. EW 6 will be located on the eastern side of the L61881-0 public road. 6 meters of earthen bank will be removed. Earthen bank will be reinstated and re-seeded immediately after works are complete.

Width of L61881-0: 2.7 meters

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

Duration of use and number of construction vehicles using this entrance: 8 days - 4 to 6 vehicles per day

Total traffic (local traffic & construction traffic) movements along the L61881-0 during the windfarm construction period: 20 per day

85 Percentile Traffic Design Speed of the L61881-0: 48 km/hr

Temporary Entrance EW 7

Temporary Entrance EW 7

ITM Coordinate E 595037, N 660656

Description of works required:

- Temporary Entrance EW 7 to provide access to the works area of 650 meters of Internal Windfarm cable route. EW 7 will be located on the eastern side of the L61881-0 public road. 6 meters of post and wire fence will be removed. Fencing will be reinstated immediately after works are complete.

Width of L61881-0: 2.7 meters

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

Duration of use and number of construction vehicles using this entrance: 8 days - 4 to 6 vehicles per day

Total traffic (local traffic & construction traffic) movements along the L61881-0 during the windfarm construction period: 20 per day

85 Percentile Traffic Design Speed of the L61881-0: 48 km/hr

All signage designed in accordance with the Department of Transport Traffic Signs Manual Table 8.3.2 for single carriageway up to 60km/h

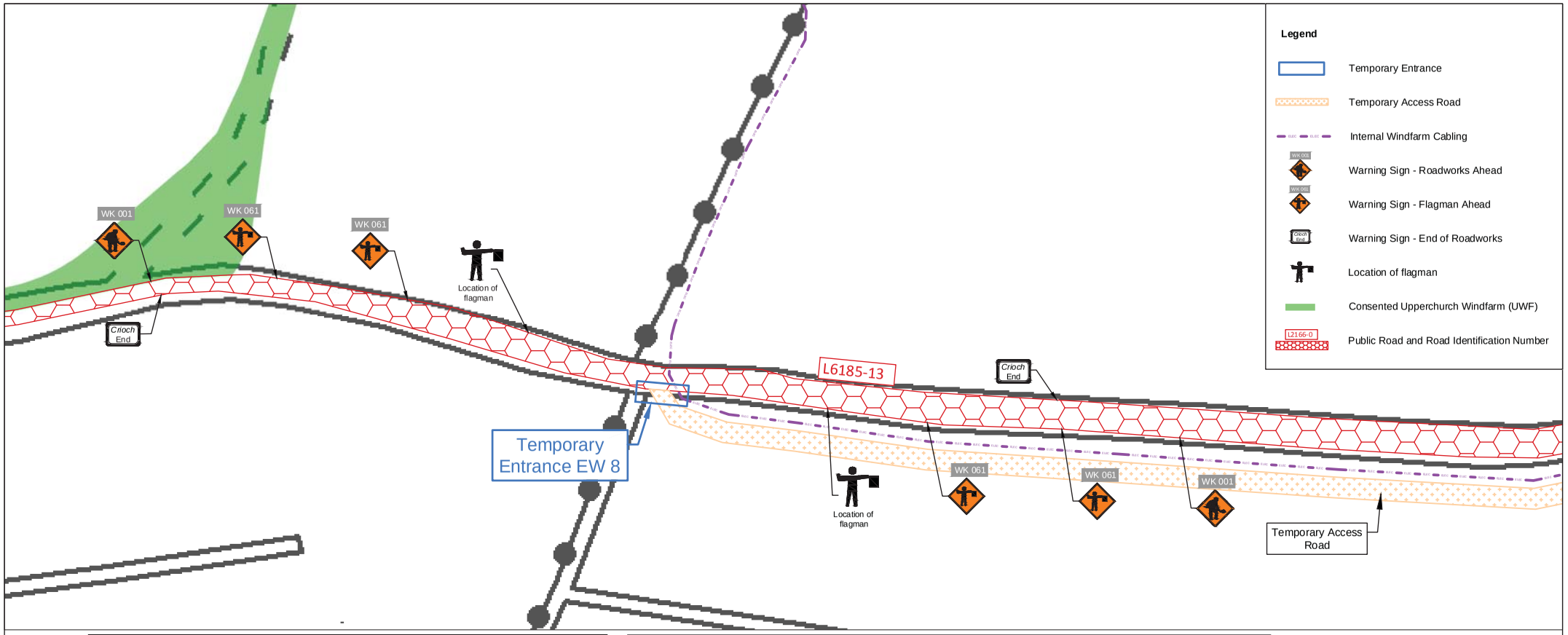
Figure UWF.RW.RFI-03
Temporary Site Entrances EW 6 and EW 7

Project:
UWF Related Works
Request for Further Information 18/600913

Map Number:	Map Scale:	Drawn by:	Checked by:	Date:	Sheet Size:
Map 5 of 11	1 : 750	CB	PK	2-Nov-18	A3

ECOPOWER

Appendix 1.6



Temporary Entrance EW 8

Temporary Entrance EW 8

ITM Coordinate E 593470, N 661681

Description of works required:

- Temporary Entrance EW 8 to provide access to the works area of 750 meters of Internal Windfarm cable route. EW 8 will be located on the eastern side of the L6185-13 public road. 6 meters of earthen bank will be removed. Earthen bank will be reinstated immediately after works are complete.

Width of L6185-13: 4 meters

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

Duration of use and number of construction vehicles using this entrance: 8 days - 4 to 6 vehicles per day

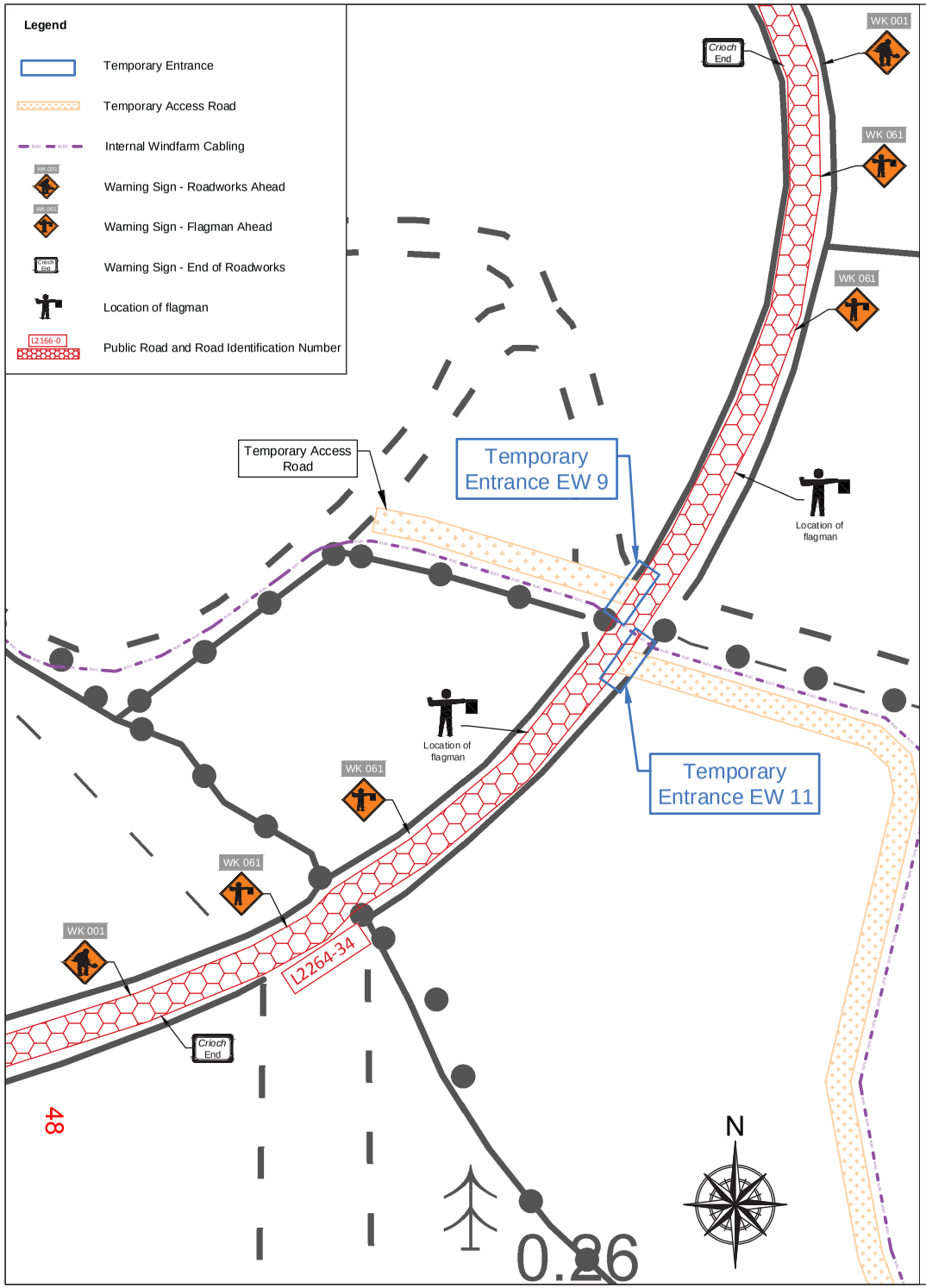
Total traffic (local traffic & construction traffic) movements along the L6185-13 during the windfarm construction period: 38 per day

85 Percentile Traffic Design Speed of the L6185-13: 46 km/hr

N

All signage designed in accordance with the Department of Transport Traffic Signs Manual Table 8.3.2 for single carriageway up to 60km/h

Figure UWF.RW.RFI-03 Temporary Site Entrance EW 8		Project: UWF Related Works Request for Further Information 18/600913				
Map Number: Map 6 of 11	Map Scale: 1 : 750	Drawn by: CB	Checked by: PK	Date: 2-Nov-18	Sheet Size: A3	ECOPOWER



Temporary Entrance EW 9

Temporary Entrance EW 9

ITM Coordinate E 594316, N 661517

Description of works required:

- Temporary entrance EW 9 is an existing entrance that will be used to provide access to the works area of 150 meters of Internal Windfarm cable route.No widening of entrance required. EW 9 is located on the western side of the L2264-34 public road.

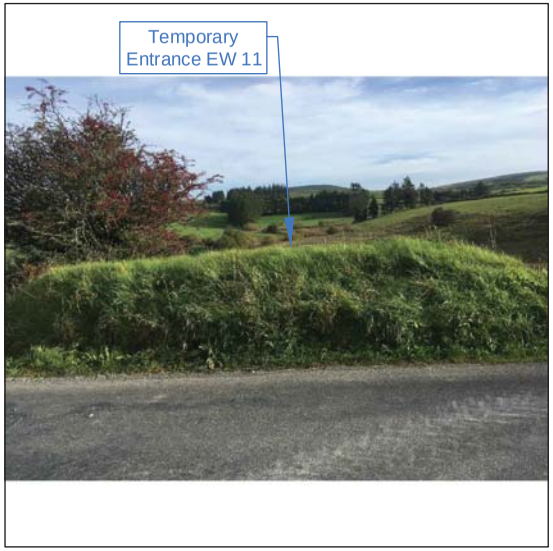
Width of L2264-34: 4 meters

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

Duration of use and number of construction vehicles using this entrance: 3 days - 4 to 6 vehicles per day

Total traffic (local traffic & construction traffic) movements along the L2264-34 during the windfarm construction period: 154 per day

85 Percentile Traffic Design Speed of the L2264-34: 53 km/hr



Temporary Entrance EW 11

Temporary Entrance EW 11

ITM Coordinate E 594315, N 661506

Description of works required:

- Temporary Entrance EW 11 to provide access to the works area of 150 meters of Internal Windfarm cable route. EW 11 will be located on the eastern side of the L2264-34 public road. 6 meters of earthen bank will be removed. Earthen Bank will be reinstated and re-seeded immediately after works are complete.

Width of L2264-34: 4 meters

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

Duration of use and number of construction vehicles using this entrance: 3 days - 4 to 6 vehicles per day

Total traffic (local traffic & construction traffic) movements along the L2264-30 during the windfarm construction period: 154 per day

85 Percentile Traffic Design Speed of the L2264-30: 53 km/hr

All signage designed in accordance with the Department of Transport Traffic Signs Manual Table 8.3.2 for single carriageway up to 60km/h

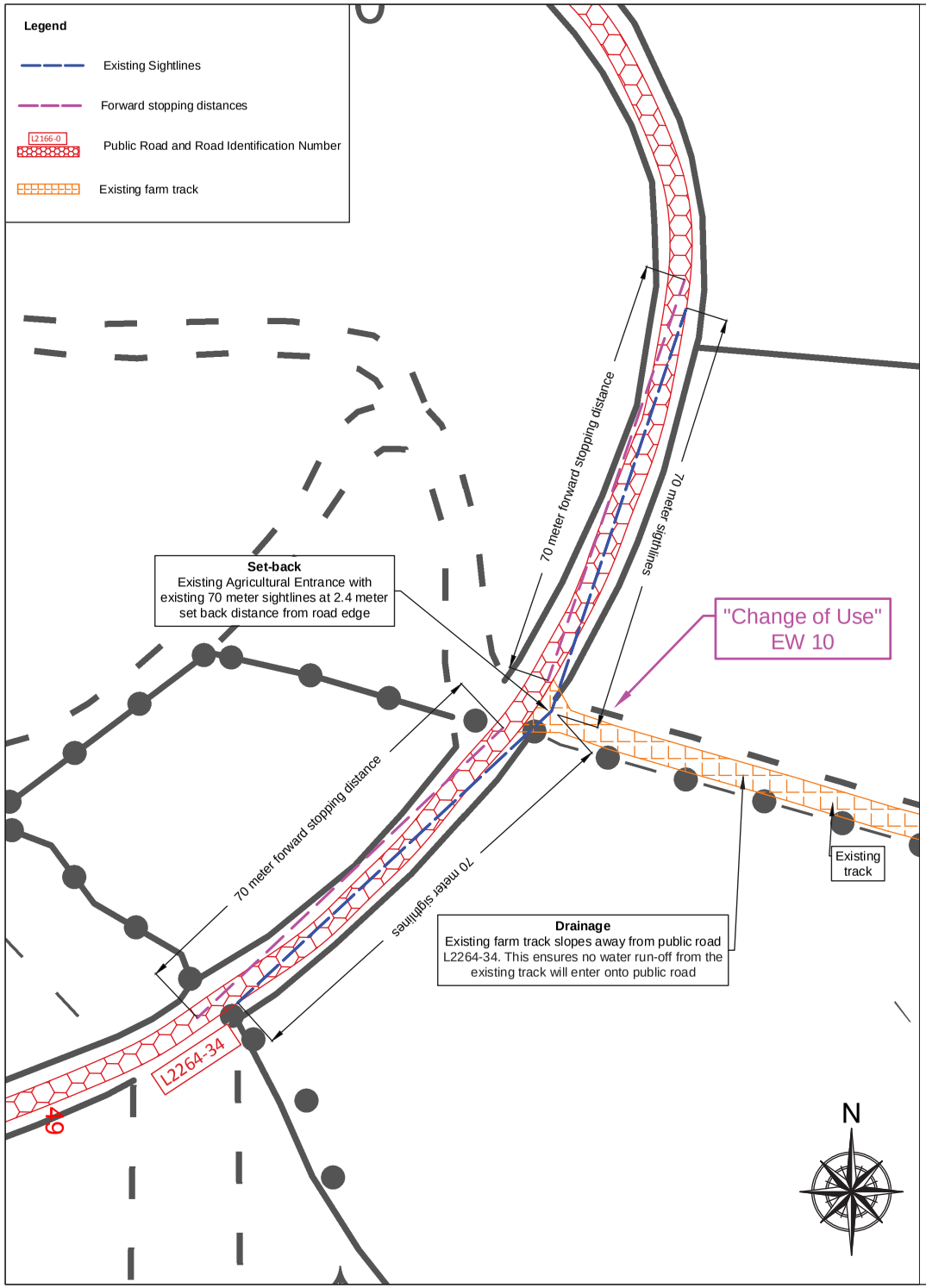
Figure UWF.RW.RFI-03
Temporary Site Entrances EW 9 and EW 11

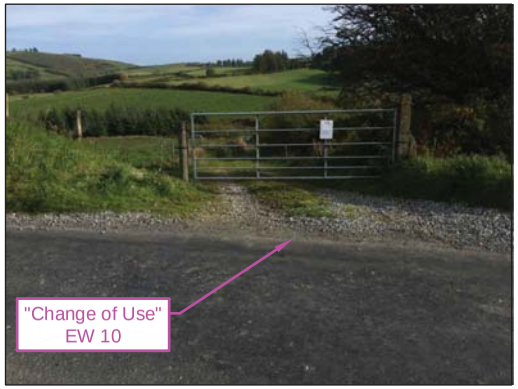
Project:
UWF Related Works
Request for Further Information 18/600913

Map Number:	Map Scale:	Drawn by:	Checked by:	Date:	Sheet Size:
Map 7 of 11	1 : 750	CB	PK	2-Nov-18	A3

ECOPOWER

Appendix 1.6





Change of Use Entrance EW 10

Change of USe Entrance EW 10

ITM Coordinate E 594323, N 659001

Description of works required: No Works required. There is a minimum of 70 meters of sightlines at 2.4 meters set back in both directions at this entrance.

Width of L2264-34 at EW 10: 4 meters.

Drainage: Existing farm track slopes away from public road L2264-34. This ensures no water run-off from the existing track will enter onto public road

Duration of use: UWF Replacement Forestry - the planting stage will generate 1-2 vehicles movements per day over a one-month period. During the growth stage, traffic will be in the region of a negligible 2 to 4 vehicle movements per year

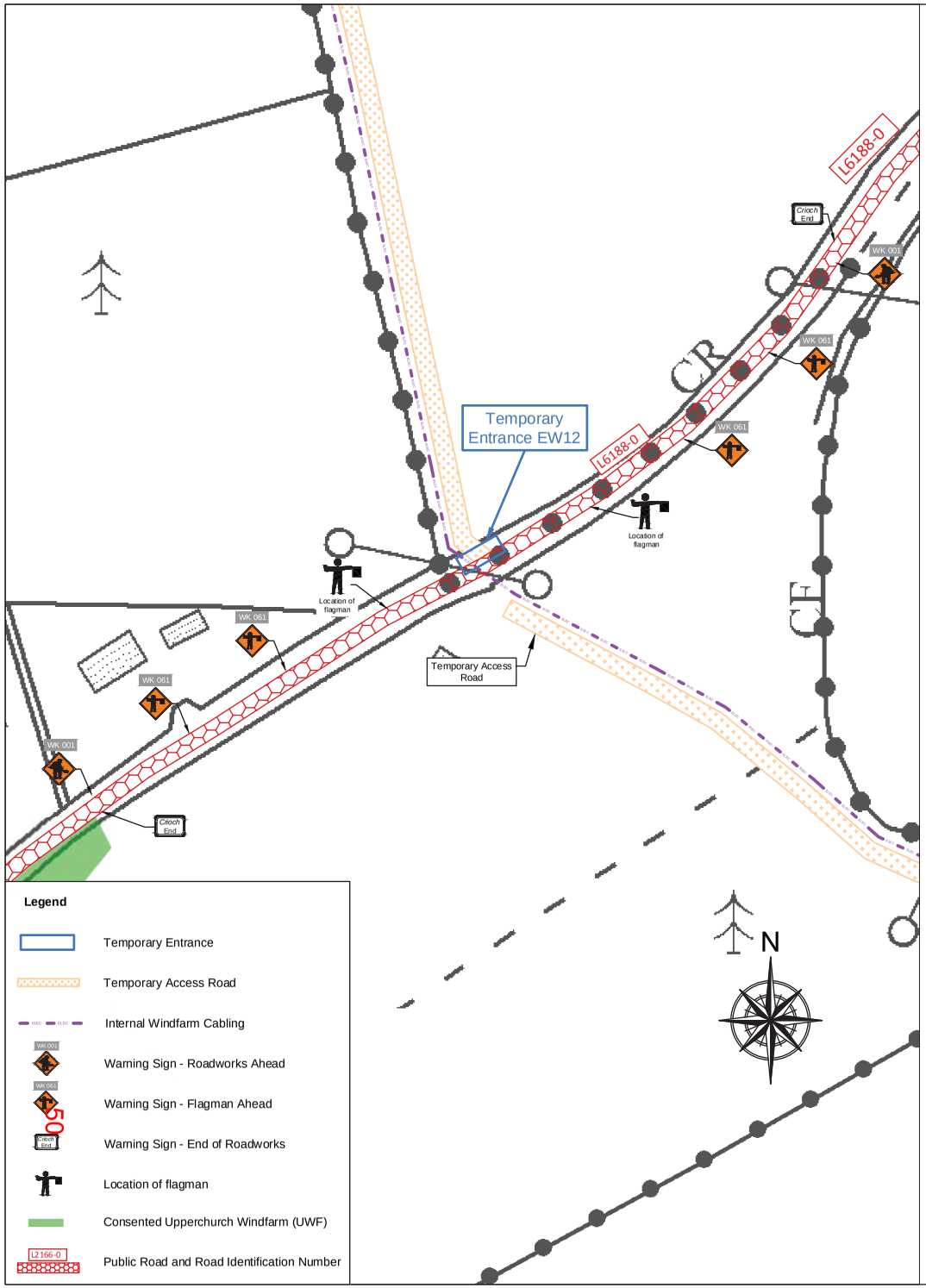
Total traffic (local traffic & construction traffic) movements along the L2264-34 during construction period: 154 per day

85 Percentile Traffic Design Speed of the L2264-34: 53 km/hr

Figure UWF.RW.RFI-03 "Change of Use" EW 10		Project: UWF Related Works Request for Further Information 18/600913			
Map Number: Map 8 of 11	Map Scale: 1 : 750	Drawn by: CB	Checked by: PK	Date: 2-Nov-18	Sheet Size: A3

ECOPOWER

Appendix 1.6



Temporary Entrance EW 12

Temporary Entrance EW 12

ITM Coordinate E 594436, N 660916

Description of works required:

- Temporary entrance EW 12 is an existing entrance that will be used to provide access to the works area of 500 meters of Internal Windfarm cable route. No widening of existing entrance required. EW 12 is located on the northern side of the L6188-0 public road.

Width of L6188-0: 3.6 meters

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

Duration of use and number of construction vehicles using this entrance: 5 days - 4 to 6 vehicles per day

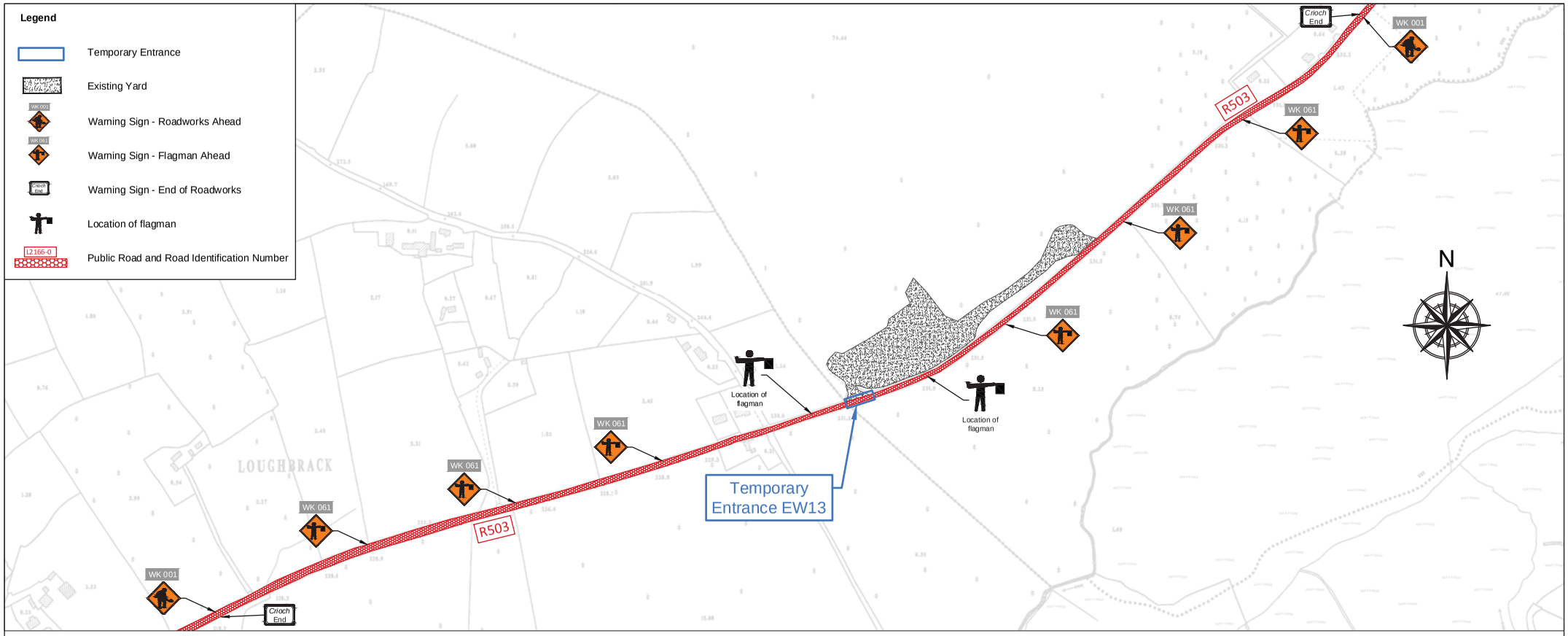
Total traffic (local traffic & construction traffic) movements along the L6188-0 during the windfarm construction period: 127 per day

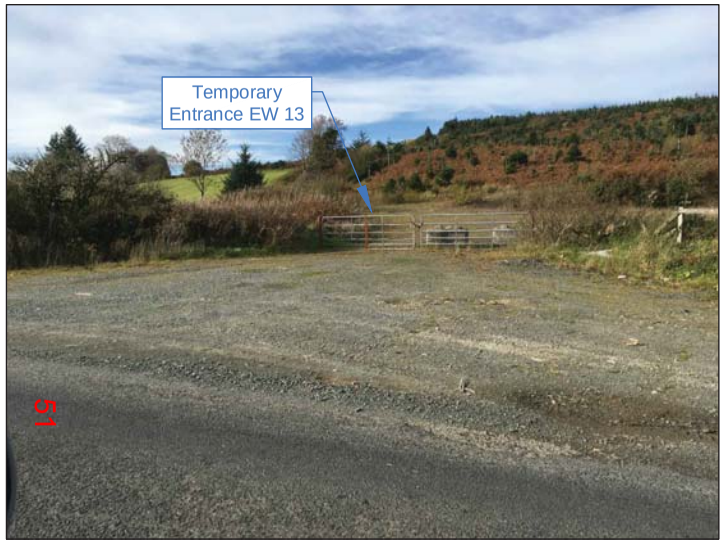
85 Percentile Traffic Design Speed of the L6188-0: 49 km/hr

All signage designed in accordance with the Department of Transport Traffic Signs Manual Table 8.3.2 for single carriageway up to 60km/h

Figure UWF.RW.RFI-03 Temporary Site Entrance EW 12		Project: UWF Related Works Request for Further Information 18/600913				
Map Number: Map 9 of 11	Map Scale: 1 : 1000	Drawn by: CB	Checked by: PK	Date: 2-Nov-18	Sheet Size: A3	ECOPOWER

Appendix 1.6





Temporary Entrance EW 13

Temporary Entrance EW 13

ITM Coordinate E 591582, N 659001

Description of works required:

- Delivery of turbine components coming from the Thurles direction, will pass off the R497/L2264-50/R503 junction, and will continue down the regional road R503 and turn into Temporary Entrance EW 13. Vehicles will perform a turning manoeuvre in the existing yard and drive back out onto the R503 towards the R497/L2264-50/R503 junction from the south/Newport side and make the turn onto the L2264-50 without requiring modifications to the junction.
- Temporary Entrance EW 13 to be used for the haulage of turbine components for Upperchurch Windfarm turbines T17 to T22. EW 13 is part of Haul Route Works HW 7. Turbine component loads will be escorted by An Garda Siochana. There will be flag men and associated flagmen signage to control traffic at the time of deliveries.

Width of R503 at EW 13: 5.4 meters.

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

Duration of use and number of delivery vehicles using this entrance: intermittently over 5 to 6 weeks with c.48 component delivery loads in total.

Total traffic (local traffic & construction traffic) movements along the R503 during construction period: 804 vehicles per day.

85 Percentile Traffic Design Speed of the R503: 81 km/hr

All signage designed in accordance with the Department of Transport Traffic Signs Manual Table 8.3.2 for single carriageway up to 100km/h

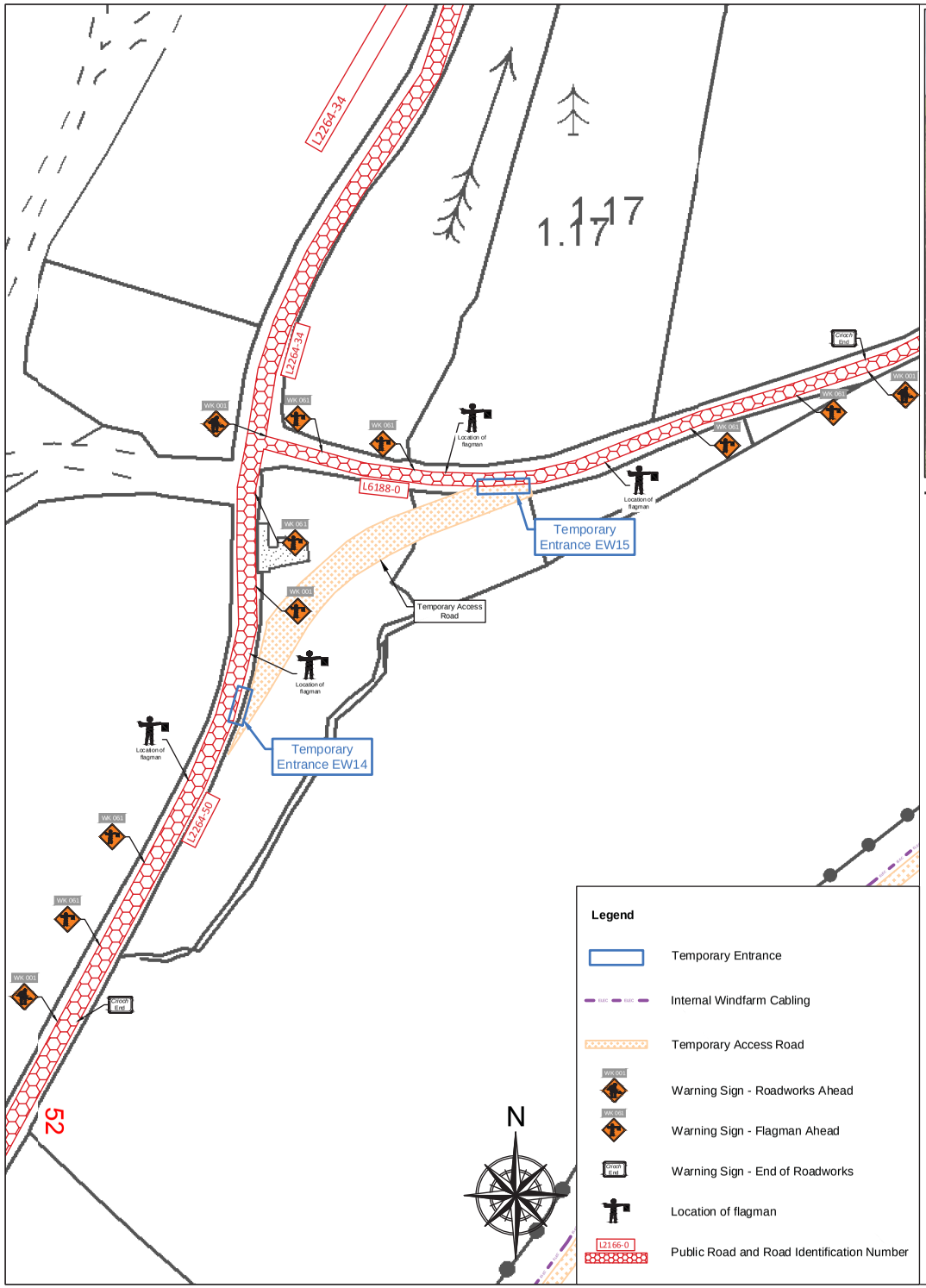
Figure UWF.RW.RFI-03
Temporary Site Entrance EW 13

Project:
UWF Related Works
Request for Further Information 18/600913

Map Number:	Map Scale:	Drawn by:	Checked by:	Date:	Sheet Size:
Map 10 of 11	1 : 5000	CB	PK	2-Nov-18	A3

ECOPOWER

Appendix 1.6



Temporary Entrance EW 14

Temporary Entrance EW 14
ITM Coordinate E 593980, N 660631

Description of works required:

- Temporary Entrance EW 14 to be used for the haulage of turbine components. EW 14 is part of Haul Route Works HW 11. EW 14 will be located on the eastern side of the L2264-50 public road. 10m of hedgerow will be removed.
- The turbine components for the Upperchurch Windfarm turbine T22 will be delivered through EW 14. Temporary post and rail fencing with gates will be erected at EW 14 until immediately prior to turbine component delivery, at which stage the fencing will be removed. Once all turbine components for T22 have been delivered EW 14 will be closed by reinstating the hedgerow along the existing alignment. Turbine component loads will be escorted by An Garda Siochana.

Width of L2264-50 at EW 14: 4.8 meters

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

Duration of use and number of delivery vehicles using this entrance: intermittently over 1 to 2 weeks with c.8 component delivery loads in total.

Total traffic (local traffic & construction traffic) movements along the L2264-50 during construction period: 288 vehicles per day.

85 Percentile Traffic Design Speed of the L2264-50: 76 km/hr

Temporary Entrance EW 15

Temporary Entrance EW 15
ITM Coordinate E 594050, N 660690

Description of works required:

- Temporary Entrance EW15 to be used for the haulage of turbine components. EW 15 is part of Haul Route Works HW 11.EW15 will be located on the eastern side of the L6188-0 public road. 10m of hedgerow will be removed.
- The turbine components for the Upperchurch Windfarm turbine T22 will be delivered through EW 15. Temporary post and rail fencing with gates will be erected at EW 15 until immediately prior to turbine component delivery, at which stage the fencing will be removed. Once all turbine components for T22 have been delivered EW 15 will be closed by reinstating the hedgerow along the existing alignment.Turbine component loads will be escorted by An Garda Siochana.

Width of L6188-0 at EW 15: 4 meters

Drainage: Any existing roadside drains will be temporarily piped, to maintain the existing drainage regime. Temporary concealed drains will be installed to prevent run-off from the temporary access road on to the public road. Temporary pipe and temporary concealed drains will be removed and the existing roadside drain reinstated when the temporary entrance is closed off.

Duration of use and number of delivery vehicles using this entrance: intermittently over 1 to 2 weeks with c.8 component delivery loads in total.

Total traffic (local traffic & construction traffic) movements along the L6188-0 during construction period: 127 vehicles per day

85 Percentile Traffic Design Speed of the L6188-0: 49 km/hr

All signage designed in accordance with the Department of Transport Traffic Signs Manual Table 8.3.2 for single carriageway up to 60km/h

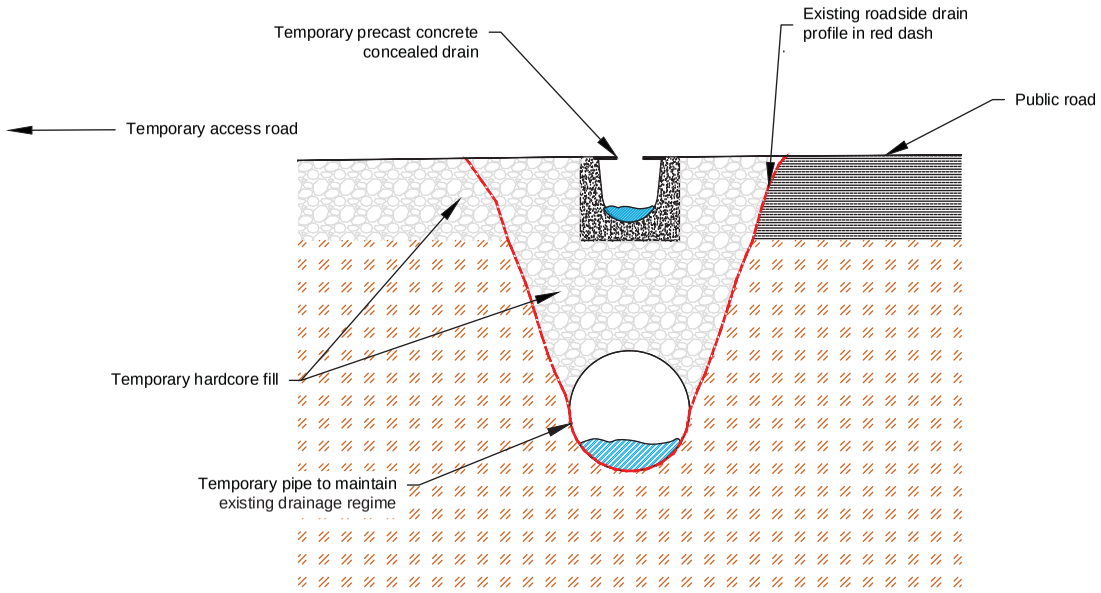
Figure UWF.RW.RFI-03
Temporary Site Entrances EW 14 and EW 15

Project:
UWF Related Works
Request for Further Information 18/600913

Map Number:	Map Scale:	Drawn by:	Checked by:	Date:	Sheet Size:
Map 11 of 11	1 : 1250	CB	PK	2-Nov-18	A3

ECOPOWER

Appendix 1.6



Legend:

N

Project:
UWF Related Works

Request for Further Information 18/600913

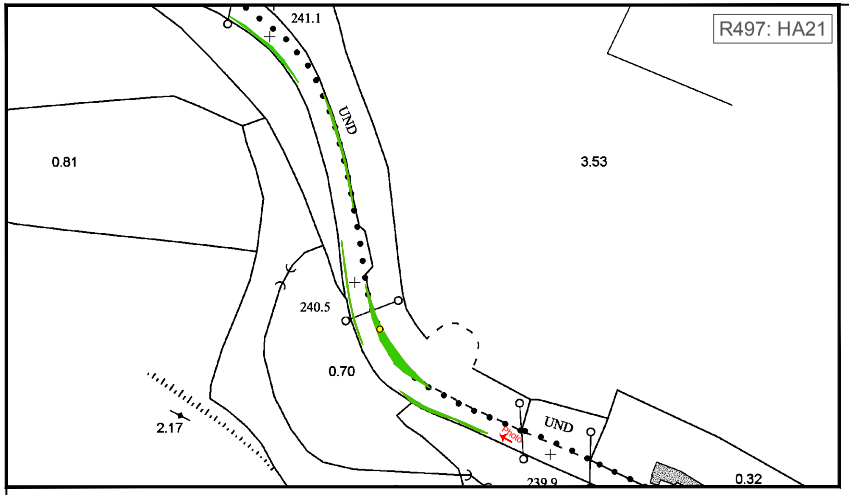
Figure Number:
Figure UWF.RW.RFI-04

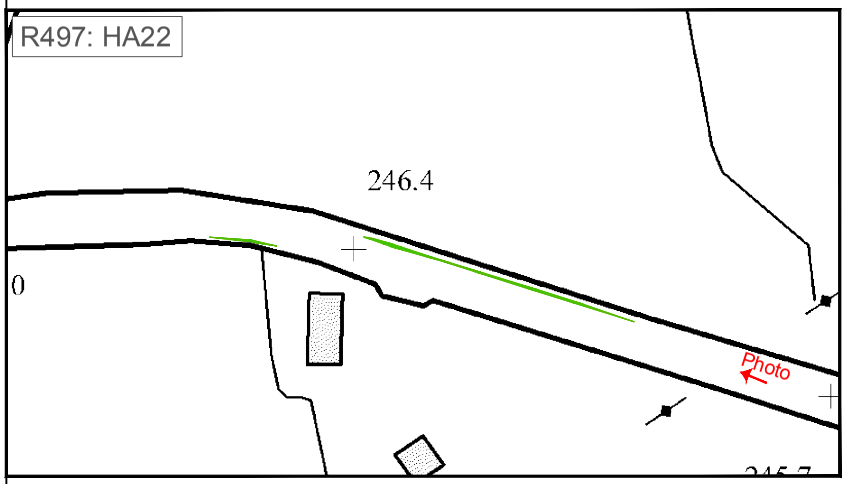
Title:
Cross sectional view of temporarily piped road side drain and temporary concealed drain

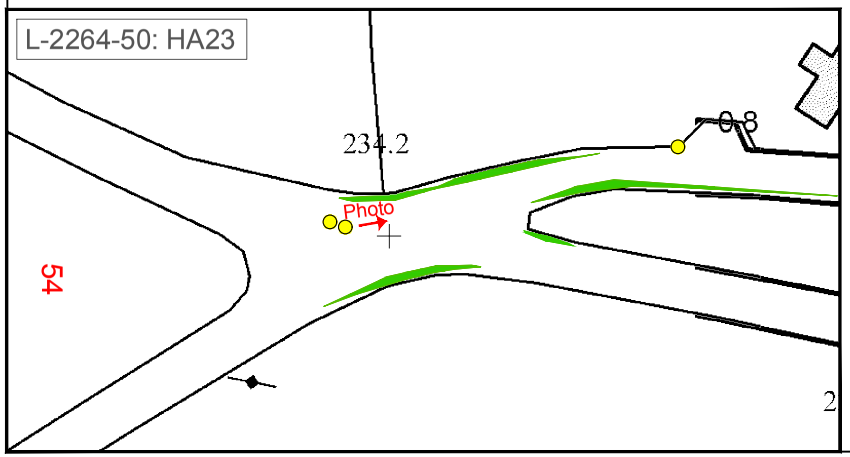
Drawn by:	Checked by:
CB	PK
Date:	Scale & Sheet Size:
2-Nov-18	1 : 10 @ A3

ECOPOWER

Appendix 1.6







Title:

Figure OA 2

Haul Route Activities (8 maps)

Map Number:
Map 8 of 8

Legend:

- Haul Route Activities: Street Furniture Removal
- Haul Route Activities: Vegetation Trimming
- Direction of which the photo has been taken

N

Project:
UWF Other Activities (OA)

Drawn by:	Checked by:	Date:	Sheet Size:
AB	JB	19-Feb-18	A4

Aoife Butler
Ecopower Developments Ltd
Zetec House,
Purcellsinch Business Park, Kilkenny
TEL: +353 56 7750140
MOB: +353 83 8805644

ECOPOWER

Appendix 1.6

Appendix to Chapter 2: The EIA Report Process

The data and descriptions in this appendices have informed Chapter 2: The EIAR Process including Scoping of the EIA Report.

Appendices to Chapter 2	Section Heading
A2.1	Review of Compliance with Legislation
A2.2	Environmental Topic Authors Statements of Competency
A2.3	Scoping of Other Projects or Activities
A2.4	Completed EIA Report Checklist

Appendix 2.1: Review of Compliance with Legislation

2011/92/EU as amended by Directive 2014/52/EU (the EIA Directive)

The data and descriptions in this appendix have informed Chapter 2: The EIAR Process including Scoping.

The information presented in this Appendix 2.1 is outlined below and the relevant element(s) of the Whole UWF Project are also identified.

Section Heading	Relevant Individual Project Element
Compliance with Legislation	UWF Related Works

List of Tables

Table No.	Table Title
Table 1	Compliance with Article 5 of the EIA Directive (Information to be provided by the developer in the EIA Report)
Table 2	Compliance with Annex IIA (INFORMATION REFERRED TO IN ARTICLE 4(4))
Table 3	Compliance with Annex IV - INFORMATION REFERRED TO IN ARTICLE 5(1)

A2.1 .1 COMPLIANCE WITH LEGISLATION

A2.1 .1.1. Introduction

Environmental Impact Assessment (EIA) is a key instrument of European Union environmental policy. Since the passage of the first EIA Directive in 1985 (Directive 85/337/EEC) both the law and the practice of EIA have evolved. The currently governing EIA Directive is Directive 2011/92/EU (as amended by Directive 2014/52/EU) and is referred to in this chapter, as the EIA Directive.

This EIA Report is the result of the activities of many people, each of whom made different and distinctive contributions. A review of the complete EIA Report documentation was carried out by the EIA Report co-ordinator Lead Assessor, to ensure that all of the requirements of the EIAR Directive for the EIA Report, are met.

This review is presented in Tables 1 to 3 below.

Note: Not all of the EIA Directive requirements are the responsibility of the developer. The review only examines the completeness of the information presented in the EIA Report, for compliance with the responsibilities of the developer (the Planning Applicant).

Table 1: Compliance with Article 5 of the EIA Directive (Information to be provided by the developer in the EIA Report)

Article Paragraph #	Requirement of the EIA Directive	Location of information provided in the EIA Report to comply with EIA Directive requirement
Article 5, Paragraph 1	Where an environmental impact assessment is required, the developer shall prepare and submit an environmental impact assessment report. The information to be provided by the developer shall include at least:	
	a) a description of the project comprising information on the site, design, size and other relevant features of the project;	**Volume C2: EIAR Main Report:** Chapter 5: Description of the Development **Volume C3: EIAR Figures RW 5.1 to RW 5.27** **Volume C4: EIAR Appendices** Appendix 5.1 Outline Construction Methodologies Appendix 5.2 Watercourse Classification and Crossing Method **Whole UWF Project (Other Elements)** Appendix 5.3 Description of the UWF Grid Connection Appendix 5.4 Description of the UWF Replacement Forestry Appendix 5.5 Compiled Description of the consented Upperchurch Windfarm Appendix 5.6 Description of UWF Other Activities
	(b) a description of the likely significant effects of the project on the environment;	**EIAR Volume C2: Main Report:** Impacts on individual environmental topics are presented in individual receptor evaluation sections '**Sensitive Aspect'** (Section X.X[1]) from Section X.X.4: Evaluation of Impacts (cumulative impacts are included at the end of the impact evaluation tables), Section X.X.5: Mitigation Measures for Impacts, Section X.X.6: Evaluation of Residual Impacts, Section X.X.8: Summary of the Impacts; **Environmental Topic Chapters 6 – 17** Chapter 6: Population, Chapter 7: Human Health Chapter 8: Biodiversity Chapter 9: Land Chapter 10: Soil Chapter 11: Water Chapter 12: Air Chapter 13: Climate Chapter 14: Built Services

Article Paragraph #	Requirement of the EIA Directive	Location of information provided in the EIA Report to comply with EIA Directive requirement
		Chapter 15: Roads and Traffic Chapter 16: Cultural Heritage Chapter 17: The Landscape [1]Note: 'X.X' represents the chapter number and main section number, e.g. Section 6.2 is the second section in Chapter 6: Population in which Sensitive Aspect - Local Economy is evaluated.
	(c) a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;	**EIAR Volume C2: Main Report** **Chapter 5: Description of Development,** Section 5.2.4: Environmental Protection Measures designed into the UWF Related Works. **Chapters 6 to 17** *Project Design Environmental Protection Measures for individual environmental topics are presented in the individual receptor evaluation sections 'Sensitive Aspect' in Section X.X.3: Relevant Project Design Environmental Protection Measures, Section X.X.5: Mitigation Measures for Impacts and at the end of the topic chapter: Application of Best Practice and in Volume D EMP)* **Chapter 4: Alternatives Considered** (*for Environmental Protection Measures incorporated into the Project Design*)
	(d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;	**EIAR Volume C2 Main Report:** Chapter 4: Alternatives Considered
	(e) a non-technical summary of the information referred to in points (a) to (d); and	**Volume C1: EIAR Non-Technical Summary**
	(f) any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.	**Refer to Table 3 herein**
Article 5, Paragraph 3	In order to ensure the completeness and quality of the environmental impact assessment report: (a) the developer shall ensure that the environmental impact assessment report is prepared by competent experts;	**Volume C2: EIAR Main Report:** **Chapter 2: The EIA Report: Section 2.2.4 The EIAR Team** Table 2-2 The EIAR Team (*comprises the list of Competent Experts who prepared the EIA Report)* **Appendix 2-2 Environmental Topic Authors Statement of Competency**

Table 2: Compliance with Annex IIA (INFORMATION REFERRED TO IN ARTICLE 4(4))

INFORMATION TO BE PROVIDED BY THE DEVELOPER ON THE PROJECTS LISTED IN ANNEX II – **3. ENERGY INDUSTRY (i) Installations for the harnessing of wind power for energy production (wind farms)**		
Annex IIA Paragraph #	**Requirement of the EIA Directive**	**Location of information provided in the EIAR to comply with EIA Directive requirement**
Annex IIA Paragraph 1	A description of the project, including in particular:	
	(a) a description of the physical characteristics of the whole project and, where relevant, of demolition works;	**Volume C2: EIAR Main Report:** **Chapter 5: Description of the Development** **Volume C3: EIAR Figures RW 5.1 to Figure RW 5.27** **Volume C4: EIAR Appendices** **Appendix 5.1** Outline Construction Methodologies **Appendix 5.2** Watercourse Classification and Crossing Method **Whole UWF Project (Other Elements)** **Appendix 5.3** Description of the UWF Grid Connection **Appendix 5.4** Description of the UWF Replacement Forestry **Appendix 5.5** Compiled Description of the consented Upperchurch Windfarm **Appendix 5.6** Description of UWF Other Activities
	(b) a description of the location of the project, with particular regard to the environmental sensitivity of geographical areas likely to be affected.	**EIAR Volume C2: Main Report:** **Environmental Topic Chapters 6 – 17:** Section X.X.1 (*the Study Area is the 1st section for each individual 'Sensitive **Aspect**')* and Section X.X.2 *Baseline Context & Character of the Sensitive Aspect.* **EIAR Volume C3: EIAR Figures**: *(the locational context is Figure X.1 for each chapter 6 to 17)*

INFORMATION TO BE PROVIDED BY THE DEVELOPER ON THE PROJECTS LISTED IN ANNEX II – **3. ENERGY INDUSTRY (i) Installations for the harnessing of wind power for energy production (wind farms)**		
Annex IIA Paragraph #	**Requirement of the EIA Directive**	**Location of information provided in the EIAR to comply with EIA Directive requirement**
Annex IIA Paragraph 2	A description of the aspects of the environment likely to be significantly affected by the project.	**EIAR Volume C2: Main Report:** **Environmental Topic Chapters 6 – 17**: starting at Section X.X.2 (*Baseline Context & Character is the 2nd section for each individual 'Sensitive Aspect' with potential to be affected by the project)* **Volume C4: EIAR Appendices** for each Environmental Topic Chapters 6 – 17 (*for practical survey and testing results and further detailed information)*
Annex IIA Paragraph 3	A description of any likely significant effects, to the extent of the information available on such effects, of the project on the environment resulting from:	
	(a) the expected residues and emissions and the production of waste, where relevant;	**Volume C2: EIAR Main Report:** **Chapter 5: Description of the Development**: Section 5.4.2 Emissions Section 5.4.3 Wastes Section 5.4.2 and Section 5.4.3 of the descriptions of the Other Elements of the Whole UWF Project in **Appendices 5.3, 5.4, 5.5 and 5.6** (*for emissions & wastes*) **Environmental Topic Chapters 6 – 17**: starting at Section X.X.4 (*Evaluation of Impacts is the 4th section for each individual 'Sensitive Aspect')*
	(b) the use of natural resources, in particular soil, land, water and biodiversity.	**Volume C2: EIAR Main Report:** **Chapter 5: Description of the Development:** Section 5.4.1 Use of Natural Resources; Section 5.4.1.1 Land, 5.4.1.2 Biodiversity, 5.4.1.3 Water, 5.4.1.4 Soils

INFORMATION TO BE PROVIDED BY THE DEVELOPER ON THE PROJECTS LISTED IN ANNEX II – **3. ENERGY INDUSTRY (i) Installations for the harnessing of wind power for energy production (wind farms)**		
Annex IIA Paragraph #	**Requirement of the EIA Directive**	**Location of information provided in the EIAR to comply with EIA Directive requirement**
		Section 5.4.1 of the descriptions of the Other Elements of the Whole UWF Project in **Appendices 5.3, 5.4, 5.5 and 5.6** **Environmental Topic Chapters 6 – 17**: starting at Section X.X.4 (*Evaluation of Impacts is the 4th section for each individual 'Sensitive Aspect')*

Table 3: Compliance with Annex IV - INFORMATION REFERRED TO IN ARTICLE 5(1)

(INFORMATION FOR THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT)		
Annex IV Paragraph #	**Requirement of the EIA Directive**	**Location of information provided in the EIAR to comply with EIA Directive requirement**
Annex IV Paragraph 1	A Description of the project, including in particular:	
	(a) a description of the location of the project;	**Volume C2: EIAR Main Report:** **Chapter 5: Description of the Development** - Section 5.2.2: Location and overview description **EIAR Volume C3: EIAR Figures for Chapter 5**
	(b) a description of the physical characteristics of the whole project, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;	**EIAR Volume C2: Main Report:** **Chapter 5: Description of the Development** Section 5.2: Characteristics of the UWF Related Works Section 5.3: Life Cycle Stages of the UWF Related Works Section 5.3.1: Construction Stage Section 5.3.2: Operational Stages Section 5.3.3: Changes to UWF Related Works (*decommissioning*) Section 5.4: Use of Natural Resources, Emissions and Wastes Section 5.4.1 Use of Natural Resources; Section 5.4.1.1 Land Section 5.6: Cumulative Descriptions (*The Whole Upperchurch Windfarm Project*) **EIAR Volume C3: EIAR Figures for Chapter 1, and** **EIAR Volume C3: EIAR Figures for Chapter 5**
	(c) a description of the main characteristics of the operational phase of the project (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used;	**Volume C2: EIAR Main Report:** **Chapter 5: Description of the Development**: Section 5.3.2 Operational Stage Section 5.4.1 Use of Natural Resources; Section 5.4.1.1 Land, 5.4.1.2 Biodiversity, 5.4.1.3 Water, 5.4.1.4 Soils

(INFORMATION FOR THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT)		
Annex IV Paragraph #	**Requirement of the EIA Directive**	**Location of information provided in the EIAR to comply with EIA Directive requirement**
	(d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during the construction and operation phases	**Volume C2: EIAR Main Report:** **Chapter 5: Description of the Development**: Section 5.4.2 Emissions Section 5.4.3 Wastes **Appendices 5.3, 5.4, 5.5 and 5.6** (Section 5.4.2 and 5.4.3)
Annex IV Paragraph 2	A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects	**Volume C2: EIAR Main Report:** **Chapter 4: Alternatives Considered**
Annex IV Paragraph 3	A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without implementation of the project as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge	**Volume C2: EIAR Main Report:** **Environmental Topic Chapters 6 – 17:** starting at Section X.X.2 (*Baseline Characteristics is the 2nd section for each individual 'Sensitive Aspect')* Trends in the Baseline Environment is at X.X.1.5.

(INFORMATION FOR THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT)		
Annex IV Paragraph #	**Requirement of the EIA Directive**	**Location of information provided in the EIAR to comply with EIA Directive requirement**
Annex IV Paragraph 4	A description of the factors specified in Article 3(1) likely to be significantly affected by the project: Population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydro morphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.	**Environmental Topic Chapters 6 – 17:** starting at Section X.X.2 (*Baseline Characteristics is the 2nd section for each individual 'Sensitive Aspect')* **Chapter 6: Population** (*Local Economy*) **Chapter 7: Human Health** (*Compilation of human health impacts of from the topic chapters Population, Water, Air (air quality, noise, EMF), Roads (Road Users), Material Assets (Built Services Users*). **Chapter 8: Biodiversity** (*including flora & fauna*) **Chapter 9**: Land (*including land-take*) **Chapter 10: Soil** (*including organic matter, erosion, compaction, sealing*) **Chapter 11: Water** (*including hydro morphological changes, quantity and quality*) **Chapter 12: Air** (*Airborne dust, Noise, EMF*) **Chapter 13: Climate** (including *greenhouse gas emissions*), **Chapter 14: Material Assets** (*Built Services – Electricity, Water and Communications Services*) **Chapter 15: Material Assets** (*Roads*) **Chapter 16: Cultural Heritage** (*including architectural and archaeological aspects)* **Chapter 17: The Landscape** **Volume C3: EIAR Figures**
Annex IV Paragraph 5	A description of the likely significant effects of the project on the environment resulting from, inter alia: (a) the construction and existence of the project, including, where relevant, demolition works;	(a) **Environmental Topic Chapters 6 – 17**: starting at Section X.X.4 (*Evaluation of Impacts is the 4th section for each individual 'Sensitive Aspect')* (b) **Volume C2: EIAR** Chapter 8: Biodiversity,

(INFORMATION FOR THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT)		
Annex IV Paragraph #	**Requirement of the EIA Directive**	**Location of information provided in the EIAR to comply with EIA Directive requirement**
	(b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources; (c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste;	Chapter 9: Land Chapter 10: Soils Chapter 11: Water **(c) Volume C2: EIAR Main Report:** **Chapter 5: Description of the Development**: Section 5.4.2 Emissions, Section 5.4.3 Wastes **Chapter 12: Air**, starting at Section X.X.4 *(Evaluation of Impacts is the 4th section for each individual 'Sensitive Aspect' Local Residents & Community, Transient people, Users of Electronic Equipment for airbourne dust, noise and EMF emissions impacts.* **Chapter 10: Soil** starting at Section X.X.4 (*Evaluation of Impacts is the 4th section for each individual 'Sensitive Aspect' for Local Soils, sub-soils & Bedrock, Lower River Shannon SAC, Bleanbeg bog NHA*) **Chapter 11: Water** starting at Section X.X.4 (*Evaluation of Impacts is the 4th section for each individual 'Sensitive Aspect' for Local Surface Water Bodies, Local Groundwater Bodies, Local Wells & Springs, Lower River Shannon SAC, Lower River Suir SAC, Bleanbeg Bog NHA, Local Water Dependent Habitats)* **Chapter 8: Biodiversity** **Chapter 13: Climate**

(INFORMATION FOR THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT)		
Annex IV Paragraph #	**Requirement of the EIA Directive**	**Location of information provided in the EIAR to comply with EIA Directive requirement**
	(d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters);	**(d) EIAR Volume C2: Main Report:** **Chapter 5: Description of the Development** Section 5.5 Vulnerability to Major accidents and Natural Disasters **Chapter 7: Human Health** **Chapter 16: Cultural Heritage**
	(e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;	**(e) Volume C2: EIAR Main Report:** **Chapter 5: Description of the Development:** Section 5.6: Cumulative Descriptions Section 5.6.1: Other Elements of the Whole Upperchurch Windfarm Project Section 5.6.2: Secondary Projects Section 5.6.3: Description of Other Projects or Activities **Environmental Topic Chapters 6 – 17**: starting at Section X.X.4 (*Evaluation of Impacts is the 4th section for each individual 'Sensitive Aspect')*
	(f) the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change;	**(f) EIAR Volume C2: Main Report:** **Chapter 13: Climate**
	(g) the technologies and the substances used.	**(g) EIAR Volume C2: Main Report:** **Chapter 5: Description of Development** Section 5.2.: Characteristics of UWF Related Works Section 5.3: Life Cycle Stages of the UWF Related Works
	The description of the likely significant effects on the factors specified in Article 3(1) should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium- term and long-term, permanent and temporary, positive	**Environmental Topic Chapters 6 – 17**: Description of likely effects- starting at Section X.X.4 (*Evaluation of Impacts is the 4th section for each individual 'Sensitive Aspect')*

(INFORMATION FOR THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT)		
Annex IV Paragraph #	**Requirement of the EIA Directive**	**Location of information provided in the EIAR to comply with EIA Directive requirement**
	and negative effects of the project. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project	Description of European or National environmental protection objectives, in Section X.1.8*: Methodology for Evaluating 'Topic' Effects*, where relevant.
Annex IV Paragraph 6	A description of the forecasting methods or evidence, used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved	**EIAR Volume C2: Main Report:** **Environmental Topic Chapters 6 – 17**: Section X.1.7: Sources of Baseline Information Section X.1.7.1: Certainty and Sufficiency of Information Provided Section X.1.8: Methodology for Evaluating 'Topic' Effects
Annex IV Paragraph 7	A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent, to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases.	**Chapter 5: Description of Development,** Section 5.2.4: Environmental Protection Measures designed into the UWF Related Works. **Chapters 6 to 17** *Project Design Environmental Protection Measures for individual environmental topics are presented in the individual receptor evaluation sections 'Sensitive Aspect' in Section X.X.3: Relevant Project Design Environmental Protection Measures, Section X.X.5: 'Mitigation Measures for Impacts' and at the end of the topic chapter: Application of Best Practice and in Volume D EMP)* **Chapter 4: Alternatives Considered** (*for Environmental Protection Measures incorporated into the Project Design*) **Chapter 19: Monitoring Arrangements** **Volume D: Environmental Management Plan (EMP):** Section 4: Environmental Commitments, Section 5: Environmental Protection Measures,

(INFORMATION FOR THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT)		
Annex IV Paragraph #	**Requirement of the EIA Directive**	**Location of information provided in the EIAR to comply with EIA Directive requirement**
		Section 7: Monitoring **Management Plans contained in the EMP** • Traffic Management Plan, Waste Management Plan, Surface Water Quality Management Plan and Invasive Species Management Plan
Annex IV Paragraph 9	A non-technical summary of the information provided under Points 1 to 8 of Paragraph 9	**Volume C1: EIAR Non-Technical Summary**
Annex IV Paragraph 10	A reference list detailing the sources used for the descriptions and assessments included in the report.	**Volume C2: EIAR Main Report:** **Chapters 6 to 17** Reference List at the end of each topic chapter. Section X.1.7 (*Sources of Baseline Information*) and Section X.1.8 Methodology for Evaluating '*topic'* Effect **Chapter 2,** Section 2.4: Descriptive Terminology Used in this EIA Report

Appendix to Chapter 2: The EIAR Process including Scoping

Appendix 2.2: Environmental Topic Authors Statements of Competency

Appendix 2.2 Section	Section Heading	Relevant EIA Report
A2.2.1	Environmental Topic Authors Statements of Competency	UWF Related Works UWF Grid Connection UWF Replacement Forestry

The promoter engaged the services of suitably qualified and experienced Competent Experts to appraise the likely effects, on all the Environmental Factors of the subject development so that relevant and complete information is provided to the Competent Authority.

A summary statement of competency is provided in Section X.1.2 of each of the Environmental Topic Chapters 6 – 17.

This appendix comprises the full text of these statements.

A2.2 .1 Statements of Competence

CHAPTER 6 POPULATION (SOCIO-ECONOMICS)

The report on the Socio-Economic aspect of Population and Human Health was written by John Lawlor (M. Econ. Sc. Hons), Director at EY-DKM Economic Advisory Services (EY-DKM) and Ciara Morley (Ph.D. Finance), Senior Consultant with EY-DKM.

John has over 20 years' experience of economic analysis with DKM, and prior to that worked in the Environmental Policy Research Centre of the ESRI. Ciara works on issues in the Irish and global economy and in the areas of urban economics, transport, construction and tourism, and also previously worked in the ESRI. EY-DKM Economic Advisory Services was recently formed following the acquisition of DKM Economic Consultants by EY. This has brought together the premier economics consultancy company in Ireland alongside one of the world's largest consultancy firms.

CHAPTER 7 HUMAN HEALTH

The report on the Human Health aspect of Population and Human Health has been written by Dr. Andrew Buroni PhD, MSc, BSc (Hons), Fellow of the Royal Society of Medicine, Fellow of the Royal Society of Public Health of RPS Group.

Andrew is RPS' Health and Social Impact Assessment Practice Leader with over 17 years of project experience on leading international Health and Social Impact Assessment in the energy, oil and gas, waste management, transport, civil aviation, spatial planning, regeneration and sustainable development sectors.

RPS HIA Team

The RPS Health and Social Impact Assessments (HIA) team is the market leader for robust planning focussed HIA services, with an unrivalled catalogue of major HIA examples, and an unmatched level of proven HIA expertise and experience. The RPS HIA team has scoped, designed, performed and presented evidence at public inquiry, oral hearing and issue specific hearing on a wide array of projects ranging from airport expansions, national waste management strategies and surface mines, through to new nuclear power stations, gas fired and biomass power stations, energy from waste facilities, windfarms and national electricity grid infrastructure.

A small sample of recent project examples that offer transferable knowledge and added value to this study are summarised in the table below.

Sample of recent RPS grid connection and wind farm project examples.

Project	Description
Eirgrid Electromagnetic field (EMF) health research and monitoring programme	Development of a comprehensive non ionising radiation and health evidence base with Dr Michael Repacholi (the inaugural chair of the International Commission on Non-Ionizing Radiation Protection and former EMF Task Group leader for the World Health Organisation), and detailed EMF monitoring programme to inform national grid infrastructure and constitute a nation-wide health and EMF proof of evidence for every type

Project	Description
	of national grid infrastructure in Ireland.
Grid 25	HIA services to inform the Grid 25 infrastructure project including community and stakeholder engagement, public relations support, provision of health and wellbeing planning principles and addressing risk perceptions through a robust evidence based HIA.
Hornsea Windfarm	HIA support and the provision of a focused EMF health assessment to address the remaining key community and stakeholder health concern of risk from changes in exposure to EMF and from Electro Magnetic Interference (EMI).
Atlantic Array Windfarm	
Tamnamore to Omagh Power Line	
Burbo Bank Windfarm	
Moorside, Sizewell C and Hinkley Point C New Nuclear power Stations	HIA for the construction, operation and grid connection of three new nuclear power stations, including the assessment from changes in air quality, noise, transport, social/socio-economic, ionising and non-ionising radiation for the main applications and all associated developments.
Transport Health Assessment Guidance for the Department of Health and Department for Transport	Research and development of transport focused HIA guidance to inform and test every transport plan in England (covering changes in air quality, noise, risk of accident and injury, community severance, physical activity etc).

On the above basis, the HIA team, has significant, proven and transferable expertise and experience pertinent to the construction and operation of the proposed project.

CHAPTER 8 BIODIVERSITY

Joe Adamson

Joe Adamson is a Senior Ecologist, working in the energy sector since 1997, mainly on natural gas pipelines and windfarms, in a range of disciplines, including ornithological surveys, ecological surveys, geotechnical stability and hydrochemistry.

Joe is a graduate of the Royal Society of Chemistry (GRSC) in Applied Chemistry and has an MSc. in Environmental Resource Management. He is a full member of the Chartered Institute of Ecology and Environmental Management (MCIEEM) since 2010.

Joe has over 40 years of field observation experience of birds and has worked on over 75 windfarm projects.

Inis Environmental Consultants Ltd

The report on the Environmental Factor, Biodiversity, has been written by Inis Environmental Consultants Ltd.

Staff profiles outlining the competencies of the author(s) and field surveyors who collected data to inform the current assessment are presented below.

Howard Williams

Howard joined ESB as a biologist in 1998. In 2000, he established INIS Environmental Consultants Ltd. where he now acts as CEO and Principal Ecologist. He is a Chartered Environmentalist and a Chartered Biologist and has written and managed many Construction Environmental Management Plans, Article 6 Appropriate Assessments and Ecological Impact Assessments for over 50 wind farm projects. Howard is an expert in the field of avian ecology in addition to having considerable knowledge and experience producing management strategies/prescriptions for a range of protected species, both terrestrial and aquatic. As an expert in his field, Howard has published scientific papers on Hen Harriers and their interaction with wind farms, in peer reviewed journals and is currently compiling papers on fatality monitoring strategies at wind farm facilities.

Education

BSc. Biological Sciences (1993 – 1997) National University of Ireland, Cork

Professional Accreditation

Chartered member of the Royal Society of Biology (CBiol)
Chartered member of the Society for the Environment (CEnv)
Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM)
Full member of the Institute of Fisheries Management (MIFM)

Chris Cullen

Chris is an Ecologist and Associate Member of the Chartered Institute of Ecology and Environmental Management. He holds a Higher National Diploma in Engineering and a further Diploma in Field Ecology. Chris has a broad range of experience within the environmental sector. He is a specialist in Ornithological surveys and assessments, however, he also has experience in Project Management, Appropriate Assessment, Expert Witness testimony, Cumulative Impact Assessment, Habitat Mapping, Mitigation Development, EIA, Collision Risk Modelling, Biomonitoring, Education, Public Speaking and a broad range of survey methodologies. His Engineering background has given him a lot of experience in teamwork and participation in team driven projects, project management and undertaking tasks with high levels of responsibility. Chris has had a number of papers published in peer reviewed publications such as Irish Birds, The Irish Naturalists Journal, The Proceedings of the Royal Irish Academy, Ringing and Migration and In Practice. Chris has also been a named author on additional papers published in journals such as Ibis. Chris has over 10 years' experience as a professional ecologist.

Education

Dip. Field Ecology (2002-2003) National University of Ireland, Cork
Higher National Diploma Engineering (1991 – 1995) Waterford Institute of Technology

Professional Accreditation

Associate Member of the Chartered Institute of Ecology and Environmental Management (ACIEEM)

Sarah Ingham

Sarah worked as Project Ecologist with INIS managing large teams of bird, mammal and habitat surveyors on a number of national ecological projects, in addition to analysing all data gathered by these teams. Sarah led and managed a broad range of multi-faceted high profile wind farm projects.

A large part of Sarah's role at INIS involved the output of expert advice and recommendations with regards Appropriate Assessments and Environmental Impact Assessments of large scale infrastructural energy developments throughout Ireland. Her day-to-day work regularly included designing detailed mitigation measures based on constraints at proposed wind farms and other developments, as well as undertaking desk-top research into other matters relating to birds and ecological conservation in Ireland. Sarah has over 7 years' experience as a professional ecologist.

Education
BSc. (Hons) Zoology and Animal Behaviour (2004 – 2007) Anglia Ruskin University, Cambridge
MSc. Biodiversity and Conservation (2008 – 2009) Trinity College Dublin

Professional Accreditation
Associate Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM)

Peter O'Connor

Peter holds a Masters Degree in GIS and Remote Sensing. He has experience in using MaxEnt and LiDAR to map the habitat suitability and distribution of woodland birds. The results of this study were presented at the Remote Sensing and Photogrammetry Society conference in Aberystwyth. Working as a GIS Specialist in Belize he was involved in a project mapping the Marine Habitats of Port Honduras Marine Reserve. He also ran workshops for the local rangers teaching them the basics in GIS.

John Deasy

John provided project management, data management, data analysis, report writing and GIS support for a number of ongoing projects. In addition, he undertakes a range of field surveys including bird surveys (vantage point and walked transect surveys) as well as bat surveys, habitat surveys, invasive species surveys and marsh fritillary larval web surveys. As part of the Ecology team at Inis, John also contributes to the production of Appropriate Assessments and Environmental Impact Assessments of large scale infrastructural developments throughout Ireland, including wind farm developments and associated infrastructure. John has 4 years of experience as a professional ecologist and over 10 years of experience in the environmental sector.

Education
BSc. Environmental and Earth Systems Science (2002-2006) National University of Ireland, Cork
MSc. Applied Marine Science (2006 – 2007) University of Plymouth
MSc. Ecological Assessment (2013 – 2014) National University of Ireland, Cork

CHAPTER 9 LAND

The Landuse aspect of Population and Human Health has been written by Andy Dunne of Environmental Agricultural Engineering Consultancy.
Andy Dunne holds a Bachelor's Degree in Agricultural Science taken in 1986 and a Master's Degree in Science (Agriculture) awarded in 1993. He is currently completing a PhD at University College Dublin. He has worked as an agricultural consultant since 1994. He is a director of Environmental Agricultural Engineering Consultancy Ltd, a firm of agricultural and engineering consultants based in Co. Laois. For more than 20 years Andy has been involved in a great variety of land use and

agricultural development activity and he is familiar with national and EU regulation and policy in the area.

CHAPTER 10 SOILS

See Water

CHAPTER 11 WATER

The report on Soils and Water has been written by David Broderick (BSc, H. Dip Env Eng, MSc): Hydrogeologist and Michael Gill (B.A., B.A.I., M.Sc., Dip. Geol, MIEI): Environmental Engineer of Hydro-Environmental Services (HES) which was established in 2005 as a hydrological, hydrogeological and environmental practice, specialising in peatland and upland hydrology in Ireland and Northern Ireland.

CHAPTER 12 AIR – INCLUDING AIR QUALITY, NOISE AND EMF

AIR QUALITY

The report on the Air Quality aspect of the Environmental Factor, Air, was written by Ciara Nolan of AWN Consulting Ltd. Ciara Nolan holds a BSc (Hons) in Energy Systems Engineering and Master in Applied Environmental Science, of AWN Consulting Ltd. She is an Associate Member of the Institute of Air Quality Management and specialises in the fields of ambient and indoor air quality monitoring and EIA.

AWN Consulting is a multidisciplinary environmental consultancy specialising in Acoustics, Air Quality, Climate, Waste, Water and Soil Quality, Flora and Fauna and Seveso II Major Accident Hazard Land Use Assessments. AWN Consulting has its Head Office in Dublin.

AIRBOURNE NOISE AND VIBRATION

The report on the Noise & Vibration aspect of the Environmental Factor, Air, was written by Peter Barry (BAgr Sc, MSc), environmental scientist and environmental impact assessment practitioner for Malachy Walsh & Partners Ltd. In 2017 Peter established Enovi Ltd.

Peter has 15 years' experience across a variety of environmental topics and has particular expertise in the measurement, assessment, prediction and control of environmental noise and is a member of the Institute of Acoustics and the Institute of Environmental Management and Assessment. Peter has contributed to and authored numerous noise and vibration impact assessments for inclusion in Environmental Impact Statements for a variety of developments, including wind farms, substations and grid connections.

ELECTROMAGNETIC FIELDS (EMF)

The report on the Electromagnetic Radiation aspect of the Environmental Factor, Air, was written by John McAuley, Lewis Brien and Nigel Duignan of Compliance Engineering Ireland Ltd.

John McAuley– CEO (CEI) – MSc (Hons) in Engineering

John the senior consultant on this work has undertaken similar national and International projects for many clients, including the 400kV North South Interconnector, East West Interconnector, many windfarm, solar and compressed air projects, and assisted Eirgrid with EMF evidence-based studies.

John McAuley up until 2016 held the chairmanship of the Electrotechnical Council of Ireland (ETCI) EMF committee and attended European Committee for Electrotechnical Standarization (CENELEC) meetings as the Irish delegate. CENELEC, in conjunction with the International Electrotechnical Commission (IEC), has developed a large number of standards in support of the EU Public EMF Recommendation (1999/519/EC) and the EU EMF Directive (2004/40/EC) for occupational applications.

Lewis Brien–Engineer - B(Hons) in Electronics

Lewis is experienced in carrying out site surveys and measurements on power lines, power stations and substations. He has performed surveys, modelling and reporting of major and minor infrastructure projects including the East West Interconnector and almost 2000 EMF measurements of power lines in Ireland.

Nigel Duignan–Engineer - MSc (Hons) in Electronics

Nigel is experienced in carrying out site surveys and measurements on power lines, trains and substations. He has performed surveys and prepared EIS chapters for several major infrastructural projects including the soon to be completed Luas Cross City line.

Compliance Engineering Ireland (CEI)
CEI has carried out over 500 radiofrequency site surveys throughout Ireland and worldwide. CEI are recognised by Comreg as one of the foremost independent authorities on the radio frequency spectrum in Ireland and are in regular contact on Electromagnetic Compatibility issues. CEI won the current Comreg tender to measure 120 mobile telephone base stations for non-ionising radiation (NIR). CEI are also the main supplier to the Irish mobile phone industry of independent NIR surveys.

CHAPTER 13 CLIMATE

The report on the Environmental Factor, Climate, has been written by Ciara Nolan of AWN Consulting Ltd. Full profile at Chapter 12 Air: Air Quality above.

CHAPTER 14 MATERIAL ASSETS - BUILT SERVICES

WATER SUPPLY
The report on the Water Supply aspect of the Environmental Factor, Material Assets was written by David Broderick of HES. Full profile above at Chapter 11: Water.

ELECTRICITY NETWORK
The report on the Electricity Network aspect of the Environmental Factor, Material Assets was written by Ruairi Geary, Chartered Engineer and David Tarrant, Chartered Engineer. Ruairi is a design

team lead within TLI Group Limited. He has over 10 years' experience in a wide range of Electrical/Mechanical engineering projects, specialising in the area of distribution and transmission network Design, and in particular working on the ESB system. Ruairi provides advice to both private sector and public sector clients on all aspects of the electricity system.
David is a Chartered Engineer and has over 12 years' experience in the Irish construction sector. Currently lead civil design engineer with TLI Group Design office responsible for foundation & structure analysis/design for temporary works, overhead lines, underground cables, access roads and electrical substations.

TLI Group is a utility infrastructure consultancy and construction company, operating extensively within the utilities sector both in Ireland and internationally. Designing and building overhead power lines and underground cables with associated structures are the company's core expertise.
TLI Group has operated extensively with ESB Networks (ESBN) as well as with a large portfolio of clients, in the upgrading, refurbishment and renewal of the all-island electricity network across Ireland.

Ruairi Geary and David Tarrant, along with other electrical and civil engineers in TLI, were also part of the Project Design Team, and was involved in the design of the Mountphilips Substation and Mountphilips to Upperchurch 110kV Underground Cables i.e UWF Grid Connection Element of the Whole UWF Project.

COMMUNICATIONS NETWORK
The report on the Communications Network aspect of the Environmental Factor, Material Assets, was written by Kevin Hayes of Ai Bridges Ltd.

Kevin Hayes

Kevin Hayes is the Engineering Director of Ai Bridges and is both a Master of Electronic Engineering and a Software Design Engineer with in excess of 15 years of experience in telecommunications network design, analysis and troubleshooting of radio frequency issues and development of telecommunication projects. Kevin is currently involved in researching software interference prediction models for air traffic control systems.

Ai Bridges

Ai Bridges is a leading supplier of software prediction modelling solutions and software services for the telecommunications industry and also provide comprehensive turnkey solutions and have extensive experience and knowledge of network design, implementation and deployment of telecommunications software solutions. The organisation have designed and commissioned telecommunications projects for clients throughout Ireland and abroad and have worked successfully with leading vendors to bring telecommunications software solutions to market for the renewable energy sector.

Ai Bridges have been involved in the wind and renewable energy sectors from the outset and have a team of qualified and trained personnel within the Organisation. Ai Bridges has supplied telecommunications solutions to wind farms throughout the Republic and Northern Ireland, Scotland and UK. They have undertaken environmental impact study reports on behalf of wind farm operators on the potential impact on telecommunications networks and television transmission

networks of proposed wind farm developments. AI Bridges has also have developed a 3D software prediction model that can predict the impact of a wind farm development on television transmission and aviation communications networks.

Services provided by Ai Bridges include; Electromagnet Interference (EMI) Impact studies, TV interference Remediation, Aviation & Radar Studies, Hot Zone Studies and also expert witness reporting for planning and post-planning application requirements.

CHAPTER 15 ROADS & TRAFFIC

The Roads & Traffic report was written by Mr. Eoin Reynolds of NRB Consulting Engineers. Eoin is a Chartered Engineer and is a Director of NRB Consulting Engineers Limited. He has over 26 years' experience in a wide range of civil engineering projects, although specialising in the area of Traffic & Transportation and Roads Design, and in particular in assessing the infrastructure needs of development. Eoin provides advice to both private sector and public sector clients on all aspects of roads, traffic and transportation and mobility management. He has given expert evidence at planning appeals, oral hearings and public enquiries. He was previously Director with Waterman Boreham Transport Planning, and prior to that he was Manager of the Belfast Office of JMP Consultants Ltd. NRB Consulting Engineers are specialist in roads and transportation.

CHAPTER 16 CULTURAL HERITAGE

The report on the Environmental Factor, Cultural Heritage, was written by Barry Fitzgibbon and Cóilín O'Drisceoil of Kilkenny Archaeology Ltd. The report authors are members of the Irish Archaeological Institute, the professional body of archaeologists in Ireland. The authors are also qualified as licence-eligible archaeologists under the criteria set out by the National Monuments Service and the National Museum of Ireland.

Kilkenny Archaeology Ltd. has been trading since 1998 and specializes in evaluating the impact of large-scale development on Cultural Heritage sites in the receiving environment. The company have been involved in the production of more than 50 Environmental Impact Statements for large-scale developments, including approximately 20 individual windfarm applications.

CHAPTER 17 LANDSCAPE

The report on the Environmental Factor, Landscape, was written by Richard Barker of Macro Works Ltd. Richard is Principal Landscape Architect at Macro Works Ltd. He holds Masters degree in Landscape Architecture and is a corporate member of the Irish Landscape Institute. Relevant experience includes the landscape and visual impact assessment of more than 90 wind energy development proposals including 5 no. Strategic Infrastructure Development (SID) projects and the Consented Upperchurch Windfarm. Experience also extends to numerous linear infrastructure projects including road schemes, electricity transmission lines (overhead and underground) as well as water and sewage pipelines.

Appendix to Chapter 2: The EIAR Process Including Scoping

Appendix 2.3: Scoping of Other Projects or Activities

The data and descriptions in this appendix have informed Chapter 3: Scoping & Consultation of the EIA Report. The information presented in this Appendix 3.1 is outlined below and the relevant element(s) of the Whole UWF Project are also identified.

Appendix 2.3 Section	Section Heading	Relevant EIAR
A2.3.1	Research Results of Other Projects or Activities in the Area	UWF Related Works UWF Grid Connection UWF Replacement Forestry
A.2.3.2	Cumulative Scoping of Other Projects or Activities (in order of Environmental Factors evaluated in the EIAR Main Report)	
A.2.3.3	List of Other Projects or Activities Scoped-Out from the EIAR	
A.2.3.4	List of Other Projects or Activities Scoped-In for further evaluation in the EIAR	

A2.3.1 Research Results of Other Projects or Activities in the Area

A 15km area around the footprint of the various Elements of the Whole UWF Project was drawn, and research of other large projects within this area was carried out by Construction Information Services (CIS), one of Ireland's leading research companies. To cover all projects which may have received planning and an additional extension of duration and which could be constructed at the same time as the Whole UWF Project, the search covered the period from January 2011. In addition to this, the EIAR Teams knowledge of the area added existing projects, such as existing windfarms to the list. Activities in the area surrounding the works were also considered. The list of 32 projects and 3 activities below, are the relevant projects and activities which have potential to cause cumulative effects. These projects are then scoped in Section A3.4.2 below. In the revised scoping exercise for the Revised EIAR (January 2019) No. 24 Newport Distributer Road was excluded as planning permission has expired on this project.

Other Project or Activity Map ID	Name	Industry	Details	Location	Status	Planning Authority	Planning Ref
1	Killonan to Nenagh 110kV Overhead Line	Utilities	Existing 110kV overhead line between Killonan 110kV Station near Limerick City and the 110kV/38kV substation station on the outskirts of Nenagh town. The 110kV overhead lines are located to the west of the UWF Grid Connection 110kV UGC in Mountphilips townland. The new Mountphilips Substation associated with the UWF Grid Connection will connect to this line via the new End Masts.	Between Killonan Station and Nenagh Substation	Existing	Limerick Tipperary	Existing
2	Shannonbridge to Killonan 220kV Overhead Line	Utilities	Existing 220kV overhead line between Shannonbridge 220kV Station and Killonan 110kV Station near Limerick City. The 220kV overhead lines pass over the route of the UWF Grid Connection 110kV UGC in Coole townland.	Between Shannonbridge Station and Killonan Station	Existing	Offaly Tipperary Limerick	Existing
3	Bunkimalta Windfarm	Energy	16 wind turbines, each having a rated electrical output of approximately 2,500 - 3,000 kilowatts, access tracks, a fenced Electrical Transformer Station comprising a single-storey Control Building and Substation, an effluent treatment system, three anemometer masts, repository areas, borrow pits and all associated site works, above and below ground. modifications to the existing entrance from the L-2163 to the Keeper Hill Coillte Forest. installation of approximately 22.25km of 38kV underground cable (UGC) between	Bunkimalta, Keeper Hill, Co. Tipperary, Co. Tipperary	Consented	Tipperary	13510035 16600433 16600432

Other Project or Activity Map ID	Name	Industry	Details	Location	Status	Planning Authority	Planning Ref
			Bunkimalta Wind Farm and Nenagh 110kV substation, to be installed primarily in public roads. Bunkimalta Windfarm is located c.3.5km to the north of the UWF Grid Connection, and c.11km to the northwest of the UWF Related Works, and c.12.5km to the northwest of the UWF Replacement Forestry.				
4	Castlewaller Windfarm	Energy	16 turbines (each with a maximum hub height of 100m, maximum rotor diameter of 90m, and with a total tip height of 145m), one permanent meteorological mast, 2 borrow pits, a sub-station including a control building, new internal access roads, upgrading of existing internal access roads, expansion of drainage system, turbine hardstands, wastewater holding tank, underground cables and ancillary works. The UWF Grid Connection 110kV UGC route passes through the footprint of the consented windfarm.	Castlewaller, Newport, Co. Tipperary	Consented	Tipperary	16600472, 11510251.
5	Milestone Windfarm	Energy	Milestone Windfarm is a 6-turbine windfarm located adjacent to the southwest of the consented Upperchurch Windfarm at Knockcurraghbola Commons, Knockcurraghbola Crownlands, Graniera, Shevry, Inchivara and Knockduff. When constructed, Milestone Windfarm will comprise of 6 No. wind turbines (each with a maximum tip height of 126m) along with new access tracks, and electrical substation, a borrow pit and associated works. The grid connection associated with the Milestone Windfarm is towards the south at ESBN Cauteen Station, to be cabled along the public road network. An Environmental Impact Statement accompanied the planning applications for Milestone Windfarm – Ref: 12510385 & 1410 & 16600701. 110kV UGC and Internal Windfarm Cabling pass through a landholding associated with Milestone Windfarm, which is located on lands adjacent to Upperchurch Windfarm.	Knockcurraghbola Commons, Knockcurraghbola Crownlands, Graniera and Shevry, Co. Tipperary & Knockduff & Inchivara, Milestone, Co. Tipperary	currently under construction with construction works expected to be completed before the commencement of the Whole UWF Project	Tipperary	12510385, 1410 16600701
6	Cappawhite Windfarm	Energy	18 wind turbines access tracks, fenced electrical transformer station comprising a single-storey control building and substation, anemometer masts, borrow pits and all associated site works, above and below ground. Each wind turbine will have an overall maximum dimension of 140 metres, comprising a	Bahagha Curreheen Foilaclug Foildarg Inchinsquillib Kilmore & Oldcastle,	Existing	Tipperary	13210 116

Other Project or Activity Map ID	Name	Industry	Details	Location	Status	Planning Authority	Planning Ref
			tower 90-100 metres high, with a diameter of about 4 metres at the base, to which three blades of 40-50 metres length will be attached. The Cappawhite Windfarm is c.8.5km to the southwest of the Upperchurch Windfarm.	Cappaghwhite, Co. Tipperary			
7	Garracummer Windfarm	Energy	13 no. 2 MW wind turbines with steel towers and composite fibre rotor blades of hub height up to 67 metres, a rotor diameter of up to 80 metres and base to blade-tip height of up to 107 metres, also including wind turbines transformers, turbine hardstands, new access roads, strengthening and widening of existing forestry access roads; drainage; a substation control building with fenced compound for electrical equipment; underground electrical cables linking the turbines with the substation compound; underground communication cables, and all associated site works. Garracummer Windfarm is located c.4km to the southwest of the Upperchurch Windfarm	Curraghmarky, Birchgrove, Moanvaun, Garracummer, Cummer More, Cummer Beg	Existing	Tipperary	041259 041034 041178
8	Glencarbry Windfarm	Energy	12 no. wind turbines, overall height of up to 126.6 meters, electrical control building, access roads and ancillary site works, c.5km south of the Upperchurch Windfarm	Glenough Upper, Lackenacreena/Foilmacduff, Glenpaudeen/Glencarbry, Glenough Lower/Turraheen Lower, Rossmore, Glenpaudeen/Glencarbry, Holyford, Co. Tipperary	Existing	Tipperary	07255 1180 1324 13135 13205
9	Glenough Windfarm		14 no. wind turbines up to 80m. hub height and up to 45m. blade length, access roads, control building, c.4.5km to the south of Upperchurch Windfarm	Glenough Upper/Glenough , Lower/Turraheen Upper, Turraheen Lower, Co Tipperary	Existing	Tipperary	041195 08136 08701 10595

Other Project or Activity Map ID	Name	Industry	Details	Location	Status	Planning Authority	Planning Ref
10	Hollyford Windfarm	Energy	Development of site consisting of 3 wind turbine generators, 80m in hub height, c.4.5km to the south of Upperchurch Windfarm	Glenough Upper TD, Hollyford, Co. Tipperary	Existing	Tipperary	05287 12400
11	Knockastanna Windfarm	Energy	Installation and construction of a wind farm including 4 no. turbines, sub-station, access road, temporary monitoring mast and permanent monitoring mast	Curraghfoil, Doon, Co Limerick	Existing	Limerick	011385
12	Gortnahalla Turbine	Energy	Single wind generator with a maximum output set at 500kw, hub height 65m	Gortnahalla, Upperchurch, Co. Tipperary	Built or Expired	Tipperary	12510368
13	Killuragh Digester Plant	Energy	construction of a digester plant, associated ABP building and associated site works to process farm slurry and other organic material to provide renewable energy and fertilizer	Killuragh, Pallasgreen, Co Limerick	Consented	Limerick	111066
14	Rear Cross Quarry	Quarry	1.extraction and processing of rock and ancillary operations within an existing quarry. the application provides for all ancillary operations including access road, stocking areas, quarry sump, oil interceptor/silt trap, soil/overburden storage areas and screening berms and site restoration activities/works including a total extraction area of 3.9ha (existing & proposed), stocking and ancillary areas. the quarry was originally granted planning consent under 03/51/0121. the quarry area will be restored to diverse ecological habitats. 2. the provision and erection of prefabricated modular type office/control cabin (16.2m2), amenity facilities, 3 steel container stores (34.3m2), block construction store (11.5m2), chemical toilet (2m2), weighbridge (54m2) and wheelwash (46m2). 3. all on a total site area of 8.5ha. activities to be carried out include the extraction of aggregates within an existing quarry footprint using blasting and hydraulic excavators. processing of the extracted material will be carried out using mobile plant and involves screening and crushing prior to stockpiling for sale off site. restoration/rehabilitation of the entire site will take place following the completion of extraction. permission is sought for a duration of 20 years for extraction, processing and restoration with an additional 2 years for final restoration/aftercare.	Shanballyedmond Rearcross, Co. Tipperary, Co. Tipperary	Existing	Tipperary	11510323

Other Project or Activity Map ID	Name	Industry	Details	Location	Status	Planning Authority	Planning Ref
15	Foilnaman Mast	Utilities	An existing communications mast comprising a 30m steel lattice mast structure at Knockmaroe townland, in the vicinity of the UWF Related Works/Upperchurch Windfarm site.	Knockmaroe	Existing	Tipperary	10510462
16	Cummermore Communication Pole	Utilities	An existing communications structure comprising a 20m support pole, c.2km to the southwest of the Upperchurch Windfarm, and within 4km of the UWF Related Works (Telecom Relay Pole). This existing pole carries radio aerials and a communications dish, together with associated equipment, cabling, gantry pole, GPS timing antenna, cabinet and fencing. Planning Ref: 14600313	Cummermore	Existing	Tipperary	14600313
17	Ballinahinch Mast	Utilities	24 metre high telecommunications support structure, 3 no. telecommunications antennae, 2 no. link dishes, 1 no. rfe cabinet and 2 no. associated operator cabinets, all located within a 2.4 metre high palisade fenced compound with landscaping, turning circle and a 204m long access track and all associated site works	Ballinahinch House, Ballinahinch, Birdhill, Co. Tipperary, Co. Tipperary	Existing	Tipperary	11510423
18	Knockmeale Mast	Utilities	30m monopole, with 3 no. antennas, 2 no. radio link dishes, associated equipment and cabinets which forms part of the 3g communications network	Knockmeale, Killoscully, Co. Tipperary, Co. Tipperary	Existing	Tipperary	11510111
19	Newport Regional Water Supply	Utilities	Upgrade works on the existing local network – completed.	Newross, Newport	Upgrade works complete	Tipperary	n/a
20	Thurles Regional Water Treatment Works	Utilities	The construction of a water treatment plant and outfall to the River Suir. The water treatment plant will consist of a water treatment and administration building, sludge dewatering building, ESB sub-station, generator & oil tank enclosure, raw water balancing tank, clear water tanks, sludge balancing tank, sludge thickening and sludge holding tank, washwater tank, sludge skip and emergency sludge storage area, chemical storage tanks, washwater storage tank and all associated site development and site excavation works above and below ground	Bohernacrusha, Killeenyarda, Holycross, Co. Tipperary	Consented	Tipperary	16600877

Other Project or Activity Map ID	Name	Industry	Details	Location	Status	Planning Authority	Planning Ref
21	Waste Management Facility, Thurles	Utilities	1) Construction of a new waste management facility building (c. 12 m height, c. 971 m2 gross floor area) 2) Construction of a new on-site waste water treatment plant (packaged secondary system plus packaged tertiary system) & associated pipework to cater for the existing & proposed developments 3) Associated & ancillary works will include new surface water collection system with rainwater harvesting, attenuation measures, de-commissioning of existing septic tank & percolation area, vehicle parking, staff parking, fuelling facilities, noise attenuation barriers, security & stock proof fencing & gates, kerbing, internal footpaths, road side footpaths & street lighting, structural fill & paving, slabs, alterations to site entrance, and landscaping 4) Retention of partial change of use of pre-existing authorised building office & office w.c. (c. 35 m2) to shared use as office & office w.c. between the pre-existing & proposed developments, and retention of change of use of pre-existing authorised slab for use as a slab in the proposed development (c. 261 m2) 5) Retention of the current layout and uses of conveyance plant including intake enclosure & ramps which will all be enclosed by the new facility building 6) Retention of inert fill to low lying areas of site (c. 532 m3). The retention fill area will be finished to profiles with soft landscaping including trees, shrubbery, & grasses, and will be used to enclose a new attenuation structure and as part of a landscaped site buffer / floodplain 7) Retention of associated & ancillary works and current uses including weighbridge, wheelwash, relocated hydrocarbon interceptor, silt trap, & pipework, and slabs (c. 593 m2) The facility will recover inert waste arising from construction & demolition activity including concrete, bricks, tiles, or other such similar material. The facility will recover, store, & transfer dry recyclables and will receive, store, & transfer waste (other than hazardous waste) for onward disposal. The new facility building will enclose the retained conveyance plant and other industrial equipment and will include a vehicle refuelling area. The conveyance plant will be used to convey waste from collection vehicles to larger transport vehicles. A waste facility permit would be required in relation to the development	Monakeeba, Mill Road, Thurles	Consented	Tipperary	15601055

Other Project or Activity Map ID	Name	Industry	Details	Location	Status	Planning Authority	Planning Ref
22	Dew Valley Foods Plant	Manu-factoring	construction of a 8,234 m2 extension to the existing food manufacturing facility to include processing, cold storage, packing & intake/dispatch areas, ancillary plant, maintenance & switch rooms, a staff amenity area, external steel stairs, a transformer compound, pipe bridges, external plant & associated access ladders & platforms, the realignment & expansion of the site boundary to include new boundary walls & fencing, an additional car parking area, and additional site entrance/exit & set down area, new signage, the provision of staff entrance turnstiles, a 208m2 extension to the existing secondary waste water treatment building, the construction of 2no. 1,200m3 water tanks, construction of a new 128m2 process water treatment building, relocation of existing fuel tank & bund wall enclosure, a new treated effluent discharge pipe, the boring of 4 wells, the installation of 2 infiltration tanks, additional site lighting, the relocation of existing demountable workshop & stores, the demolition of an existing pump house, water tank, sheds & ancillary structures to facilitate the works, the re-use of excavated material for landscaping, site development and improvement purposes, the construction of an internal access road, the construction of a bicycle shelter, the installation of a new steam boiler and associated flue gas stack and all ancillary site works/services.	The Commons, Holycross Road, Thurles, Co Tipperary	Consented	Tipperary	16600222
23	Industrial / warehouse Units, Thurles	Industrial	1 No. Light Industrial/Warehousing building (gross floor area 2360.6sq.m.). The development consists of (1) 1 No. Building of total floor area 2360.6sq.m. subdivided into Units. (2) Roundabout and Access Road from Nenagh Road (R498) complete with necessary improvement works and road markings. (3) Car parking and loading areas. (4) Landscaping. (5) Site development works to facilitate the site. (6) Foul water pumping station and all associated works	Bawntameena, Nenagh Road, Thurles, Co. Tipperary	Consented	Tipperary	16600037
~~24~~	~~Newport Distributor Road~~	~~Civil~~	~~Distributor Road between R503 and local road (Murroe Road) in Newport Village and associated site works including footpaths, lighting, cycletracks, drainage, etc~~	~~Tullow, Newport, Co. Tipperary~~	~~Consented~~ Planning Expired	~~Tipperary~~	~~07511157~~, ~~13510103~~

Other Project or Activity Map ID	Name	Industry	Details	Location	Status	Planning Authority	Planning Ref
25	Housing Development Doon	Re-sidential	Construction of 25 no. houses consisting of 5 no. 4 bed detached dwellings, 20 no. 3 bed semi-detached dwellings, a bored well, entrance and roads together with associated site works and services	Bottle Hill, Doon, Co Limerick	Consented	Limerick	16530
26	Housing Developments, Annacotty	Re-sidential	Construction of 48 dwellings at Annacotty & construction of 240 dwellings in three areas/lots at Walkers Road	Annacotty, Co Limerick	Consented	Limerick	137026 137094
27	Sports Club Works – Sean Treacy GAA	Sport	astroturf playing area with associated fencing and floodlighting and 2.4m high palisade	Kilcommon, Co Tipperary	Consented	Tipperary	17600278
28	Newport Rugby Club	Sport	Under construction - playing pitches, training pitches, dressing rooms, carpark	Newross, Newport	Under construction	Tipperary	17600016
29	Agriculture - Milking Parlour	Agri-culture	(1) a dairy cubicle house complete with under-ground slatted tanks, (2) a walled silage base, (3) a general agricultural shed, (4) an extension to existing calf house incorporating the existing farm yard manure slab, the demolition of existing animal house and all associated site works.	Portnard, Cappamore, Co. Limerick	Consented	Limerick	15255
30	Agriculture – Milking Parlour	Agri-culture	(1) milking parlour and dairy, (2) unroofed easy-feed layout for dairy cows, (3) geomembrane lined slurry lagoon and all ancillary works	Bunkey, Lisnagry,, Co Limerick	Consented	Limerick	15194
31	Agriculture – Turkey Tunnel & Pig Unit	Agri-culture	a loose turkey poly tunnel, open feeding yard, slatted tank in existing house now used for pigs, change of use from hay barn/loose shed to pig shed/milling shed grain store	Gortussa, Dundrum, Co. Tipperary	Consented	Tipperary	14600343
32	Agricultural sheds and stores	Agri-culture	1) to construct a slatted cubicle dairy building complete with underground slatted tank, (2) to erect a circular slurry storage tower, (3) to construct 2 x walled silage stores with associated concrete area for the storage of round bales, (4) to construct 5 x individual feed store buildings, (5) to construct farm yard manure storage building, (6) to construct fodder storage buildings	Killuragh, Pallasgreen, Co. Limerick	Consented	Limerick	17133
33	Forestry	Activity	Commercial conifer forestry plantations throughout the Slievefelim to Silvermine Mountains upland area	n/a	Ongoing	n/a	n/a

Other Project or Activity Map ID	Name	Industry	Details	Location	Status	Planning Authority	Planning Ref
34	Agriculture	Activity	Dry stock farming, mainly cattle, along with some dairy farming, throughout the Slievefelim to Silvermine Mountains upland area.	n/a	Ongoing	n/a	n/a
35	Turf-Cutting	Activity	Turf cutting in Bleanbeg Bog	n/a	Ongoing	n/a	n/a

A2.3.2 Scoping of Other Projects or Activities in the Area

A-2.3 .2.1 Introduction

In this Section A3.4.2 scoping of the Whole UWF Project together with Other Projects or Activities is presented. The scoping was carried out by the authors of the EIAR Main Report topic chapters 6 to 17.

A-2.3 .2.2 Order of Presentation

The scoping in this Appendix is presented by Environmental Factor topic, in the same order as in the EIAR Main Report.

A-2.3 .2.3 Scoping Process

For each Environmental Factor topic, the scoping of Other Projects or Activities followed the following presentation format:

1. A summary, taken from the EIAR Main Report, of the sensitive aspects, impacts and relevant life-cycle stages which evaluated for likely effects, before the cumulative scoping exercise.

2. The geographical boundaries of the Cumulative Evaluation Study Area are defined for each sensitive aspect,

3. The Other Projects or Activities listed in Section A3.4.1 Research Results of Other Projects or Activities in the Area above, with potential to cause cumulative effects and which are located within the Cumulative Evaluation Study Area were identified,

4. The relevant time-frame study area is defined. This is the stage of the Elements of the Whole UWF Project during which impacts to the sensitive aspects of the Environment are likely to occur, ie. (construction, operation, decommissioning stages),

5. The Other Projects or Activities which are located within the geographical boundary (see point 2 above) are then scoped for potential to cause cumulative effects during the time-frame boundary (see point 3 above),

6. The Other Projects or Activities which are within both the geographical and the time-frame boundaries are then scoped, using a conceptual site model exercise, for potential to cause measurable cumulative effects with the Whole UWF Project.

7. As a result of the Cumulative Conceptual Site Model exercise, each Other Project or Activity is either *scoped-in* for evaluation in the topic chapters in Volume C2 EIAR Main Report, or *scoped-out* with justification for same.

A-2.3 .2.4 Basic Assumptions

The EIAR Team scoping starts with certain **basic assumptions** for the Whole UWF Project and the Other Projects or Activities:

For the Whole UWF Project:

- The residual effect of the Whole UWF Project, or where relevant – a particular Element or part of an Element of the Whole UWF Project, is used. The residual effects are presented in the Impact Evaluation Tables in Volume C2: EIAR Main Report Chapters 6 to 17,

- Any **matters already scoped out** in the Environmental Factor topic chapters (Vol C2 EIAR Main Report), are not included in the Cumulative Conceptual Site Model, as it was considered that there is no potential for cumulative effects with Other Projects or Activities, where there were no measurable effects from the Whole UWF Project in the first instance.

For Other Projects

- the residual effect of the Other Project which assumes that these projects will be constructed, operated and decommissioned according to their planning conditions, is used,

For Activities

- The Activity as it is normally carried out.

A-2.3 .2.5 Other Projects or Activities brought forward for further evaluation in the EIAR

Only the Other Projects or Activities scoped in for further evaluation in the sections hereunder are included in the Environmental Factor topic chapters which make up Chapters 6 to 17 of the EIAR Main Report.

A list and matrix of these Other Projects or Activities is included in Section A2.3.4, at the end of this Appendix.

A-2.3 .2.6 Scoping of Other Projects or Activities for POPULATION

Table 1: Summary of the Sensitive Aspects and Impacts taken from the EIAR Main Report chapter

Sensitive Aspect Evaluated in the EIAR Main Report	Likely Impacts to POPULATION Sensitive Aspect, as per Main EIAR Report	Relevant Whole UWF Project life-cycle stage (time-frame boundary)
Local Economy	Gross Value Added to Businesses and Employment Opportunities	Construction

Table 2: Defining the geographical boundaries of the Cumulative Evaluation Study Area

Sensitive Aspect	Geographical Boundary of the Cumulative Study Area	Justification for Study Area Extent
Local Economy	UWF Grid Connection Study Area along with the additional Electoral Divisions (EDs) of Glenstal, Doon West, Cappamore and Bilboa in County Limerick and Glengar, Curraheen, Cappagh, Donohill, Clonoulty West, Clogher, Moyaliff, Greenhall/Lackagh and Kilmore in County Tipperary in addition to the whole UWF project study area.	Location of all windfarms in the Slievefelim to Silvermines uplands area.

9 No Other Projects or Activities are located within the geographical boundary, as per Table 3.

Table 3: Other Projects or Activities located within the geographical boundary

Sensitive Aspect	Other Projects or Activities	Location of Other Projects or Activities within the Cumulative Geographical Boundary
Local Economy	Project No. 4: Castlewaller Windfarm	Nearest distance to Whole UWF Project 94m (P)
	Project No. 5: Milestone Windfarm	Nearest distance to Whole UWF Project 580m (E – ~~under construction~~ operational 2018)
	Project No. 3: Bunkimalta Windfarm	Nearest distance to Whole UWF Project 2.6km (P)
	Project No. 7: Garracummer Windfarm	Nearest distance to Whole UWF Project 2.3km (E)
	Project No. 6: Cappawhite Windfarm	Nearest distance to Whole UWF Project 7km (E)
	Project No. 11: Hollyford Windfarm	Nearest distance to Whole UWF Project 3.9km (E)
	Project No. 9: Glenough Windfarm	Nearest distance to Whole UWF Project 2.8km (E)
	Project No. 10: Hollyford Windfarm	Nearest distance to Whole UWF Project 3.5km (E)
	Project No. 8: Glencarbry Windfarm	Nearest distance to Whole UWF Project 4.1km (E)

Note: (P) – Permitted Windfarm. (E) – Existing Windfarm.

As per Table 4, the **time-frame boundary is the construction stage**.

Table 4: Other Projects or Activities within the time-frame boundary

Other Project or Activity	**Is the Other Project or Activity within the Time Frame Boundary? – YES/NO** YES - Within the Timeframe Boundary – brought forward to the Cumulative Conceptual Site Model, *or* NO - Not within the time-frame boundary – scoped out
Project No. 4: Castlewaller Windfarm	NO – Windfarm will not be built during the same period as the Whole UWF Project
~~Project No. 5: Milestone Windfarm~~	~~NO – Windfarm will not be built during the same period as the Whole UWF Project, as it is currently under construction, and is expected to be operational by the time of construction for the Whole UWF Project~~
Project No. 3: Bunkimalta Windfarm	YES - Windfarm could potentially be constructed at the same time as the Whole UWF Project.
Project No. 5: Milestone Windfarm	NO – these are existing windfarms, therefore no potential for cumulative construction stage effects.
Project No. 7: Garracummer Windfarm	
Project No. 6: Cappawhite Windfarm	
Project No. 11: Hollyford Windfarm	
Project No. 9: Glenough Windfarm	
Project No. 10: Hollyford Windfarm	
Project No. 8: Glencarbry Windfarm	

1 No. Other Project – Bunkimalta Windfarm, is located within both the geographical and time-frame boundaries of the Cumulative Evaluation Study Area, and scoped using a conceptual site model exercise.

Table 5: POPULATION Cumulative Conceptual Site Model

Source(s) of Population Impacts	**Pathway(s)**	**Receptor(s)**	**Whole UWF Project Impacts**	**Project No. 3: Bunkimalta Windfarm**
Local Economy				
Construction contracts, purchasing of material and services, landowner payments	Financial Transactions	Local Economy	Gross Value Added to Businesses & Employment Opportunities	Scoped in – potential for measurable cumulative effects

Table 6: Summary of Other Projects or Activities Scoped In for Cumulative Evaluation in the Main Report

Sensitive Aspect	**Other Project or Activity (scoped in for the evaluation of cumulative impacts in VolC2: EIAR Main Report – Ch.6 Population)**
Local Economy	Project No.3: Bunkimalta Windfarm

A-2.3 .2.7 Scoping of Other Projects or Activities for HUMAN HEALTH

The Human Health appraisal, in the EIAR Main Report, draws from and builds upon the wider EIA technical disciplines, most notably Chapter 6: Population, Chapter 11: Water (in particular Surface Water and Groundwater Abstractions), Chapter 12: Air (Air Quality, Noise, Vibration, and Electromagnetic Radiation) and Chapter 15 Roads.

Table 7: Summary of the Sensitive Aspects and Impacts taken from the EIAR Main Report chapter

Sensitive Aspect Evaluated in the Main EIAR Report	**Likely Impacts to Sensitive Aspect, as per Main EIAR Report**
Local Residents & Community	Increased Employment (due to indirect Population Effect of Gross Value Added to Businesses and Employment Opportunities)
~~Kilcommon National School~~	~~No impacts are likely to occur~~
Transient People	No impacts are likely to occur

1 No. project – Bunkimalta Windfarm was included in the cumulative evaluation in Chapter 6: Population, and **is therefore scoped in for further evaluation of cumulative effects in the Human Health chapter**.

Similar to the Scoping of Other Projects or Activities for Population, above, the Other Projects or Activities are scoped out, as they occur outside of the time-frame boundary for effects to the local economy - and therefore also occur outside of the time-frame boundary for health effects to Local Residents and Community.

Table 8: Summary of Other Projects or Activities Scoped In for Cumulative Evaluation in the Main Report

Sensitive Aspect	**Other Project or Activity (scoped in for the evaluation of cumulative impacts in VolC2: EIAR Main Report – Ch.7 Human Health)**
Local Residents and Community	Project No.3: Bunkimalta Windfarm
~~Kilcommon National School~~	~~*No Other Projects or Activities scoped in for evaluation*~~
Transient People	*No Other Projects or Activities scoped in for evaluation*

A-2.3 .2.8 Scoping of Other Projects or Activities for BIODIVERSITY

Table 9: Summary of the Sensitive Aspects and Impacts taken from the EIAR Main Report chapter

Sensitive Aspect Evaluated in the Main EIAR Report	Likely Impacts to Sensitive Aspect, as per Main EIAR Report	Relevant Whole UWF Project life-cycle stage (time-frame boundary)
European Sites	*Please refer to the Natura Impact Statement which accompanies the planning application as Vol. E*	
National Sites	No impacts are likely to occur	N/A
Aquatic Species & Habitats	Decrease in instream aquatic habitat quality Riparian habitat degradation Disturbance or displacement Changes to flow regime Spread of aquatic invasive species	Construction
Terrestrial Habitats	Reduction in Terrestrial Habitats Hedgerow Severance Loss of High Nature Value Trees	Construction
Hen Harrier	Reduction in or loss of Suitable Foraging Habitat	Construction & Operation
General Bird Species	Golden Plover: Habitat Loss Golden Plover: Disturbance /Displacement Meadow Pipit: Habitat Loss General Birds: Habitat Enhancement	Construction
Bats	Destruction or disturbance of bat roosts in trees Severance of commuting routes or feeding areas Disturbance or Displacement due to Lighting	Construction
Non Volant Mammals	Badger: Habitat Loss Badger: Disturbance /Displacement Otter: Disturbance /Displacement Irish Hare, Pine Marten, Red Squirrel and Fallow Deer: Habitat Loss Irish Hare, Pine Marten, Red Squirrel and Fallow Deer: Disturbance/Displacement	Construction
Amphibians & Reptiles	No impacts are likely to occur	N/A
Marsh Fritillary (Butterfly)	Habitat Loss	Construction

Table 10: Defining the geographical boundaries of the Biodiversity Cumulative Evaluation Study Area

Sensitive Aspect	Geographical Boundary of the Study Area	Justification for study area extent
Aquatic Species & Habitats	The regional Mulkear River catchment and the regional Clodiagh River catchment	The Mulkear River and Clodiagh River are the two regional catchments in which the Whole UWF Project is located. The Mulkear River catchment drains to the Lower River Shannon SAC. The Clodiagh River catchment drains to the Lower River Suir SAC. Extending the scoping area beyond the Mulkear River and Clodiagh River catchments would mean that the whole of the River Shannon catchment and the whole of the River Suir catchment would be included and therefore at this vast scale, the Whole UWF Project would likely have an unmeasurable effect in relation to cumulative impacts.
Terrestrial Habitats	100m	Professional Judgement/twice the Best Practice recommendation.
Hen Harrier	SPA plus 5km /The Whole UWF Project plus 2km	Research on the spatial ecology of Hen Harriers has shown that foraging females spend most of their time within 1km of the nest, while males hunt mostly within 2km of the nest (Arroyo *et al.,* 2009, Irwin *et al.,* 2012, Arroyo *et al.,* 2014). Therefore, landscape and habitat changes within 1km of the nest may impact on both male and female foraging, while changes up to 2km from the nest are more likely to affect males only (Arroyo *et al.,* 2014). SNH (2014) also recommend a 2km buffer out with a proposal site within which data should be collected. A 5km buffer of the SPA in conjunction with a 2km buffer of the Development will ensure all likely effects are evaluated in the context of the Species and the SPA.
General Bird Species	1km	General birds, due to their naturally smaller home ranges are unlikely to be cumulatively affected outside this distance.
Bats	300m	Professional Judgement and as per Best Practice: Bat Surveys for Professional Ecologists: Good Practice Guidelines, Collins, (2016), and The Conservation of Bats in Bridges Project – A Report on the survey and conservation of bat roosts in bridges in Cumbria, Billington and Norman (1997).
Non-Volant Mammals-Badger	2km	Average territory size is 3.5km^2. Average 1-2km per night travelled in published literature.
Non-Volant Mammals-Otter	7km	Territory size of Otter averages at most 13.6km equivalent to a 7km buffer.
Non-Volant Mammals- Other Species	100m	Professional Judgement/twice the Best Practice recommendation.
Marsh Fritillary	2km	The distance of 2km has been previously considered as a standardised 'functional landscape' i.e. the area within which most dispersal, new colonisation and regular exchange of genetic material will occur (Fowles & Smith 2006).

18 Other Projects or Activities are located within the geographical boundary, as per Table 11.

Table 11: Other Projects or Activities located within the geographical boundary

Other Project or Activity	Aquatic Habitats & Species	Terrestrial Habitats	Hen Harrier	General Bird Species	Bats	Non-Volant Mammals	Marsh Fritillary
Project No.3: Bunkimalta Windfarm, Co. Tipperary	√		~~√~~	~~√~~			
Project No.4: Castlewaller Windfarm, Co. Tipperary	√	~~√~~	√	√	√	√	
Project No.12: Gortnahalla Turbine	√						
Project No.13: Killuragh Digester Plant							
Project No.20: Thurles Regional Water Treatment Works	√					√ Otter	
Project No.21: Waste Management Facility, Thurles							
Project No. 22: Dew Valley Foods Plant							
Project No.23: Industrial / warehouse Units, Thurles	√						
~~Project No.24: Newport Distributor Road~~	~~√~~						
Project No. 25: Housing Development Doon							
Project No.26: Housing Developments, Annacotty							
Project No.29: Agriculture - Milking Parlour							
Project No.30: Agriculture - Milking Parlour	√						
Project No.31: Agriculture – Pig Unit	√						
Project No.32: Agricultural Sheds & Stores							
Project (Activity) 33: Forestry operations	√	√	√	√		√ Badger Otter Other	√
Project (Activity) 34: General Agricultural operations	√	√	√	√		√ Badger Otter Other	√
Project (Activity) 35: Turf-Cutting		√	√	√		√ Other	√

As per Table 12, the timeframe boundary is the construction and operational stages for Hen Harrier, and the construction stage only for the remaining sensitive aspects.

Table 12: Other Projects or Activities within the time-frame boundary

Sensitive Aspect Evaluated in the EIAR Main Report	**Likely Impacts to Sensitive Aspect, as per Main EIAR Report**	**Is the Other Project or Activity within the Time Frame Boundary? – YES/NO** YES - Within the Timeframe Boundary – brought forward to the Cumulative CSM, *or* NO - Not within the time-frame boundary – scoped out
Aquatic Species & Habitats	Project No.3: Bunkimalta Windfarm, (including the windfarms Hen Harrier Management Plan)	YES
	Project No.4: Castlewaller Windfarm (including the windfarms Hen Harrier Management Plan)	NO: Outside the Timeframe Boundary – the UWF Grid Connection will be constructed before the Castlewaller Windfarm
	Project No.12: Gortnahalla Turbine	YES
	Project No.20: Thurles Regional Water Treatment Works	YES
	Project No.23: Industrial / warehouse Units, Thurles	YES
	~~Project No.24: Newport Distributor Road~~	~~YES~~
	Project No.30: Agriculture - Milking Parlour	YES
	Project No.31: Agriculture – Pig Unit	YES
	Project (Activity) 33: Forestry operations	YES
	Project (Activity) 34: Agriculture	YES
Terrestrial Habitats	~~Project No.4: Castlewaller Windfarm (including the windfarms Hen Harrier Management Plan)~~	~~NO: Outside the Timeframe Boundary – the UWF Grid Connection will be constructed before the Castlewaller Windfarm~~
	Project (Activity) 33: Forestry operations	YES
	Project (Activity) 34: Agriculture	YES
	Project (Activity) 35: Turf-cutting	YES
Hen Harrier	~~Project No.3: Bunkimalta Windfarm, (including the windfarms Hen Harrier Management Plan)~~	~~YES~~
	Project No.4: Castlewaller Windfarm (including the windfarms Hen Harrier Management Plan)	YES
	Project (Activity) 33: Forestry operations	YES
	Project (Activity) 34: Agriculture	YES
	Project (Activity) 35: Turf-cutting	YES
General Bird Species	~~Project No.3: Bunkimalta Windfarm, (including the windfarms Hen Harrier Management Plan)~~	~~YES (in relation to Meadow Pipit and General Birds)~~
	Project No.4 Castlewaller Windfarm (including the windfarms Hen Harrier Management Plan)	YES

Sensitive Aspect Evaluated in the EIAR Main Report	**Likely Impacts to Sensitive Aspect, as per Main EIAR Report**	**Is the Other Project or Activity within the Time Frame Boundary? – YES/NO** YES - Within the Timeframe Boundary – brought forward to the Cumulative CSM, *or* NO - Not within the time-frame boundary – scoped out
	Project (Activity) 33: Forestry operations	YES
	Project (Activity) 34: Agriculture	YES
	Project (Activity) 35: Turf-cutting	YES
Bats	Project No.4: Castlewaller Windfarm (including the windfarms Hen Harrier Management Plan)	YES
Non Volant Mammals	Project No.4 Castlewaller Windfarm (including the windfarms Hen Harrier Management Plan)	YES - in relation to Badger, Otter, Other Mammals (Irish Hare, Pine Martin, Red Squirrel and Fallow Deer)
	Project No.20 Thurles Regional Water Treatment Works	YES - in relation to Otter,
	Project (Activity) 33: Forestry	YES - in relation to Badger, Otter, Other Mammals (Irish Hare, Pine Martin, Red Squirrel and Fallow Deer)
	Project (Activity) 34: Agriculture	YES - in relation to Badger, Otter, Other Mammals (Irish Hare, Pine Martin, Red Squirrel and Fallow Deer)
	Project (Activity) 35: Turf-cutting	YES - in relation to Other Mammals (Irish Hare, Pine Martin, Red Squirrel and Fallow Deer)
Marsh Fritillary (Butterfly)	Project (Activity) 33: Forestry operations	YES
	Project (Activity) 34: Agriculture	YES
	Project (Activity) 35: Turf-cutting	YES

17 Other Projects or Activities are located within both the geographical and time-frame boundaries of the Cumulative Evaluation Study Area for at least one Sensitive Aspect, and therefore scoped using a conceptual site model exercise, see Tables 13 to 22.

Table 13: Conceptual Site Model for Cumulative Impacts – Aquatic Species and Habitats (1 of 2)

Source(s) of Biodiversity Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Project No.3 Bunkimalta Windfarm	~~Project No.24 Newport Distributor Rd~~	Project No.30: Agriculture - Milking Parlour	Project No.31: Agriculture – Pig Unit
				Scoping for likely cumulative effects			
Aquatic Species and Habitats							
Instream works; culvert replacement works, Movement of soils and machinery; Excavation works; Hydrocarbons; Cement based compounds; Reinstatement	Soils; Surface water, Runoff and surface water, Flowpaths	Aquatic Species and Habitats	Decrease in instream habitat quality	Yes, scoped in for sedimentation sources, Scoped out for fuel/oil and cement based compound sources as it is assumed that best practice oil and fuel measures and best practice cement control measures, as stated in the Bunkimalta WF EIS, will be implemented and therefore no measurable effects on downstream water quality is likely.	~~Yes, scoped in for sedimentation sources, Scoped out for fuel/oil and cement based compound sources, due to the small volumes present on site, and the large downstream distance from the Whole UWF Project (5km), cumulative effects are likely to be less than perceptible.~~	No, scoped out Due to the small scale nature of the site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible	No, scoped out Due to the small scale nature of the site, and the large downstream distance from the Whole UWF Project cumulative effects are likely to be less than perceptible
Sediment; Instream works; Machinery movement	Surface water; Land cover	Aquatic Species and Habitats	Changes to flow regime	Scoped Out – no potential for cumulative effects, negligible changes to flow regime due to the design of the UWF Grid Connection and the provision of reinstatement works.	~~Scoped Out – no potential for cumulative effects, negligible changes to flow regime due to the design of the UWF Grid Connection and the provision of reinstatement works.~~	Scoped Out – no potential for cumulative effects, negligible changes to flow regime due to the design of the Whole UWF Project and the provision of reinstatement works.	Scoped Out – no potential for cumulative effects, negligible changes to flow regime due to the design of the Whole UWF Project and the provision of reinstatement works.
Instream works; Operating machinery; Excavation works; Noise	Surface water; Direct contact; Ground and	Aquatic Species and Habitats	Disturbance or Displacement of Aquatic Species	Scoped Out - due to the separation distance from the Whole UWF Project, project design measures and the limited zone of effect (spatial and	~~Scoped Out - due to the large downstream distance from the Whole UWF Project (5km), project design measures and the limited zone of~~	Scoped Out - due to the large downstream distance from the Whole UWF Project , project design measures and the limited zone of effect (spatial and	Scoped Out - due to the large downstream distance from the Whole UWF Project , project design measures and the limited zone of effect (spatial and temporal)

Source(s) of Biodiversity Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Project No.3 Bunkimalta Windfarm	~~Project No.24 Newport Distributor Rd~~	Project No.30: Agriculture - Milking Parlour	Project No.31: Agriculture – Pig Unit
				Scoping for likely cumulative effects			
and human disturbance; Reinstatement	air vibrations			temporal), cumulative effects are likely to be less than perceptible.	~~effect (spatial and temporal) cumulative effects are likely to be less than perceptible.~~	temporal) cumulative effects are likely to be less than perceptible.	cumulative effects are likely to be less than perceptible.
Movement of soils and machinery; Excavation works; Reinstatement	Soils; Direct contact	Aquatic Species and Habitats	Riparian Habitat Degradation	Scoped out – no potential for cumulative effects, due to project design measures , the limited zone of effect (spatial and temporal) and the separation distance from the Whole UWF Project,	~~Scoped out – no potential for cumulative effects, due to project design measures , the limited zone of effect (spatial and temporal) and no instream works required for the distributor road.~~	Scoped out – potential for cumulative effects, due to project design measures, the limited zone of effect (spatial and temporal) and no instream works required for the agricultural development.	Scoped out – no potential for cumulative effects, due to project design measures , the limited zone of effect (spatial and temporal) and no instream works required for the agricultural development,
Instream works; Excavation works; culvert replacement works; trenching works	Surface water; Movement of soils and machinery	Aquatic Species and Habitats	Spread of aquatic invasive species	Scoped out – no potential for cumulative effects due to the implementation of the Invasive Species Management Plan, and the implementation of Biosecurity as Best practice Measures (BPM's).	~~Scoped out – no potential for cumulative effects due to the implementation of the Invasive Species Management Plan and the implementation of Biosecurity as Best practice Measures (BPM's).~~	Scoped out – no potential for cumulative effects due to the implementation of the Invasive Species Management Plan and the implementation of Biosecurity as Best practice Measures (BPM's).	Scoped out – no potential for cumulative effects due to the implementation of the Invasive Species Management Plan and the implementation of Biosecurity as Best practice Measures (BPM's).

Table 14: Conceptual Site Model for Cumulative Impacts – Aquatic Species and Habitats (2 of 2)

Source(s) of Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects			
				Project No.12: Gortnahalla Turbine	**Project No.23: Industrial / warehouse Units, Thurles**	**Project No.20: Thurles Regional Water Treatment Works**	**Project 33 & 34: General forestry and Agricultural**
Aquatic Species and Habitats							
Instream works; Movement of soils and machinery; Excavation works; ~~Forestry felling;~~ Hydrocarbons; Cement based compounds; Reinstatement	Soils; Surface water, Runoff and surface water, Flowpaths	Aquatic Species and Habitats	Decrease in instream habitat quality	No, scoped out Due to the small-scale nature of the site, the small volumes likely to present on-site and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible	~~No, scoped out~~ ~~Due to the small-scale nature of the site, the small volumes likely to present on-site and the large downstream distance to where cumulative effects can occur(20km), effects are likely to be less than perceptible~~	No, scoped out Due to the small-scale nature of the site, the small volumes likely to present on-site and the large downstream distance to where cumulative effects can occur, effects are likely to be less than perceptible	No, scoped out Effects are likely to be of a scale of less than measureable
Sediment; Instream works; Machinery movement	Surface water; Land cover	Aquatic Species and Habitats	Changes to flow regime	Scoped Out – no potential for cumulative effects, negligible changes to flow regime due to the design of the Whole UWF Project and the provision of reinstatement works.	~~Scoped Out – no potential for cumulative effects, negligible changes to flow regime due to the design of the Whole UWF Project and the provision of reinstatement works.~~	Scoped Out – no potential for cumulative effects, negligible changes to flow regime due to the design of the Whole UWF Project and the provision of reinstatement works.	Scoped Out – no potential for cumulative effects, negligible changes to flow regime due to the design of the Whole UWF Project and the provision of reinstatement works.
Instream works; Operating machinery; Excavation works; Noise and human disturbance; ~~Drilling;~~ Reinstatement	Surface water; Direct contact; Ground and air vibrations	Aquatic Species and Habitats	Disturbance or Displacement of Aquatic Species	Scoped out – no potential for cumulative effects, due to project design measures, the limited zone of effect (spatial and temporal), and the separation distance from the Whole UWF Project,	~~Scoped out – no potential for cumulative effects, due to project design measures, the limited zone of effect (spatial and temporal), and the separation distance from the Whole UWF Project,~~	Scoped out – no potential for cumulative effects, due to project design measures, the limited zone of effect (spatial and temporal), and the separation distance from the Whole UWF Project,	Scoped out – no potential for cumulative effects, due to project design measures, the limited zone of effect (spatial and temporal), and the separation

Source(s) of Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects			
				Project No.12: Gortnahalla Turbine	**Project No.23: Industrial / warehouse Units, Thurles**	**Project No.20: Thurles Regional Water Treatment Works**	**Project 33 & 34: General forestry and Agricultural**
							distance from the Whole UWF Project,
Movement of soils and machinery; Excavation works; ~~Forestry felling;~~ Reinstatement	Soils; Direct contact	Aquatic Species and Habitats	Riparian Habitat Degradation	Scoped out – no potential for cumulative effects, due to due to project design measures , the limited zone of effect (spatial and temporal) and the separation distance from the Whole UWF Project,	~~Scoped out – no potential for cumulative effects, due to due to project design measures , the limited zone of effect (spatial and temporal) and the separation distance from the Whole UWF Project,~~	Scoped out – no potential for cumulative effects, due to due to project design measures , the limited zone of effect (spatial and temporal) and the separation distance from the Whole UWF Project,	No, scoped out Effects are likely to be of a scale of less than measureable due to project design measures , and therefore the limited zone of effect (spatial and temporal).
Instream works; Excavation works	Surface water; Movement of soils and machinery	Aquatic Species and Habitats	Spread of aquatic invasive species	Scoped out – no potential for cumulative effects due to the implementation of the Invasive Species Management Plan and the implementation of Biosecurity as Best practice Measures (BPM's).	~~Scoped out – no potential for cumulative effects due to the implementation of the Invasive Species Management Plan and the implementation of Biosecurity as Best practice Measures (BPM's).~~	Scoped out – no potential for cumulative effects due to the implementation of the Invasive Species Management Plan and the implementation of Biosecurity as Best practice Measures (BPM's).	Scoped out – no potential for cumulative effects due to the implementation of the Invasive Species Management Plan and the implementation of Biosecurity as Best practice Measures (BPM's).

Table 15: Conceptual Site Model for Cumulative Impacts - Terrestrial Habitats

Source(s) of Biodiversity Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects
				Projects (Activities) 33 to 35 Forestry/Agriculture/Turf-cutting
Terrestrial Habitats				
Excavation Works	Land Cover	Habitats	Reduction in Habitats	Scoped Out: Effects are likely to be of a scale of less than measurable within the Geographical Study Area.
Excavation Works	Land Cover	Habitats	Hedgerow Severance	Scoped Out: Effects are likely to be of a scale of less than measurable within the Geographical Study Area.
Excavation Works	Land Cover	Habitats	Loss of High Nature Value Trees	Scoped Out; removal of individual HNV trees to the point of measurable effect is not reasonably foreseeable for these activities within the Geographical Study Area.

Table 16: Conceptual Site Model for Cumulative Impacts for Hen Harrier

Source(s) of Biodiversity Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects		
				Project No.4: Castlewaller Wind Farm	~~Project No.3: Bunkimalta Windfarm~~	Projects (Activities) 33 to 35 Forestry/Agriculture/Turf-cutting
Hen Harrier						
Provision of windfarm access roads, turbine hardstanding areas and substation compounds; Land cover change	Land Cover	Hen Harrier	Reduction in or Loss of Suitable Foraging Habitat	Yes –Scoped In	~~Yes-Scoped In~~	Yes- Scoped In

Table 17: Conceptual Site Model for Cumulative Impacts- General Bird Species

Source(s) of Biodiversity Impacts	Pathway (s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects		
				Project No.4: Castlewaller Wind Farm	**~~Project No.3: Bunkimalta Windfarm~~**	**Projects (Activities) 33 to 35 Forestry/Agriculture/Turf-cutting**
Golden Plover						
Construction Works; Excavation; Movement of Soils and Machinery	Land Take	Golden Plover	Habitat Loss	Scoped Out; No suitable wintering habitat, birds were only recorded flying over the site. Outside the Timeframe Boundary – the Grid Connection will be constructed before the Castlewaller Windfarm.	~~Scoped Out; No Golden Plover Recorded in Baseline Studies to inform EIS.~~	Forestry Scoped Out as habitat is unsuitable for Golden Plover. Agriculture Scoped out as land use change or management is unlikely to result in measurable effects. Turf-cutting Scoped Out as activities are unlikely to overlap wintering period/ Golden Plover will utilise cutover bog.
During Construction Noise and Visual Intrusion	Air	Golden Plover	Disturbance to/Displacement of Wintering Golden Plover (Construction and Operation)	No, Scoped out – Outside the Timeframe Boundary – the Grid Connection will be constructed before the Castlewaller Windfarm.; Operational disturbance is scoped out as no measurable disturbance is expected from the operational UGC.	~~Scoped Out; No Golden Plover Recorded in Baseline Studies to inform EIS.~~	Scoped Out; No measurable effects likely or reasonably foreseeable.
Meadow Pipit						
Construction Works; Excavation; Movement of Soils and Machinery	Land Take	Meadow Pipit	Habitat Loss	Scoped Out; No Meadow Pipit recorded in Wind Farm EIS. Outside the Timeframe Boundary – the Grid Connection will be constructed before the Castlewaller Windfarm.	~~Scoped In~~	Scoped Out; No measurable effects likely or reasonably foreseeable.
General Birds						
Reinstatement, Replanting, enhancement planting	Landuse change	General Birds	Effects from Habitat Enhancement	No, Scoped out – Outside the Timeframe Boundary – the Grid Connection will be constructed before the Castlewaller Windfarm.	~~Scoped In~~	Scoped Out; No measurable effects likely or reasonably foreseeable.

Table 18: Conceptual Site Model for Cumulative Impacts- Bats

Source(s) of Biodiversity Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects Project No.4: Castlewaller Wind Farm
Bats				
Tree felling	Landcover	Bats	Destruction/ disturbance of bat roosts in trees	No, Scoped out – Outside the Timeframe Boundary – the Grid Connection will be constructed before the Castlewaller Windfarm. Residual effects will be imperceptible therefore no measurable cumulative effects are likely.
Site Clearance	Land Cover	Bats	Severance of commuting routes or feeding areas	No – Scoped Out. This was not identified as a potential impact in the EIS.
Artificial Lighting	Visibility	Bats	Disturbance or displacement due to lighting	No – Scoped Out: It is stated in the EIS that "*the wind farm will not be lit at night, with the exception of aviation warning lights*".

Table 19: Conceptual Site Model for Cumulative Impacts- Non-Volant Mammals (Badger)

Source(s) of Biodiversity Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects	
				Project No.4: Castlewaller Wind Farm	Projects (Activities) 33, 34: Forestry/Agriculture
Badger					
Excavations, construction of new access roads, compounds and hardstanding areas	Land Cover	Badger	Habitat Loss	No, Scoped out – Outside the Timeframe Boundary – the Grid Connection will be constructed before the Castlewaller Windfarm.	Scoped Out; No measurable effects likely or reasonably foreseeable.
During Construction	Air	Badger	Disturbance to/ or Displacement of Badgers	No, Scoped out – Outside the Timeframe Boundary – the Grid Connection will be constructed before the Castlewaller Windfarm.	Scoped out: No measurable effects

Source(s) of Biodiversity Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects	
				Project No.4: Castlewaller Wind Farm	Projects (Activities) 33, 34: Forestry/Agriculture
Noise and Visual Intrusion				During Operation disturbance is scoped out as no measurable in combination effects are reasonably foreseeable.	

Table 20: Conceptual Site Model for Cumulative Impacts- Non-Volant Mammals (Otter)

Source(s) of Biodiversity Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects			
				~~Project No.24: Newport Distributor Road~~	Project No.4: Castlewaller Windfarm	Project No.20: Thurles Regional Water Treatment Works	Projects (Activities) 33, 34: Forestry/Agriculture
Otter							
During Construction Noise and Visual Intrusion	Air and visibility	Otter	Disturbance to/ or Displacement of Otter	~~Scoped Out; No measurable effects reasonably foreseeable~~.	Scoped Out; None Recorded in Baseline Studies to inform EIS. Outside the Timeframe Boundary – the Grid Connection will be constructed before the Castlewaller Windfarm.	Scoped Out: No Otter were recorded in the Clodiagh River catchment portions of the UWWP. The nearest UWWP elements are HA activities which will not disturb Otter; distance from remaining construction works such as watercourse crossings to source disturbance at TRWTW also reduces potential for in combination effects.	Scoped Out; No measurable effects reasonably foreseeable.

Table 21: Conceptual Site Model for Cumulative Impacts- Non-Volant Mammals (Irish Hare, Pine Marten, Red Squirrel and Fallow Deer)

Source(s) of Biodiversity Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects	
				Project No.4: Castlewaller Windfarm	Projects (Activities) 33 to 35 Forestry/Agriculture/Turf-cutting
Irish Hare, Pine Marten, Red Squirrel and Fallow Deer					
Groundworks and vegetation clearance, new access roads and hardstanding areas	Land Cover	Irish Hare, Pine Marten, Red Squirrel and Fallow Deer	Habitat Loss	Scoped Out: Irish Hare Habitat not directly affected; No Red Squirrel recorded; No measurable effects on Pine Marten or Fallow Deer habitats due to extensive suitable habitat in the area. Outside the Timeframe Boundary – the Grid Connection will be constructed before the Castlewaller Windfarm.	Scoped Out; No measurable effects reasonably foreseeable.
During Construction Noise and Visual Intrusion	Air and visibility	Irish Hare, Pine Marten, Red Squirrel and Fallow Deer	Disturbance/Displacement	Scoped Out: Irish Hare Habitat not directly affected; No Red Squirrel recorded; No measurable effects on Pine Marten or Fallow Deer habitats due to extensive suitable habitat in the area and movement of animals away from operating machinery. Outside the Timeframe Boundary – the Grid Connection will be constructed before the Castlewaller Windfarm.	Scoped Out; No measurable effects reasonably foreseeable.

Table 22: Conceptual Site Model for Cumulative Impacts- Invertebrates- Marsh Fritillary

Source(s) of Biodiversity Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects Projects (Activities) 33 to 35: Forestry/Agriculture/Turf-cutting
Marsh Fritillary				
Excavation Works	Land cover	Marsh Fritillary	Habitat Loss	Scoped In

Table 23: Summary of Other Projects or Activities Scoped In for Cumulative Evaluation in the EIAR Main Report Biodiversity Chapter

Sensitive Aspect	**Other Project or Activity (scoped in for the evaluation of cumulative impacts in VolC2: EIAR Main Report – Ch.8 Biodiversity**
European Sites	*Please Refer to Natura Impact Statement in Volume E*
National Sites	*No Other Projects or Activities scoped in for evaluation*
Aquatic Habitats & Species	• Project No.3: Bunkimalta Windfarm • ~~Project No.24: Newport Distributor Road~~
Terrestrial Habitats	*No Other Projects or Activities scoped in for evaluation*
Hen Harrier	• ~~Project No.3: Bunkimalta Windfarm~~ • Project No.4: Castlewaller Windfarm • Project No.33 to 35 (Activities): Forestry/Agriculture/Turf-cutting
General Bird Species	• ~~Project No.3: Bunkimalta Windfarm~~ • *No Other Projects or Activities scoped in for evaluation*
Bats	*No Other Projects or Activities scoped in for evaluation*
Non Volant Mammals	*No Other Projects or Activities scoped in for evaluation*
Amphibians & Reptiles	*No Other Projects or Activities scoped in for evaluation*
Marsh Fritillary	• Project No.33 to 35 (Activities): Forestry/Agriculture/Turf-cutting

A-2.3 .2.9 Scoping of Other Projects or Activities for LAND

Table 24: Summary of the Sensitive Aspects and Impacts from the EIAR Main Report chapter

Sensitive Aspect Evaluated in the Main EIAR Report	Likely Impacts to Sensitive Aspect, as per Main EIAR Report	Relevant Whole UWF Project life-cycle stage (time-frame boundary)
Agricultural Land	Loss of Use and Connectivity of Landholdings	Construction
Forestry Land	Loss of Use and Connectivity of Landholdings	Construction

Table 25: Defining the geographical boundaries of the Land Cumulative Evaluation Study Area

Sensitive Aspect	Geographical Boundary of the Study Area for Land	Justification for Study Area Extent for Land
Agricultural Lands	Whole UWF Project Geographical Study Area	Cumulative impacts to Agricultural Lands and Forestry Lands is limited to landholdings which could be affected by both the Whole UWF Project and by Other Project or Activity. <u>Wider Area:</u> Although there are notable wind energy developments in the Slievefelim to Silvermine Upland Area, the land take from these windfarms collectively represents less than 0.1% of the land within the upland area, therefore no measurable impacts are likely to agricultural or forestry lands in the wider area and for this reason, the boundary of the geographical study area does not extend to the wider upland area.
Forestry Lands		

<u>2 No. Other Projects</u> are located within the geographical boundary, see Table 26:

Table 26: Projects located within the Cumulative Evaluation Study Area

Sensitive Aspect	Other Projects or Activities	Location of Other Projects or Activities within the Cumulative Geographical Boundary
Agricultural Lands	Project No. 5: Milestone Windfarm	Part of the landholding associated with Milestone Windfarm lies within one of the landholdings associated with the 110kV UGC element of the Grid Connection in Knockcurraghbola Commons and Knockcurraghbola Crownlands townlands.
~~Forestry Lands~~	~~Project No. 4: Castlewaller Windfarm~~	~~Part of the landholding associated with Castlewaller Windfarm occurs within one of the landholdings associated with the 110kV UGC element of the Grid Connection, in Castlewaller townland.~~

As per Table 27, the time-frame boundary is the construction stage.

Table 27: Other Projects or Activities within Timeframe Boundaries

Sensitive Aspect	**Other Project or Activity**	**Is the Other Project or Activity within the Time Frame Boundary? – YES/NO** YES - Within the Timeframe Boundary – brought forward to the Cumulative Conceptual Site Model, *or* NO - Not within the time-frame boundary – scoped out
Agricultural Lands	Project No. 5: Milestone Windfarm	**NO:** Milestone Windfarm will have completed its construction before the start of the Whole UWF Project construction stage. Therefore will be no potential for cumulative effects.
~~Forestry Lands~~	~~Project No. 4: Castlewaller Windfarm~~	~~**NO:** The entire lifecycle of Castlewaller Windfarm (i.e. construction, operation and decommissioning) will likely occur after the Whole UWF Project is constructed. Therefore will be no potential for cumulative effects~~

Milestone Windfarm is not located within <u>both</u> the geographical and time-frame boundaries of the Cumulative Evaluation Study Area.

Therefore <u>NO</u> Other Projects or Activities are scoped in for further evaluation in the topic chapter Land.

Table 28: Summary of Other Projects or Activities Scoped In for Cumulative Evaluation in the Main Report

Sensitive Aspect	**Other Project or Activity (scoped in for the evaluation of cumulative impacts in VolC2: EIAR Main Report – Ch.9 Land)**
Agricultural Lands	*No Other Projects or Activities scoped in for evaluation*
Forestry Lands	*No Other Projects or Activities scoped in for evaluation*

A-2.3 .2.10 Scoping of Other Projects or Activities for SOILS

Table 29: Summary of the Sensitive Aspects and Impacts taken from the EIAR Main Report chapter

Sensitive Aspect Evaluated in the Main EIAR Report	Likely Impacts to Sensitive Aspect, as per Main EIAR Report	Relevant Whole UWF Project life-cycle stage (time-frame boundary)
Local Soils, Subsoils & Bedrock	Excavation & Relocation of soils, subsoil and bedrock Soil & Subsoil Compaction Soil & Subsoil Erosion Contamination from Oil, Fuels & Chemicals Contamination from Cement Based Compounds	Construction
Lower River Shannon SAC	Excavation & Relocation of soils, subsoil and bedrock Contamination from Oil, Fuels & Chemicals Contamination from Cement Based Compounds	Construction
~~Bleanbeg Bog NHA~~	~~Excavation & Relocation of soils, subsoil and bedrock~~ ~~Contamination from Oil, Fuels & Chemicals~~ ~~Contamination from Cement Based Compounds~~	~~Construction~~

Table 30: Defining the geographical boundaries of the SOILS Cumulative Evaluation Study Area

Sensitive Aspect	Geographical Boundary of the Study Area	Justification for study area extent
Local Soils, Subsoil and Bedrock	Other Projects or Activities within 100m of the UWF Whole Project works areas	Only direct effects on soils and geology are anticipated, however a conservative scoping in distance of 100m from the Whole UWF Study Area is area is undertaken to assess cumulative effects locally. A 100m buffer would cover adjacent lands and hence is very conservative.
Lower River Shannon SAC	Boundary of the UWF Grid Connection/Other Elements of the Whole UWF Project Study Areas where they overlap the SAC boundary.	Only direct effects on soils and geology are anticipated and therefore for cumulative effects to occur a direct impact on the SAC from other projects or activities will have to occur.
~~Bleanbeg Bog NHA~~	~~Entire Boundary of Bleanbeg Bog NHA~~	~~Only direct effects on soils and geology are anticipated and therefore for cumulative effects to occur a direct impact on the NHA from other projects or activities will have to occur.~~

2 Other Projects or Activities are located within the geographical boundary, see Table 31

Table 31: Other Projects or Activities located within the geographical boundary

Sensitive Aspect	Other Projects or Activities	Location of Other Projects or Activities within the Cumulative Geographical Boundary
Local Soils, Subsoil and Bedrock	~~Project No. 4: Castlewaller Windfarm~~	~~Part of the landholding associated with the permitted Castlewaller Windfarm occurs within one of the landholdings associated with the 110kV UGC element of the Grid Connection, in Castlewaller townland. Approximately 1.5km of the 110kV UGC route exists within the Castlewaller Windfarm site. There are proposed windfarm works within the 100m scoping distance of the 110kV UGC works area in Castlewaller.~~
	Project No. 5: Milestone Windfarm*	Outside the Geographical Boundary: Part of the landholding associated with Milestone Windfarm lies within one of the landholdings associated with the 110kV UGC element of the UWF Grid Connection in Knockcurraghbola Commons and Knockcurraghbola Crownlands townlands. However, there is no proposed

Sensitive Aspect	Other Projects or Activities	Location of Other Projects or Activities within the Cumulative Geographical Boundary
		construction work within the 100m scoping distance of the 110kV UGC route and therefore no cumulative effects on soils and geology are anticipated.
	Project No. 33: Forestry (Activity)	Agriculture and forestry are the predominant landuses in the area of the Whole Windfarm
	Project No. 34: Agriculture (Activity)	
Lower River Shannon SAC	Project No. 34: Agriculture (Activity)	The proposed route of the 110kV UGC at the Mulkear River crossing is also used as an agricultural access track. The land at the Bilboa River crossing is used for low intensity agriculture.
~~Bleanbeg Bog NHA~~	~~Project No. 35: Turf-cutting (Activity)~~	~~Turf cutting occurs within the boundary of the NHA.~~
	~~Project No. 4: Castlewaller Windfarm*~~	~~Outside the Geographical Boundary: Castlewaller Windfarm is located approximately 300m to the south of the NHA. There is no proposed windfarm works within the NHA and therefore no cumulative effects on soils and geology are anticipated.~~

** included for clarity, due to the close proximity of these projects to the Whole UWF Project works*

Timeframe boundaries are not relevant for soils and geology impacts as cumulative effects on soils and geology are not time dependant as impacts usually are permanent (i.e. excavation and relocation of soil/subsoil, including peat and bedrock). To account for more minor temporary effects (i.e. from cement compounds for example) the timeframe boundary from construction stage onwards is used.

Table 32: Other Projects or Activities within the time-frame boundary

Other Project or Activity	Is the Other Project or Activity within the Time Frame Boundary? – YES/NO YES - Within the Timeframe Boundary – brought forward to the Cumulative Conceptual Site Model, *or* NO - Not within the time-frame boundary – scoped out
~~Project No.4: Castlewaller Windfarm~~	YES
Project No.33: Forestry (activity)	
Project No.34: Agriculture (activity)	
~~Project No.35: Turf Cutting (activity)~~	

2 Other Projects or Activities are located within both the geographical and time-frame boundaries of the Cumulative Evaluation Study Area for at least one Sensitive Aspect, and therefore scoped using a conceptual site model exercise, see Table 33.

Table 33: Soils Conceptual Site Model - Local Soils, Subsoil and Bedrock

Source(s) of Soil Impacts	Pathway(s)	Receptor	Whole UWF Project Impacts	Scoping for Cumulative Effects		
				~~Project No.4: Castlewaller Windfarm~~	Project No. 33: Forestry and Project No. 34: Agriculture (Activities)	~~Project (Activity) 35: Turf Cutting~~
Local Soils, Subsoil and Bedrock						
Groundworks, earthworks, extraction from borrow pits	Excavation, drilling, movement and mounding of overburden	Local Soils, Subsoil and Bedrock	Excavation & Relocation of soil, subsoil and bedrock	~~Yes, scoped in~~	No, scoped out Cumulative effects are likely to be less than imperceptible given that the loss of soil and subsoil due to forestry or agricultural practices is likely to be unmeasurable over the geographical scale of the Project.	~~No, scoped out Cumulative effects are likely to be less than imperceptible given the small scale of the turbary cutting, the very low peat excavations volumes at the Whole UWF Project along with the large geographical scale of the Project.~~
Construction traffic movement, temporary infra-structure and temporary storage of overburden	Physical Com-pression	Local Soils, Subsoil and Bedrock	Soil and subsoil compaction	~~No, scoped out Due to small combined footprint of the 110kV UGC and the Castlewaller WF (within 100m scoping distance of the UGC), the cumulative compaction effects of both projects is likely to have a less than perceptible effects on local soils and subsoil. Also the proposed route of the 110kV UGC is mainly along a forestry track at the Castlewaller site which reduced the effect of compact and erosion.~~	No, scoped out Cumulative effects are likely to be less than imperceptible given that compaction due to forestry or agricultural practices is likely to be unmeasurable over the geographical scale of the Project.	~~No, scoped out Cumulative effects are likely to be less than imperceptible given the large geographical spread of the the Whole UWF Project.~~

Source(s) of Soil Impacts	Pathway(s)	Receptor	Whole UWF Project Impacts	Scoping for Cumulative Effects		
				~~Project No.4: Castlewaller Windfarm~~	Project No. 33: Forestry and Project No. 34: Agriculture (Activities)	~~Project (Activity) 35: Turf Cutting~~
Groundworks and storage of overburden	Excavations, tracking of construction traffic and wind and rain action	Local Soils, Subsoil and Bedrock	Soil and subsoil erosion	~~No, scoped out Due to small combined footprint of the 110kV UGC and the Castlewaller WF (within 100m scoping distance of the UGC), the cumulative erosion effects of both projects is likely to have a less than perceptible on local soils and subsoil.~~	No, scoped out Cumulative effects are likely to be less than imperceptible given that erosion due to forestry or agricultural practices is likely to be unmeasurable over the geographical scale of the Project.	~~No, scoped out Cumulative effects are likely to be less than imperceptible given the large geographical spread of the Whole UWF Project.~~
Oils, Fuels and Chemicals.	Soil, subsoil and bedrock pore space	Local Soils, Subsoil and Bedrock	Contamination from Oil, Fuels & Chemicals	~~No, scoped out The combined volumes present on site will be very small and cumulative effects are likely to be less than perceptible.~~	No, scoped out The potential volumes leaked/spilled during day to day activities (if any) are likely to unmeasurable over the geographical scale of the Project.	~~No, scoped out as the source is unlikely to be present in any significant volumes.~~
Cement Based compounds	Soil, subsoil and bedrock pore space	Local Soils, Subsoil and Bedrock	Contamination from Cement Based Compounds	~~No, scoped out The combined volumes present are will be very small and cumulative effects are likely to be less than perceptible.~~	No, scoped out as the source is unlikely to be present in any significant volume.	~~No, scoped out as the source is unlikely to be present.~~

Table 34: Soils Conceptual Site Model - Lower River Shannon SAC

Source(s) of Soil Impacts	Pathway(s)	Receptor	Whole UWF Project Impacts	Scoping for Cumulative Effects
				Project No. 34: Agriculture (Activities)
Lower River Shannon SAC				
Groundworks, relocation and storage of overburden	Excavation, movement and mounding of overburden	Soil, subsoil and bedrock	Excavation & Relocation of soils, subsoil and bedrock (UWF Grid Connection only)	No, Scoped out – Cumulative effects are likely to be less than imperceptible given that the loss of soil and subsoil due to agricultural practices is likely to be unmeasurable.

Source(s) of Soil Impacts	Pathway(s)	Receptor	Whole UWF Project Impacts	Scoping for Cumulative Effects
				Project No. 34: Agriculture (Activities)
Oils, fuels and chemicals.	Soil, subsoil and bedrock pore space	Soil, subsoil and bedrock	Contamination from Oil, Fuels & Chemicals (UWF Grid Connection only)	No, Scoped out – The potential volumes leaked/spilled during day to day activities (if any) are likely to unmeasurable at the works location within the SAC
Cement based compounds.	Soil, subsoil and bedrock pore space	Soil, subsoil and bedrock	Contamination from Cement Based Compounds (UWF Grid Connection only)	No, Scoped out – Farming activities are not expected to have cement based compounds at the proposed works location

Table 35: ~~Soils Conceptual Site Model – Bleanbeg Bog NHA~~

~~Source(s) of Soil Impacts~~	~~Pathway(s)~~	~~Receptor~~	~~Whole UWF Project Impacts~~	~~Scoping for Cumulative Effects~~
				~~Project (Activity) 35: Turf-Cutting~~
~~Bleanbeg Bog NHA~~				
~~Groundworks and relocation of soil, subsoil and bedrock~~	~~Excavations and storage of material~~	~~Soil, subsoil and bedrock~~	~~Excavation & Relocation of soils, subsoil and bedrock~~ ~~(UWF Grid Connection only)~~	~~Scoped In~~
~~Contamination of soil, subsoil and bedrock from leakages and spillage of oils, fuels, chemicals.~~	~~Soil, subsoil and bedrock pore space~~	~~Soil, subsoil and bedrock~~	~~Contamination from Oil, Fuels & Chemicals (UWF Grid Connection only)~~	~~No, scoped out as the source is unlikely to be present in any significant volumes.~~
~~Contamination of soil, subsoil and bedrock from cement based compounds.~~	~~Soil, subsoil and bedrock pore space~~	~~Soil, subsoil and bedrock~~	~~Contamination from Cement Based Compounds (UWF Grid Connection only)~~	~~No, Scoped out, source not likely to be present.~~

Table 36: Summary of Other Projects or Activities Scoped In for Cumulative Evaluation in the Main Report

Sensitive Aspect	Other Project or Activity (scoped in for the evaluation of cumulative impacts in VolC2: EIAR Main Report – Ch.10 SOILS)
Local Soils, Subsoil and Bedrock	~~Project No.4: Castlewaller Windfarm~~ *No Other Projects or Activities scoped in for evaluation*
Lower River Shannon SAC	*No Other Projects or Activities scoped in for evaluation*
~~Bleanbeg Bog NHA~~	~~Project No.35 (Activity): Turf Cutting~~

A-2.3 .2.11 Scoping of Other Projects or Activities for WATER

Table 37: Summary of the Sensitive Aspects and Impacts taken from the EIAR Main Report chapter

Sensitive Aspect Evaluated in the Main EIAR Report	Likely Impacts to Sensitive Aspect, as per Main EIAR Report	Relevant Whole UWF Project life-cycle stage (time-frame boundary)
Local Surface Water Bodies	Morphological impacts to watercourses due to in-stream works Surface water quality impacts during conifer plantation tree felling Surface water quality impacts due to earthworks Water quality impacts from dewatering of excavations Surface Water Quality Impacts due to Watercourse Crossing Works Surface Water Quality Impacts during Directional Drilling Works Surface Water Impacts due to Contamination by fuels, oils, chemicals Water Quality Impacts from Cement Based Compounds Increased flood risk Surface Water Quality Impacts due to Runoff from Permanent Hardstanding Surfaces	Construction Construction Construction Construction Construction Construction Construction Construction Operation Operation
Local Groundwater Bodies	Ground Water Impacts due to Contamination by Fuels, Oils and Chemicals Ground Impacts from Cement Based Compounds Groundwater level (quantity) impacts from dewatering of excavations	Construction
Local Wells & Springs	No impacts are likely to occur	N/A
Lower River Shannon SAC	~~Surface water quality impacts due to tree felling~~ Surface water quality impacts due to earthworks Water quality impacts from dewatering of excavations Surface Water Quality Impacts due to Watercourse Crossing Works ~~Surface Water Quality Impacts during Directional Drilling Works~~ Surface Water Impacts due to Contamination by fuels, oils, chemicals Water Quality Impacts from Cement Based Compounds	Construction
Lower River Suir SAC	Surface water quality impacts due to tree felling Surface water quality impacts due to earthworks Surface Water Quality Impacts due to Watercourse Crossing Works Surface Water Impacts due to Contamination by fuels, oils, chemicals Water Quality Impacts from Cement Based Compounds	Construction
~~Bleanbeg Bog NHA~~	~~No impacts are likely to occur~~	~~N/A~~
Local Water Dependent Habitats	Drainage of Marsh Fritillary habitat	Construction/Operation

Table 38: Defining the geographical boundaries of the WATER Cumulative Evaluation Study Area

Receptor	Geographical Boundary of the Study Area	Justification for Study Area Extent
Local Surface Water Bodies	As defined by local surface water catchments. The cumulative assessment was completed on a Local Surface Water Body scale	Only other developments within the same local surface water body as the subject development or the other elements of the Whole UWF Project can contribute to cumulative impacts within the surface water body. The local surface water bodies included are: Newport River (Mulkear), Small River, Clare River (Annagh), Bilboa River and the Clodiagh River).
Local Groundwater Bodies	With 300m of the construction works areas associated with the various elements of the Whole UWF Project	Within the underlying aquifer, groundwater flowpaths are expected to be relatively short, typically from 30-300m before groundwater discharges locally into streams. Therefore, for cumulative effects to occur on groundwater, other developments will have to be within 300m of the Whole UWF Project.
Lower River Shannon SAC	The regional Mulkear River catchment	The Mulkear River is one of the regional catchment in which the Whole UWF Project is located. The Mulkear River catchment drains to the Lower River Shannon SAC. Extending the scoping area beyond the Mulkear River catchment would mean that the whole of the River Shannon catchment would be included and therefore at this vast scale, the Whole UWF Project would likely have an unmeasurable effect in relation to cumulative impacts.
Lower River Suir SAC	The regional Clodiagh River catchment	The Clodiagh River is one of the regional catchments in which the Whole UWF Project is located. The Clodiagh River catchment drains to the Lower River Suir SAC. Extending the scoping area beyond the Clodiagh River catchment would mean that a much larger proportion of the River Suir catchment would be included and therefore at this scale, the Whole UWF Project would likely have an unmeasurable effect in relation to cumulative impacts.
Local Water Dependent Habitats	Within 300m of habitat	300m relates to the groundwater flowpath distance. Therefore, for cumulative effects to occur on local water dependant habitats, other developments will have to be within 300m of the Whole UWF Project.

14 Other Projects or Activities are located within the geographical boundaries, see Table 39.

Table 39: Other Projects or Activities located within the geographical boundary

Sensitive Aspect	Other Projects or Activities	Location of Other Projects or Activities within the Cumulative Geographical Boundary
Local Surface Water Bodies	Project No. 3: Bunkimalta Windfarm	Consented windfarm development, where 5 no. turbines are located within the Clare River catchment and 11 no. turbines are located within the Newport River (Mulkear) catchment.
	Project No. 4: Castlewaller Windfarm	Consented windfarm development, where all 15 no. turbines are located within the Small River catchment.
	Project No. 12: Gortnahalla Wind Turbine	Consented single turbine development within the Clodiagh River catchment.
	Project No.14: Rear Cross Quarry	NO: Although located within the geographical boundary, there is no potential for effects to water quality due to the implementation of best practice water quality control measures as stated in the quarry's EIS which are being implemented and therefore no measureable cumulative effects on downstream water quality is likely.
	Project No. 20: Thurles Regional Water Treatment Works	Consented water treatment works within the the Clodiagh River catchment.
	Project No. 23: Industrial / warehouse Units, Thurles	Consented Industrial / warehouse Units within the Clodiagh River catchment.
	~~Project No. 24: Newport Distributor Road~~	~~Consented public road development at Newport, Co. Tipperary within the Newport River catchment.~~
	Project No. 30: Agriculture – Milking Parlour	Consented milking parlour development within the Newport River catchment.
	Project No. 31: Agriculture – Turkey Tunnel & Pig Unit	Consented change of use of hay storage to slatted unit for pigs at farm site located within the Multeen River catchment.
	Project No. 33: Forestry (Activities)	Forestry is one of the predominant land uses in the area of the Whole UWF Project.
	Project No. 34: Agriculture (Activities)	Agriculture is one of the predominant land uses in the area of the Whole UWF Project.
Local Ground-water Bodies	**NO**: scoped out, no projects located within the geographical boundary with potential to cause measurable cumulative effects.	
Lower River Shannon SAC	Project No. 4: Castlewaller Windfarm	Consented windfarm development, where all 15 no. turbines are located within the Small River catchment. The windfarm is also located upstream of the Lower River Shannon SAC.
	Project No. 3: Bunkimalta Windfarm	Consented windfarm development, upstream of the Lower River Shannon SAC, where 5 no. turbines are located within the Clare River catchment and 11 no. turbines are located within the Newport River (Mulkear) catchment.

	Project No. 13: Killuragh Digester Plant	Consented development upstream of the Lower River Shannon SAC within the Mulkear River catchment.
	~~Project No. 24: Newport Distributor Road~~	~~Consented public road development at Newport, Co. Tipperary, upstream of the Lower River Shannon SAC, within the Newport River catchment~~
	Project No. 25: Housing Development Doon	Consented housing development, upstream of the Lower River Shannon SAC, within the Mulkear River catchment.
	Project No. 26: Housing Developments, Annacotty	Consented development, upstream of the Lower River Shannon SAC, within the Mulkear River catchment.
	Project No. 29: Agriculture - Milking Parlour	Consented development, upstream of the Lower River Shannon SAC, within the Mulkear River catchment.
	Project No. 32: Agricultural sheds and stores	Consented farm development, upstream of the Lower River Shannon SAC, within the Mulkear River catchment.
	Project No. 30: Agriculture – Milking Parlour	Consented milking parlour development, upstream of the Lower River Shannon SAC, within the Newport River catchment.
	Project No. 33: Forestry (Activities)	Forestry is one of the predominant land uses in the area of the Whole UWF Project.
	Project No. 34: Agriculture (Activities)	Agriculture is one of the predominant land uses in the area of the Whole UWF Project.
Lower River Suir SAC	Project No. 12: Gortnahalla Wind Turbine	Consented single turbine development, upstream of the Lower River Suir SAC, within the Clodiagh River catchment.
	Project No. 20: Thurles Regional Water Treatment Works	Consented water treatment works, upstream of the Lower River Suir SAC, within the Clodiagh River catchment.
	Project No. 23: Industrial / warehouse Units, Thurles	Consented Industrial / warehouse Units, upstream of the Lower River Suir SAC, within the Clodiagh River catchment.
	Project No. 31: Agriculture – Turkey Tunnel & Pig Unit	Agricultural development at a farm site, upstream of the Lower River Suir SAC, located within the Multeen River catchment.
	Project No. 33: Forestry (Activities)	Forestry is one of the predominant land uses in the area of the Whole UWF Project.
	Project No. 34: Agriculture (Activities)	Agriculture is one of the predominant land uses in the area of the Whole UWF Project.
Local Water Dependent Habitats	**NO**: scoped out, no projects located within the geographical boundary with potential to cause measurable cumulative effects	

As per Table 40, the time-frame boundary is mainly the construction stage, with the operational stage also relevant for some Local Surface Water Body impacts and for Local Water Dependent Habitats..

Table 40: Other Projects or Activities within the time-frame boundary

Sensitive Aspect	**Other Projects or Activities**	**Is the Other Project or Activity within the Time Frame Boundary? – YES/NO** YES - Within the Timeframe Boundary – brought forward to the Cumulative Conceptual Site Model, or NO - Not within the time-frame boundary – scoped out
Local Surface Water Bodies	Project No. 3: Bunkimalta Windfarm	YES
	Project No. 4: Castlewaller Windfarm	NO: Outside the Timeframe Boundary in relation to sedimentation effects – the UWF Grid Connection will be constructed before the Castlewaller Windfarm.
	Project No. 12: Gortnahalla Wind Turbine	YES
	Project No. 20: Thurles Regional Water Treatment Works	YES
	Project No. 23: Industrial / warehouse Units, Thurles	YES
	~~Project No. 24: Newport Distributor Road~~	~~YES~~
	Project No. 30: Agriculture – Milking Parlour	YES
	Project No. 31: Agriculture – Turkey Tunnel & Pig Unit	YES
	Project No. 33: Forestry (Activities)	YES
	Project No. 34: Agriculture (Activities)	YES
Lower River Shannon SAC	Project No. 3: Bunkimalta Windfarm	YES
	Project No. 4: Castlewaller Windfarm	NO: Outside the Timeframe Boundary in relation to sedimentation effects – the UWF Grid Connection will be constructed before the Castlewaller Windfarm.
	Project No. 13: Killuragh Digester Plant	YES
	~~Project No. 24: Newport Distributor Road~~	~~YES~~
	Project No. 25: Housing Development Doon	YES
	Project No. 26: Housing Developments, Annacotty	YES
	Project No. 29: Agriculture - Milking Parlour	YES
	Project No. 30: Agriculture – Milking Parlour	YES
	Project No. 32: Agricultural sheds and stores	YES
	Project No. 33: Forestry (Activities)	YES
	Project No. 34: Agriculture (Activities)	YES

Lower River Suir SAC	Project No. 12: Gortnahalla Wind Turbine	YES
	Project No. 20: Thurles Regional Water Treatment Works	YES
	Project No. 23: Industrial / warehouse Units, Thurles	YES
	Project No. 31: Agriculture – Turkey Tunnel & Pig Unit	YES
	Project No. 33: Forestry (Activities)	YES
	Project No. 34: Agriculture (Activities)	YES

13 Other Projects or Activities are located within both the geographical and time-frame boundaries of the Cumulative Evaluation Study Area for at least one Sensitive Aspect, and therefore scoped using a conceptual site model exercise, see Tables 41 to 45.

Table 41: WATER Conceptual Site Model for Cumulative Impacts (Part 1 of 2) – Local Surface Water Bodies

Source(s) of Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects				
				Project No. 3: Bunkimalta Windfarm	**Project No. 12: Gortnahalla Turbine**	**Project No. 20: Thurles Regional Water Treatment Works**	**Project No. 23: Industrial / warehouse Units, Thurles**	**~~Project No. 24: Newport Distributor Road~~**
Local Surface Water Bodies								
Surface water quality effects from suspended sediments	Runoff / Surface Water flows	Local Surface Water Bodies	Surface water quality effects from suspended sediments	Yes, scoped in	No, scoped out Due to the small scale nature of the site, and the large downstream distance from the Whole UWF Project (10km), cumulative effects are likely to be less than perceptible.	No, scoped out Due to the small scale nature of the site, and the large downstream distance to where cumulative effects can occur(20km), effects are likely to be less than perceptible.	No, scoped out Due to the small scale nature of the site, and the large downstream distance to where cumulative effects can occur(20km), effects are likely to be less than perceptible.	~~Yes, scoped in~~
Oils, fuels and chemicals	Runoff and surface water flowpaths	Local Surface Water Bodies	Surface Water Impacts due to Con-tamination by Fuels, Oils and Chemicals	No, scoped out It is assumed that best practice oil and fuel measures as stated in the Bunkimalta WF EIS will be implemented and therefore no measure effects on downstream water quality is likely.	No, scoped out Due to the small volumes likely to present on-site, and the large downstream distance from the Whole UWF Project (10km), cumulative effects are likely to be less than perceptible.	No, scoped out Due to the small volumes likely to present on-site, and the large downstream distance to where cumulative effects can occur(20km), effects are likely to be less than perceptible.	No, scoped out Due to the small volumes likely to present on-site, and the large downstream distance to where cumulative effects can occur(20km), effects are likely to be less than perceptible.	~~No, scoped out Due to the small volumes present on-site, and the large downstream distance from the Whole UWF Project (5km), cumulative effects are likely to be less than perceptible.~~
Cement based compounds	Runoff and surface water flowpaths	Local Surface Water Bodies	Water Quality Impacts from Cement Based Compounds	No, scoped out It is assumed that best practice cement control measures as	No, scoped out Due to the small volumes likely to present on-site, and the	No, scoped out Due to the small volumes likely to present on-site, and	No, scoped out Due to the small volumes likely to present on-site, and	~~No, scoped out Due to the small volumes present on-site (Newport), and~~

Source(s) of Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects				
				Project No. 3: Bunkimalta Windfarm	**Project No. 12: Gortnahalla Turbine**	**Project No. 20: Thurles Regional Water Treatment Works**	**Project No. 23: Industrial / warehouse Units, Thurles**	**~~Project No. 24: Newport Distributor Road~~**
Local Surface Water Bodies								
				stated in the Bunkimalta WF EIS will be implemented and therefore no measure effects on downstream water quality is likely.	large downstream distance from the Whole UWF Project (10km), cumulative effects are likely to be less than perceptible.	the large downstream distance to where cumulative effects can occur(20km), effects are likely to be less than perceptible.	the large downstream distance to where cumulative effects can occur(20km), effects are likely to be less than perceptible.	~~the large downstream distance from the Whole UWF Project (5km), cumulative effects are likely to be less than perceptible.~~
Permanent Access Roads and Hardstanding and new culverts	Runoff and surface water flowpaths	Local Surface Water Bodies	Increase flood risk, Surface Water Quality Impacts due to Runoff from Permanent Hardstanding Surfaces	Scoped out - due to the project design (new culverts sized to coped with a 100yr flood at a minimum, permanent drainage systems for permanent infrastructure) of the Whole UWF Project – no potential for measurable cumulative effects	Scoped out - due to the project design (new culverts sized to coped with a 100yr flood at a minimum, permanent drainage systems for permanent infrastructure) of the Whole UWF Project – no potential for measurable cumulative effects	Scoped out - due to the project design (new culverts sized to coped with a 100yr flood at a minimum, permanent drainage systems for permanent infrastructure) of the Whole UWF Project – no potential for measurable cumulative effects	Scoped out - due to the project design (new culverts sized to coped with a 100yr flood at a minimum, permanent drainage systems for permanent infrastructure) of the Whole UWF Project – no potential for measurable cumulative effects	~~Scoped out - due to the project design (new culverts sized to coped with a 100yr flood at a minimum, permanent drainage systems for permanent infrastructure) of the Whole UWF Project – no potential for measurable cumulative effects~~

Table 42: WATER Conceptual Site Model for Cumulative Impacts (Part 2 of 2) – Local Surface Water Bodies

Source(s) of Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects		
				Project 30: Agriculture – Milking Parlour	**Project No. 31: Agriculture – Turkey Tunnel & Pig Unit**	**Project No. 34: Agriculture and Project No. 33: Forestry operation (Activities)**
Local Surface Water Bodies						
Surface water quality effects from suspended sediments	Runoff / Surface Water flows	Local Surface Water Bodies	Surface water quality effects from suspended sediments	No, scoped out Due to the small scale nature of the agricultural site, and the large downstream distance from the Whole UWF Project (8km), cumulative effects are likely to be less than perceptible.	No, scoped out Due to the small scale nature of the agricultural site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out Effects are likely to be of a scale of less than measureable.
Oils, fuels and chemicals	Runoff and surface water flowpaths	Local Surface Water Bodies	Surface Water Impacts due to Contamination by Fuels, Oils and Chemicals	No, scoped out Due to the small volumes present on-site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out Due to the small scale nature of the agricultural site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out Effects are likely to be of a scale of less than measureable.
Cement based compounds	Runoff and surface water flowpaths	Local Surface Water Bodies	Water Quality Impacts from Cement Based Compounds	No, scoped out Due to the small volumes present on-site (Milking Parlour), and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out Due to the small scale nature of the agricultural site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out Effects are likely to be of a scale of less than measureable

Table 43: WATER Conceptual Site Model for Cumulative Impacts (Part 1 of 2) – Lower River Shannon SAC

Source(s) of Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects			
				Project No. 3: Bunkimalta Windfarm	**Project No. 13: Killuragh Digester Plant,**	**~~Project No. 24: Newport Distributor Road~~**	**Project No. 25: Housing Development Doon**
Lower River Shannon SAC							
Surface water quality effects from suspended sediments	Surface Water flows	Lower River Shannon SAC	Surface water quality effects from suspended sediments	Yes, scoped in	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.	~~Yes, scoped in~~	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.
Oils, fuels and chemicals	Runoff and surface water flowpaths	Lower River Shannon SAC	Water Impacts from Fuels, Oils and Chemicals	No, scoped out It is assumed that best practice oil and fuel measures as stated in the Bunkimalta WF EIS will be implemented and therefore no measure effects on downstream water quality is likely.	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.	~~No, scoped out~~ ~~Due to the small volumes present on-site, and the large downstream distance from the Whole UWF Project (5km), cumulative effects are likely to be less than perceptible.~~	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.
Cement based compounds	Runoff and surface water flowpaths	Lower River Shannon SAC	Water Quality Impacts from Cement Based Compounds	No, scoped out It is assumed that best practice cement control measures as stated in the Bunkimalta WF EIS will be implemented and therefore no measure effects on downstream water quality is likely.	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.	~~No, scoped out~~ ~~Due to the small volumes present on-site, and the large downstream distance from the Whole UWF Project (5km), cumulative effects are likely to be less than perceptible.~~	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.

Table 44: WATER Conceptual Site Model for Cumulative Impacts (Part 2 of 2) – Lower River Shannon SAC

Source(s) of Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects				
				Project No. 26: Housing Developments, Annacotty	**Project No. 29: Agriculture - Milking Parlour**	**Project 30: Agriculture – Milking Parlour**	**Project No. 32: Agricultural sheds and stores**	**Project No. 33: Forestry Project No. 34: Agriculture**
Lower River Shannon SAC								
Surface water quality effects from suspended sediments	Surface Water flows	Lower River Shannon SAC	Surface water quality effects from suspended sediments	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.	No, scoped out Due to the small scale nature of the site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.	No, scoped out Effects are likely to be of a scale of less than measureable.
Surface water quality effects from oils, fuels and chemicals	Surface Water flows	Lower River Shannon SAC	Water Impacts from Fuels, Oils and Chemicals	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.	No, scoped out Due to the small volumes present on-site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.	No, scoped out Effects are likely to be of a scale of less than measureable.
Surface water quality effects from cement based compounds	Surface Water flows	Lower River Shannon SAC	Water Quality Impacts from Cement Based Compounds	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.	No, scoped out Due to the small volumes present on-site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out There will be no significant runoff from site to generate any sort of measureable in-combination effect.	No, scoped out Effects are likely to be of a scale of less than measureable.

Table 45: WATER Conceptual Site Model for Cumulative Impacts (Part 1 of 1) – Lower River Suir SAC

Source(s) of Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects				
				Project No. 12: Gortnahalla Turbine	**Project No. 20: Thurles Regional Water Treatment Works**	**Project No. 23: Industrial / warehouse Units, Thurles**	**Project No. 31: Agriculture – Turkey Tunnel & Pig Unit**	**Project No. 33: Forestry Project No. 34: Agriculture**
Lower River Suir SAC								
Surface water quality effects from suspended sediments	Surface Water flows	Lower River Suir SAC	Surface water quality effects from suspended sediments	No, scoped out Due to the small scale nature of the site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out Due to the small scale nature of the site, and the large downstream distance to where cumulative effects can occur, effects are likely to be less than perceptible.	No, scoped out Due to the small scale nature of the site, and the large downstream distance to where cumulative effects can occur, effects are likely to be less than perceptible.	No, scoped out, due to the small scale nature of the site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out Effects are likely to be of a scale of less than measureable.
Surface water quality effects from oils, fuels and chemicals	Surface Water flows	Lower River Suir SAC	Water Impacts from Fuels, Oils and Chemicals	No, scoped out Due to the small volumes likely to present on-site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out, due to the small volumes likely to present on-site, and the large downstream distance to where cumulative effects can occur, effects are likely to be less than perceptible.	No, scoped out, due to the small volumes likely to present on-site, and the large downstream distance to where cumulative effects can occur, effects are likely to be less than perceptible.	No, scoped out, due to the small scale nature of the site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out Effects are likely to be of a scale of less than measureable.
Surface water quality effects from cement based compounds	Surface Water flows	Lower River Suir SAC	Water Quality Impacts from Cement Based Compounds	No, scoped out Due to the small volumes likely to present on-site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out - Due to the small volumes likely to present on-site, and the large downstream distance to where cumulative effects can occur, effects are likely to be less than perceptible.	No, scoped out, due to the small volumes likely to present on-site, and the large downstream distance to where cumulative effects can occur, effects are likely to be less than perceptible.	No, scoped out, due to the small scale nature of the site, and the large downstream distance from the Whole UWF Project, cumulative effects are likely to be less than perceptible.	No, scoped out Effects are likely to be of a scale of less than measureable.

Table 46: Summary of Other Projects or Activities Scoped In for Cumulative Evaluation in the Main Report

Sensitive Aspect	Other Project or Activity (scoped in for the evaluation of cumulative impacts in VolC2: EIAR Main Report – Ch.11: WATER)
Local Surface Water Bodies	Project No.3: Bunkimalta Windfarm ~~Project No.24: Newport Distributor Road~~
Local Groundwater Bodies	*No Other Projects or Activities scoped in for evaluation*
Local Wells & Springs	*No Other Projects or Activities scoped in for evaluation*
Lower River Shannon SAC	Project No.3: Bunkimalta Windfarm ~~Project No.24: Newport Distributor Road~~
Lower River Suir SAC	*No Other Projects or Activities scoped in for evaluation*
Bleanbeg Bog NHA	*No Other Projects or Activities scoped in for evaluation*
Local Water Dependent Habitats	*No Other Projects or Activities scoped in for evaluation*

A-2.3 .2.12 Scoping of Other Projects or Activities for AIR

Table 47: Summary of the Sensitive Aspects and Impacts taken from the EIAR Main Report chapter

Sensitive Aspect Evaluated in the Main EIAR Report	Likely Impacts to Sensitive Aspect, as per Main EIAR Report	Relevant Whole UWF Project life-cycle stage (time-frame boundary)
Local Residents & Community	Decrease in Ambient Air Quality Increase in Ambient Noise Levels (construction) Increase in Ambient Noise Levels (operational stage) Increase in Ambient EMF Levels	Construction & Operational
Transient People	Increase in Ambient EMF Levels	Operational
Electronic Equipment	Increase in Ambient EMF Levels	Operational

Table 48: Defining the geographical boundaries of the AIR Cumulative Evaluation Study Area

Sensitive Aspect	Geographical Boundary of the Study Area	Justification for Study Area Extent
Local Residents & Community	Air Quality, Noise & Vibration: 700m of construction works areas or within 50m of main transport routes used by construction vehicles, and within 500m of operational substations (noise emissions only). EMF: 200m from Mountphilips 110kV Substation, 110kV UGC, Internal Windfarm Cabling, Consented UWF Turbines and Consented UWF Substation.	Local Residents & Community could potential be effected by noise sources or EMF sources from different directions at the same time or from air quality impacts at different times (sequentially) and therefore the distance from the source was doubled from that used for the elements of the Whole UWF Project.
Transient People	200m from the Mountphilips 110kV Substation, 110kV UGC, Internal Windfarm Cabling, Consented Upperchurch Turbines and Consented Upperchurch Substation.	Potential for electronic equipment to be effected by increased levels of EMF coming from different directions and therefore the distance from the source was doubled from that used for direct effects.
Electronic Equipment	200m from the Mountphilips 110kV Substation, 110kV UGC, Internal Windfarm Cabling, Consented Upperchurch Turbines and Consented Upperchurch Substation.	Potential for electronic equipment to be effected by increased levels of EMF coming from different directions and therefore the distance from the source was doubled from that used for direct effects.

3 Other Projects or Activities are located within the geographical boundary, see Table 49

Table 49: Other Projects or Activities located within the geographical boundary

Sensitive Aspect	Other Projects or Activities	Location of Other Projects or Activities within the Cumulative Geographical Boundary
Local Residents & Community	Project No.1: Killonan – Nenagh 110kV OHL	The 110kV OHL is located to the west of the Mountphilips Substation Within the geographical boundary for construction stage dust and noise effects and operational stage noise effects. Outside the geographical boundary for operational EMF effects No potential for cumulative operational stage noise effects.
	Project No. 2: Shannonbridge – Killonan 220 kV OHL	The 110kV UGC will cross under the existing 220 kV OHL to the east of the Mountphilips Substation Within the geographical boundary for construction stage dust and noise effects and operational stage EMF effects. No potential for construction cumulative noise or dust or operational stage cumulative noise effects.
	~~Project No. 4: Castlewaller Windfarm~~	~~Nearest distance to Whole UWF Project 94m (P)~~ ~~Within the geographical boundary for construction stage noise and dust effects.~~ ~~Outside the geographical boundary for operational noise or EMF effects~~
	Project No. 5: Milestone Windfarm	Nearest distance to Whole UWF Project 580m (operational) Within the geographical boundary for construction stage dust, noise and vibration effects. Outside the geographical boundary for operational EMF effects. Outside the geographical boundary for operational noise effects from the UWF Related Works or UWF Grid Connection in the Knockmaroe/ Knockcurraghbola area, and in addition with regard to the UWF, this impact pathway is scoped out – as it was already considered acceptable by C.A. Noise related impacts in the geographical boundary in Knockmaroe/Knockcurraghbola only relate to cumulative effects of both the operational Upperchurch Turbines and operational Milestone Turbines. There will be no new sources of noise from the operational UWF Grid Connection or UWF Related Works in this area. The cumulative effects on local amenity has already been assessed in the UWF RFI 2013, and by ABP in 2013 and has been considered acceptable, therefore the evaluation is not repeated again in the 2018 EIARs.
Transient People	Project No.1: Killonan – Nenagh 110kV OHL	The 110kV OHL is located to the west of the Mountphilips Substation Within the geographical boundary for operational stage EMF effects. No potential for cumulative construction stage dust effects or construction/operational stage noise effects.
	Project No. 2: Shannonbridge – Killonan 220 kV OHL	The 110kV UGC will cross under the existing 220 kV OHL to the east of the Mountphilips substation. Within the geographical boundary for operational stage EMF effects. No potential for cumulative construction stage dust effects or construction/operational stage noise effects.
	~~Project No. 4: Castlewaller Windfarm~~	~~Nearest distance to Whole UWF Project 94m (P)~~ ~~Within the geographical boundary for operational stage EMF effects.~~ ~~No potential for cumulative construction stage dust effects or construction/operational stage noise effects.~~
	Project No. 5: Milestone Windfarm	Nearest distance to Whole UWF Project 580m (E) Outside the geographical boundary for operational stage EMF effects. No potential for cumulative construction stage dust effects or construction/operational stage noise effects.

Note: (P) – Permitted Windfarm. (E) – Existing Windfarm.

As per Table 50, the time-frame boundary is the construction stage for air quality effects, the construction and operational stage for noise effects and the operational stage for EMF effects.

Table 50: Other Projects or Activities within the time-frame boundary

Sensitive Aspect	**Other Projects or Activities**	**Is the Other Project or Activity within the Time Frame Boundary? – YES/NO** YES - Within the Timeframe Boundary – brought forward to the Cumulative Conceptual Site Model, or NO - Not within the time-frame boundary – scoped out
Local Residents & Community	Project No.1: Killonan – Nenagh 110kV OHL	NO: Outside the timeframe boundary for construction stage dust and noise effects - the Killonan – Nenagh 110kV OHL already exists.
	Project No. 2: Shannonbridge – Killonan 220 kV OHL	YES for operational stage EMF effects
	~~Project No. 4: Castlewaller Windfarm~~	~~NO: Outside the timeframe boundary~~ ~~The Castlewaller Windfarm is in the Gate 4 grid connection queue and has not received a grid connection offer. Its connection point is not yet known or predictable. The entire lifecycle of Castlewaller Windfarm (i.e. construction, operation and decommissioning) will likely occur during the operational stage of the 110kV UGC. Therefore there will be no overlap of construction periods.~~
	Project No. 5: Milestone Windfarm	NO- Outside the timeframe boundary for dust, noise and vibration effects Milestone Windfarm is operational since 2018 ~~commenced construction in September 2017, and it is expected that construction of this windfarm will be completed before construction of the Whole UWF Project commences~~. Therefore, as construction of the two projects will not overlap, no cumulative air quality or noise effects will occur.
Transient People	Project No.1: Killonan – Nenagh 110kV OHL	YES for operational stage EMF effects
	Project No. 2: Shannonbridge – Killonan 220 kV OHL	YES for operational stage EMF effects
	~~Project No. 4: Castlewaller Windfarm~~	~~YES for operational stage EMF effects~~

2 Other Projects or Activities are located within both the geographical and time-frame boundaries of the Cumulative Evaluation Study Area for at least one Sensitive Aspect, and therefore scoped using a conceptual site model exercise, see Table 51.

Table 51: AIR Cumulative Conceptual Site Model

Source(s) of EMF Impacts	Pathway(s)	Receptor(s)	Impact Description	Other Projects/Activities	Scoped In / Scoped Out
Local Residents & Community					
Grid Connection – 110kV UGC	Air/Ground	Local Residents & Community	Increase in ambient EMF levels	Project No. 2: Shannonbridge – Killonan 220 kV OHL	Scoped In
Transient People					
Grid Connection – Mountphilips 110kV Substation and 110kV UGC	Air/Ground	Transient People	Increase in ambient EMF levels	Project No.1: Killonan – Nenagh 110kV OHL	Scoped In
				Project No. 2: Shannonbridge – Killonan 220 kV OHL	Scoped In
				~~Project No. 4: Castlewaller Windfarm~~	~~Scoped In~~
Electronic Equipment					
Grid Connection – Mountphilips 110kV Substation and 110kV UGC	Air/Ground	Electronic Equipment	Increase in ambient EMF levels	Project No.1: Killonan – Nenagh 110kV OHL	Scoped In
				Project No. 2: Shannonbridge – Killonan 220 kV OHL	Scoped In
				Project No. 4: Castlewaller Windfarm	Scoped In

Table 52: Summary of Other Projects or Activities Scoped In for Cumulative Evaluation in the Main Report

Sensitive Aspect	Other Project or Activity (scoped in for the evaluation of cumulative impacts in VolC2: EIAR Main Report – Ch.12 AIR)
Local Residents and Community	Project No. 2: Shannonbridge – Killonan 220 kV OHL
Transient People	Project No.1: Killonan – Nenagh 110kV OHL Project No. 2: Shannonbridge – Killonan 220 kV OHL ~~Project No. 4: Castlewaller Windfarm~~
Electronic Equipment	Project No.1: Killonan – Nenagh 110kV OHL Project No. 2: Shannonbridge – Killonan 220 kV OHL ~~Project No. 4: Castlewaller Windfarm~~

A-2.3 .2.13 Scoping of Other Projects or Activities for CLIMATE

Table 53: Summary of the Sensitive Aspects and Impacts taken from the EIAR Main Report chapter

Sensitive Aspect Evaluated in the Main EIAR Report	Likely Impacts to Sensitive Aspect, as per Main EIAR Report	Relevant Whole UWF Project life-cycle stage (time-frame boundary)
Climate	Increase in Renewable Energy	Operational

Table 54: Defining the geographical boundaries of the CLIMATE Cumulative Evaluation Study Area

Sensitive Aspect	Geographical Boundary of the Study Area	Justification for Study Area Extent
Climate	Irish State	Any climatic effects, if significant will have the potential to impact Ireland's commitments and targets under various EU Climate Agreements and other international agreements.

There are 233. No. Other Projects (operational windfarms) within the geographical boundary.

The Operational Stage of the Upperchurch Windfarm is the relevant timeframe boundary

Table 55: Other Projects or Activities within the time-frame boundary

Sensitive Aspect	Is the Other Project or Activity within the Time Frame Boundary? – YES/NO YES - Within the Timeframe Boundary – brought forward to the Cumulative Conceptual Site Model, *or* NO - Not within the time-frame boundary – scoped out
Climate	233 No. operational Windfarms: YES - Any other operational windfarms in the Republic of Ireland will have the potential to have a positive cumulative impact on Climate as a result of the increased availability of renewable energy

Table 56: CLIMATE Conceptual Site Model for Cumulative Impacts

Source(s) of Climate Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	All Irish Windfarms Scoping for likely cumulative effects
Renewable energy generated by wind turbines	Air	Climate	Increase in Renewable Energy	Yes – scoped in

Table 57: Summary of Other Projects or Activities Scoped In for Cumulative Evaluation in the Main Report

Sensitive Aspect	Other Project or Activity (scoped in for the evaluation of cumulative impacts in VolC2: EIAR Main Report – Ch.13: CLIMATE)
Climate	233 No. operational Windfarms

A-2.3 .2.14 Scoping of Other Projects or Activities for MATERIAL ASSETS (Built Services)

Table 58: Summary of the Sensitive Aspects and Impacts taken from the EIAR Main Report chapter

Sensitive Aspect Evaluated in the Main EIAR Report	Likely Impacts to Sensitive Aspect, taken from the Main EIAR Report	Relevant Whole UWF Project life-cycle stage (time-frame boundary)
Local Residents & Community (end users)	No impacts are likely to occur	N/A
Electricity Transmission System	No impacts are likely to occur	N/A

No likely effects or measurable effects from the Elements of the Whole UWF Project, therefore no potential for measurable cumulative effects with Other Projects or Activities.

A-2.3 .2.15 Scoping of Other Projects or Activities for MATERIAL ASSETS (Roads)

Table 59: Summary of the Sensitive Aspects and Impacts taken from the EIAR Main Report chapter

Sensitive Aspect Evaluated in the Main EIAR Report	Likely Impacts to Sensitive Aspect, as per Main EIAR Report	Relevant Whole UWF Project life-cycle stage (time-frame boundary)
Public Roads	Damage to Road Boundaries Damage to Road Pavements	Construction
Road Users	Increased Journey Times	Construction

Table 60: Defining the geographical boundaries of the ROADS Cumulative Evaluation Study Area

Sensitive Aspect	Geographical Boundary of the Study Area	Justification for Study Area Extent
Public Roads	Route of concentrated construction traffic and boundary of works areas on roads and site access points on the public road network and all parts of the public road network subject to road works.	Cumulative effects are only possible on the roads affected by the Whole UWF Project.
Road Users		

4 Other Projects or Activities are located within the geographical boundary, see Table 61.

Table 61: Other Projects or Activities located within the geographical boundary

Sensitive Aspect	Other Projects or Activities	Location of Other Projects or Activities within the Cumulative Geographical Boundary
Public Roads	~~Project No. 4: Castlewaller Windfarm~~	~~L60111-0~~
	Project No. 5: Milestone Windfarm	L497-0
	Project No. 27: Sports Club Works – Sean Treacy GAA	R503-126
	Project No. 33: Forestry (Activity)	All roads
	Project No. 34: Agriculture (Activity)	All roads
Road Users	~~Project No. 4: Castlewaller Windfarm~~	~~L60111-0~~
	Project No. 5: Milestone Windfarm	L497-0
	Project No. 27: Sports Club Works – Sean Treacy GAA	R503-126
	Project No. 33: Forestry (Activity)	All roads
	Project No. 34: Agriculture (Activity)	All roads

As per Table 62, the time-frame boundary is the construction stage

Table 62: Other Projects or Activities within the time-frame boundary

Sensitive Aspect	**Other Projects or Activities**	**Is the Other Project or Activity within the Time Frame Boundary? – YES/NO** YES - Within the Timeframe Boundary – brought forward to the Cumulative Conceptual Site Model, or NO - Not within the time-frame boundary – scoped out
Public Roads	~~Project No. 4: Castlewaller Windfarm~~	~~NO: Outside the timeframe boundary - will not be constructed during the construction stage of the UWF Grid Connection~~
	Project No. 5: Milestone Windfarm	NO: Outside the timeframe boundary - ~~currently under construction, and expected to be completed by mid~~ operational since 2018 – i.e. before the UWF Grid Connection.
	Project No. 27: Sports Club Works – Sean Treacy GAA	YES
Road Users	~~Project No. 4: Castlewaller Windfarm~~	~~NO: Outside the timeframe boundary - will not be constructed during the construction stage of the UWF Grid Connection~~
	Project No. 5: Milestone Windfarm	NO: Outside the timeframe boundary - ~~currently under construction, and expected to be completed by mid 2018 – i.e. before the UWF Grid Connection~~.
	Project No. 27: Sports Club Works – Sean Treacy GAA	YES

Table 63: Soils Conceptual Site Model – Public Roads & Road Users

Source(s) of Soil Impacts	**Pathway(s)**	**Receptor**	**Whole UWF Project Impacts**	**Scoping for Cumulative Effects** **Project No.27: Sports Club Works Sean Treacy GAA**
Public Roads				
Trenching works, site access	Boundary	Public Roads	Damage to Road Boundaries	No Scoped Out, no damage foreseeable to road boundaries, no potential for cumulative effects.
Trenching works, site access, construction traffic	Roads	Public Roads	Damage to Road Pavements	No Scoped Out, works will not will generate any noticeable levels of additional traffic – no potential for measurable cumulative effects
Road Users				
Road works, construction traffic	Roads	Road Useres	Increased Journey Times	No Scoped Out, works will not will generate any noticeable levels of additional traffic – no potential for measurable cumulative effects

Table 64: Summary of Other Projects or Activities Scoped In for Cumulative Evaluation in the Main Report

Sensitive Aspect	**Other Project or Activity (scoped in for the evaluation of cumulative impacts in VolC2: EIAR Main Report – Ch.15: MATERIAL ASSETS (ROADS))**
Public Roads	*No Other Projects or Activities scoped in for evaluation*
Road Users	*No Other Projects or Activities scoped in for evaluation*

A-2.3 .2.16 Scoping of Other Projects or Activities for CULTURAL HERITAGE

Table 65: Summary of the Sensitive Aspects and Impacts taken from the EIAR Main Report chapter

Sensitive Aspect Evaluated in the Main EIAR Report	Likely Impacts to Sensitive Aspect, taken from the Main EIAR Report	Relevant Whole UWF Project life-cycle stage (time-frame boundary)
Recorded Legally Protected Sites	Visual Impact	Operational
Other Recorded Sites	No impacts are likely to occur	N/A
Previously Unrecorded Sites	Damage to Townland Boundaries	Construction
Unrecorded Subsurface Sites	Complete or partial destruction	Construction

Table 66: Defining the geographical boundaries of the Cultural Heritage Cumulative Evaluation Study Area

Sensitive Aspect	Geographical Boundary of the Study Area	Justification for Study Area Extent
Recorded Legally Protected Sites	4km from the Mountphilips Substation and from the Telecoms Relay Pole	Because of the relatively low heights of the Mountphilips Substation and the Telecom Relay Pole any visibility beyond 2km would be barely perceptible to none. The 4km distance is used to take account of any structures which may be visible from another location. The remainder of the UWF Grid Connection and UWF Related Works will either be placed below ground level or will comprise stone roads which are a common occurrence in the area and will not cause any visual impacts, and for this reason these parts are not included in the study area. Regarding the consented Upperchurch Windfarm, any measurable cumulative visual impacts beyond the study area for the Telecom Relay Pole will only relate to the presence of cumulative turbines in views containing the Consented UWF Turbines, the cumulative impacts of which have previously been assessed as acceptable by ABP, and for this reason the study area does not extend beyond the 4km for the Telecom Relay Pole.
Previously Unrecorded Sites	Townland boundaries affected by the Whole UWF Project	Cumulative impacts to townland boundaries is limited to those boundaries which could potentially be affected by both the Whole UWF Project and by Other Projects or Activities.
Unrecorded Subsurface Sites	Footprint of the UWF Grid Connection, UWF Related Works and the Upperchurch Windfarm.	Cumulative impacts to Cultural Heritage sites is limited to those sites which could potentially be affected by both the Whole UWF Project and by Other Projects/Activities.

5 Other Projects are located within the geographical boundary, see Table 67.

Table 67: Other Projects or Activities located within the geographical boundary

Sensitive Aspect	Other Projects or Activities	Location of Other Projects or Activities within the Cumulative Geographical Boundary
Recorded Legally Protected Sites	Project No.5: Milestone Windfarm	The Milestone Windfarm turbines are located c.0.5km to the south of the Telecom Relay Pole (UWF Related Works).
	Project No.7: Garracummer Windfarm	The Garracummer Windfarm turbines are located c.4.4km to the southwest of the Telecom Relay Pole (UWF Related Works).
	Project No.15: Foilnaman Mast	This existing mast is located within the development area of the consented Upperchurch Windfarm c.0.2km from the Telecom Relay Pole (UWF Related Works).
	Project No.16: Cummermore Communication Pole	This existing pole is located in the 3.7km from the Telecom Relay Pole (UWF Related Works)
	Project No.17: Ballynahinch Mast	This existing mast is located c. 3.8km north of the Mountphilips Substation (UWF Grid Connection).
Previously Unrecorded Sites	Project No.5: Milestone Windfarm	The UWF Grid Connection and UWF Related Works will require the removal of a 5m section of townland boundary between the townlands of Knockcurraghbola Commons and Knockcurraghbola Crownlands, this boundary extends into the Milestone Windfarm.
Unrecorded Subsurface Sites	**NO:** scoped out, no projects located within the geographical boundary with potential to cause measurable cumulative effects	

As per Table 68, the time-frame boundary is the operational stage for Recorded Legally Protected Sites and the construction stage for Previously Unrecorded Sites.

Table 68: Other Projects or Activities within the time-frame boundary

Sensitive Aspect	Other Projects or Activities	Is the Other Project or Activity within the Time Frame Boundary? – YES/NO YES - Within the Timeframe Boundary – brought forward to the Cumulative Conceptual Site Model, or NO - Not within the time-frame boundary – scoped out
Recorded Legally Protected Sites	Project No.5: Milestone Windfarm	YES
	Project No.7: Garracummer Windfarm	YES
	Project No.15: Foilnaman Mast	YES
	Project No.16: Cummermore Communication Pole	YES
	Project No.17: Ballynahinch Mast	YES
Previously Unrecorded Sites	Project No.5: Milestone Windfarm	YES

All 5 Other Projects are located within both the geographical and time-frame boundaries of the Cumulative Evaluation Study Area, and therefore scoped using a conceptual site model exercise, see Tables 69 to 70.

Table 69: CULTURAL HERITAGE Conceptual Site Model for Cumulative Impacts – Recorded Legally Protected Sites

Source(s) of Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects				
				Project No.5: Milestone Windfarm	Project No.7: Garracummer Windfarm	Project No.15: Foilnaman Mast	Project No.16: Cummermore Communication Pole	Project No.17: Ballynahinch Mast
Recorded Legally Protected Sites								
Above ground structures, features and works	Visibility	Recorded Legally Protected Sites	Visual Impact	Yes – Scoped In	Scoped Out: The Mountphilips Substation will not be inter-visible with Garracummer Windfarm. Cumulative visual effects are limited the Telecom Relay Pole and the Consented Windfarm with the Garracummer Windfarm. It is considered that due to its small scale, that the addition of the Telecoms Relay Pole to the viewsheds from cultural heritage sites will not cause any additional measurable visual effect to that already evaluated (and considered acceptable) for the Consented Windfarm - which included a cumulative evaluation of the visual impact of the Upperchurch Windfarm together with the Garracummer Windfarm	Yes – Scoped In	Yes – Scoped In	Scoped Out – no inter-visibility with the Mountphilips Substation.

Table 70: CULTURAL HERITAGE Conceptual Site Model for Cumulative Impacts – Previously Unrecorded Sites

Source(s) of Impacts	Pathway(s)	Receptor(s)	Whole UWF Project Impacts	Scoping for likely cumulative effects
				Project No.5: Milestone Windfarm
Previously Unrecorded Sites				
Initial groundworks during the construction phase	Mechanical or manual excavation of soil	Previously Unrecorded Sites	Visual Impact	Scoped Out: no potential for cumulative effects to the townland boundary between Knockcurraghbola Commons and Knockcurraghbola Crownlands as the Milestone Windfarm uses an existing gateway/road through the townland boundary.

Table 71: Summary of Other Projects or Activities Scoped In for Cumulative Evaluation in the Main Report

Sensitive Aspect	**Other Project or Activity (scoped in for the evaluation of cumulative impacts in VolC2: EIAR Main Report – Ch.16: CULTURAL HERITAGE)**
Recorded Legally Protected Sites	Project No.5: Milestone Windfarm Project No.15: Foilnaman Mast Project No.16: Cummermore Communication Pole
Other Recorded Sites	*No Other Projects or Activities scoped in for evaluation*
Previously Unrecorded Sites	*No Other Projects or Activities scoped in for evaluation*
Unrecorded Subsurface Sites	*No Other Projects or Activities scoped in for evaluation*

A-2.3 .2.17 Scoping of Other Projects or Activities for LANDSCAPE

Table 72: Summary of the Sensitive Aspects and Impacts taken from the EIAR Main Report chapter

Sensitive Aspect Evaluated in the Main EIAR Report	Likely Impacts to Sensitive Aspect, taken from the Main EIAR Report	Relevant Whole UWF Project life-cycle stage (time-frame boundary)
Landscape Character	Alteration or division of land cover and vegetation patterns Intensification of activity causing a reduction in rural tranquillity Intensification of built development and reduction in the integrity of rural landscape patterns	Construction Construction Operational
Visual Amenity	Intensification of activity causing visual disharmony, clutter or complexity Intensification of activity causing visual disharmony, clutter or complexity	Construction Operational

Table 73: Defining the geographical boundaries of the Landscape Cumulative Evaluation Study Area

Sensitive Aspect	Geographical Boundary of the Study Area	Justification for Study Area Extent
Landscape Character	Cumulative construction effects: 1km corridor for linear elements including 110kV UGC, Internal Windfarm Cables, and Realigned Windfarm Roads Cumulative operational effects; 4km radius from Mountphilips Substation, Telecoms Relay Pole, UWF Replacement Forestry	Distances outside of which, the Mountphilips Substation, Telecoms Relay Pole, UWF Replacement Forestry could not have a material cumulative effect on prevailing landscape character or visual amenity. Any measurable cumulative landscape character and visual amenity impacts beyond these study areas will only relate to the presence of cumulative turbines in views containing the consented UWF turbines, the cumulative impacts of which have previously been assessed as acceptable by ABP.
Visual Amenity		

All 7 Other Projects or Activities are located within the geographical boundary, see Table 74.

Table 74: Other Projects or Activities located within the geographical boundary

Sensitive Aspect	Other Projects or Activities	Location of Other Projects or Activities within the Cumulative Geographical Boundary
Landscape Character	~~Project 4: Castlewaller Windfarm~~	~~YES – within the geographical boundary (1km boundary) for construction related effects.~~ ~~NO - for operational stage visual effects, no inter-visibility between this windfarm and the Mountphilips Substation or the Telecom Relay Pole or the UWF Replacement Forestry).~~
	Project No.5: Milestone Windfarm	YES – Within the 1km boundary for construction related effects. YES - Within the geographical boundary (4km boundary) for operational stage visual effects relating to the Telecom Relay Pole and the UWF Replacement Forestry. No inter-visibility with Mountphilips Substation.
	Project No.7: Garracummer Windfarm	The Garracummer Windfarm turbines are located c.4.4km to the southwest of the Telecom Relay Pole (UWF Related Works).

Sensitive Aspect	Other Projects or Activities	Location of Other Projects or Activities within the Cumulative Geographical Boundary
	Project No.15: Foilnaman Mast	This existing mast is located within the development area of the consented Upperchurch Windfarm c.0.2km from the Telecom Relay Pole (UWF Related Works) and within 4km of the UWF Replacement Forestry.
	Project No.16: Cummermore Communication Pole	This existing pole is located in the 3.7km from the Telecom Relay Pole (UWF Related Works).
	Project No.17: Ballynahinch Mast	This existing mast is located c. 3.8km north of the Mountphilips Substation (UWF Grid Connection).
	Project Nos.33, 34 (Activities): Forestry, Agriculture	Predominant landuses in the area.
Visual Amenity	~~Project 4: Castlewaller Windfarm~~	~~YES – within the geographical boundary (1km boundary) for construction related effects. NO - for operational stage visual effects, no inter-visibility between this windfarm and the Mountphilips Substation or the Telecom Relay Pole or the UWF Replacement Forestry).~~
	Project No.5: Milestone Windfarm	YES – Within the 1km boundary for construction related effects. YES - Within the geographical boundary (4km boundary) for operational stage visual effects relating to the Telecom Relay Pole and the UWF Replacement Forestry. No inter-visibility with Mountphilips Substation.
	Project No.7: Garracummer Windfarm	The Garracummer Windfarm turbines are located c.4.4km to the southwest of the Telecom Relay Pole (UWF Related Works).
	Project No.15: Foilnaman Mast	This existing mast is located within the development area of the consented Upperchurch Windfarm c.0.2km from the Telecom Relay Pole (UWF Related Works) and within 4km of the UWF Replacement Forestry.
	Project No.16: Cummermore Communication Pole	This existing pole is located in the 3.7km from the Telecom Relay Pole (UWF Related Works).
	Project No.17: Ballynahinch Mast	This existing mast is located c. 3.8km north of the Mountphilips Substation (UWF Grid Connection).
	Project Nos.33, 34 (Activities): Forestry, Agriculture	Predominant landuses in the area.

As per Table 75, the time-frame boundary is the construction and operational stages.

Table 75: Other Projects or Activities within the time-frame boundary

Sensitive Aspect	**Other Projects or Activities**	**Is the Other Project or Activity within the Time Frame Boundary? – YES/NO** YES - Within the Timeframe Boundary – brought forward to the Cumulative Conceptual Site Model, or NO - Not within the time-frame boundary – scoped out
Landscape Character	~~Project 4: Castlewaller Windfarm~~	~~NO: Outside the timeframe boundary for cumulative construction stage effects – the construction of Castlewaller Windfarm will not overlap the construction stage of the UWF Grid Connection.~~
	Project No.5: Milestone Windfarm	NO: Outside the timeframe boundary for cumulative construction stage effects – will be an existing windfarm by the time of the construction stage of the UWF Grid Connection. YES – re operational stage visibility effects
	Project No.7: Garracummer Windfarm	NO: Outside the timeframe boundary for cumulative construction stage effects – existing windfarm. YES – re operational stage visibility effects
	Project No.15: Foilnaman Mast	NO: Outside the timeframe boundary for cumulative construction stage effects – existing mast. YES – re operational stage visibility effects
	Project No.16: Cummermore Communication Pole	NO: Outside the timeframe boundary for cumulative construction stage effects – existing communication pole. YES – re operational stage visibility effects
	Project No.17: Ballynahinch Mast	NO: Outside the timeframe boundary for cumulative construction stage effects – existing communication pole. YES – re operational stage visibility effects
	Project Nos.33, 34 (Activities): Forestry, Agriculture	YES
Visual Amenity	~~Project 4: Castlewaller Windfarm~~	~~NO: Outside the timeframe boundary for cumulative construction stage effects – the construction of Castlewaller Windfarm will not overlap the construction stage of the UWF Grid Connection.~~
	Project No.5: Milestone Windfarm	NO: Outside the timeframe boundary for cumulative construction stage effects – will be an existing windfarm by the time of the construction stage of the UWF Grid Connection. YES – re operational stage visibility effects
	Project No.7: Garracummer Windfarm	NO: Outside the timeframe boundary for cumulative construction stage effects – existing windfarm. YES – re operational stage visibility effects
	Project No.15: Foilnaman Mast	NO: Outside the timeframe boundary for cumulative construction stage effects – existing mast. YES – re operational stage visibility effects
	Project No.16: Cummermore Communication Pole	NO: Outside the timeframe boundary for cumulative construction stage effects – existing communication pole. YES – re operational stage visibility effects
	Project No.17: Ballynahinch Mast	NO: Outside the timeframe boundary for cumulative construction stage effects – existing communication pole. YES – re operational stage visibility effects

Sensitive Aspect	**Other Projects or Activities**	**Is the Other Project or Activity within the Time Frame Boundary? – YES/NO** YES - Within the Timeframe Boundary – brought forward to the Cumulative Conceptual Site Model, or NO - Not within the time-frame boundary – scoped out
	Project Nos.33, 34 (Activities): Forestry, Agriculture	YES

All 7 Other Projects or Activities are located within both the geographical and time-frame boundaries of the Cumulative Evaluation Study Area, and therefore scoped using a conceptual site model exercise, see Table 76.

Table 76: LANDSCAPE Conceptual Site Model for Cumulative Impacts

Source(s) of Impacts	**Pathway(s)**	**Receptor**	**Whole UWF Project Impacts**	**Scoping for likely cumulative effects**					
				Project No.5: Milestone Windfarm	**Project No.7: Garracummer Windfarm**	**Project No.15: Foilnaman Mast**	**Project No.16: Cummer-more Comm-unication Pole**	**Project No.17: Ballynahinch Mast**	**Project No. 33: Forestry Project No. 34: Agriculture**
Landscape Character									
Excavation of soil, and vegetation removal or planting	Physical land cover disturbance / change	Landscape Character	Alteration or division of land cover and vegetation patterns	Scoped Out No potential for construction works to coincide-outside the timeframe boundary	Scoped Out - Existing windfarm	Scoped Out - Existing structure	Scoped Out - Existing structure	Scoped Out - Existing structure	Yes – Scoped In
Construction related activities	Visibility	Landscape Character	Intensification of activity causing a reduction in tranquillity		Scoped Out: The Mountphilips Substation will not be inter-visible with Garracummer Windfarm. Cumulative visual effects are limited the Telecom Relay Pole and the Consented Windfarm with the Garracummer Windfarm. It is considered that due to its small scale, that the addition of the Telecoms Relay Pole to the viewsheds from cultural heritage sites will not cause any additional measurable visual effect to that already evaluated (and considered acceptable) for the Consented Windfarm - which included a cumulative evaluation of the visual impact of the Upperchurch Windfarm together with the Garracummer Windfarm			Scoped Out – no inter-visibility with the Mountphilips Substation	Yes – Scoped In
Presence of above ground structures Permanent alterations to landform & vegetation patterns	Visibility	Landscape Character	Intensification of built development and reduction in the integrity of rural landscape patterns	Yes – Scoped In		Yes – Scoped In	Yes – Scoped In		Scoped out - These are the prevailing and characteristic land uses in this area (they are the baseline rather than other sources of impact)

Source(s) of Impacts	**Pathway(s)**	**Receptor**	**Whole UWF Project Impacts**	**Scoping for likely cumulative effects**					
				Project No.5: Milestone Windfarm	**Project No.7: Garracummer Windfarm**	**Project No.15: Foilnaman Mast**	**Project No.16: Cummer-more Comm-unication Pole**	**Project No.17: Ballynahinch Mast**	**Project No. 33: Forestry Project No. 34: Agriculture**
Visual Amenity									
Construction related activities	Visibility	Visual Amenity	Intensification of activity causing visual disharmony, clutter or complexity	Scoped Out No potential for construction works to coincide-outside the timeframe boundary	Scoped Out - Existing windfarm	Scoped Out - Existing structure	Scoped Out - Existing structure	Scoped Out - Existing structure	Yes – Scoped In
Presence of above ground structures and Permanent alterations to landform and vegetation patterns	Visibility	Visual Amenity	Addition of new features or loss of existing features causing visual disharmony, clutter or complexity	Yes – Scoped In	Scoped Out: The Mountphilips Substation will not be inter-visible with Garracummer Windfarm. Cumulative visual effects are limited the Telecom Relay Pole and the Consented Windfarm with the Garracummer Windfarm. It is considered that due to its small scale, that the addition of the Telecoms Relay Pole to the viewsheds from cultural heritage sites will not cause any additional measurable visual effect to that already evaluated (and considered acceptable) for the Consented Windfarm - which included a cumulative evaluation of the visual impact of the Upperchurch Windfarm together with the Garracummer Windfarm	Yes – Scoped In	Yes – Scoped In	Scoped Out – no inter-visibility with the Mountphilips Substation	Scoped out - These are the prevailing and characteristic land uses in this area (they are the baseline rather than other sources of impact)

Table 77: Summary of Other Projects or Activities Scoped In for Cumulative Evaluation in the Main Report

Sensitive Aspect	Other Project or Activity (scoped in for the evaluation of cumulative impacts in VolC2: EIAR Main Report – Ch.17: LANDSCAPE)
Landscape Character	Project No.5: Milestone Windfarm Project No.15: Foilnaman Mast Project No.16: Cummermore Communication Pole Project No.33: Forestry (Activity) Project No.34: Agriculture (Activity)
Visual Amenity	Project No.5: Milestone Windfarm Project No.15: Foilnaman Mast Project No.16: Cummermore Communication Pole Project No.33: Forestry (Activity) Project No.34: Agriculture (Activity)

A2.3.3 List of Projects or Activities Scoped-Out from the EIAR

The following Projects have been scoped out from all Environmental Factor topics:

Other Project or Activity Map ID	Industry	Name
6	Energy	Cappawhite Windfarm
7	Energy	Garracummer Windfarm
8	Energy	Glencarbry Windfarm
9	Energy	Glenough Windfarm
10	Energy	Hollyford Windfarm
11	Energy	Knockastanna Windfarm
12	Energy	Gortnahalla Turbine
13	Energy	Killuragh Digester Plant
14	Quarry	Rear Cross Quarry
17	Utilities	Ballinahinch Mast
18	Utilities	Knockmeale Mast
19	Utilities	Newport Regional Water Supply
20	Utilities	Thurles Regional Water Treatment Works
21	Utilities	Waste Management Facility, Thurles
22	Manufactoring	Dew Valley Foods Plant
23	Industrial	Industrial / warehouse Units, Thurles
24	Road	Newport Distributor Road (planning expired)
25	Residential	Housing Development Doon
26	Residential	Housing Developments, Annacotty
27	Sport	Sports Club Works – Sean Treacy GAA
28	Sport	Newport Rugby Club
29	Agriculture	Agriculture - Milking Parlour
30	Agriculture	Agriculture – Milking Parlour
31	Agriculture	Agriculture - Pig Unit
32	Agriculture	Agricultural sheds and stores

A2.3.4 Projects Scoped-In for further evaluation in the EIAR

Table 78: List of Other Projects or Activities included in the Environmental Factor Cumulative Evaluation

Other Project or Activity *(These projects are identified on Figure CE 3.2: Other Projects or Activities Scoped In for Evaluation in the Environmental Factor Topic Chapters and are identified using a number on the mapping)*	**Population**	**Human Health**	**Biodiversity**	**Land**	**Soils**	**Water**	**Air**	**Climate**	**Built Services**	**Roads & Traffic**	**Cultural Heritage**	**Landscape**
Existing Killonan to Nenagh 110kV Overhead Line (Project 1)							■		-			
Existing Shannonbridge – Killonan 220kV Overhead Line (Project 2)							■					
Consented Bunkimalta Windfarm (Project 3)	■	■	■			■						
Consented Castlewaller Windfarm (Project 4)			■									
Existing Milestone Windfarm (Project 5) (includes Inchivara Windfarm and currently under construction)											■	■
Operational Windfarms in the Republic of Ireland								■				
Existing Communication Structures - Foilnaman Mast (Project 15) - Cummermore Communications Pole (Project 16)											■	■
Activity – Forestry (Project 33)			■									■
Activity – Agriculture (Project 34)			■									■
Activity –Turf-cutting (Project 35)			■									

Appendix 2.4: Completed EIA Report CHECKLIST

Appendix 2.4 Section	Section Heading	Relevant EIA Report
A2.4.1	SECTION 1: DESCRIPTION OF THE PROJECT	UWF Related Works
A2.4.2	DESCRIPTION OF ENVIRONMENTAL FACTORS LIKELY TO BE AFFECTED BY THE PROJECT	
A2.4.3	SECTION 3: DESCRIPTION OF THE LIKELY SIGNIFICANT EFFECTS OF THE PROJECT	
A2.4.4	SECTION 4: CONSIDERATION OF ALTERNATIVES	
A2.4.5	SECTION 5 DESCRIPTION OF MITIGATION	
A2.4.6	SECTION 6 DESCRIPTION OF MONITORING MEASURES	
A2.4.7	SECTION 7: QUALITY	

The EIA Report Checklist was used by the EIA Co-ordinator to review the EIA Report during its preparation.

The EIA Report Checklist form was sourced in PART C –EIA REPORT CHECKLIST EC (2017) Guidance on the preparation of the Environmental Impact Assessment Report (Directive 2011/92/EU as amended by 2014/52/EU). At http://ec.europa.eu/environment/eia/pdf/EIA_guidance_EIA_report_final.pdf from Page 92.

The EIA Report Checklist can also be used by the competent authority to carry out an examination of the submitted EIA Report.

The EIA Report Checklist is organised into seven sections covering the information that should be contained in an EIA Report per;

- Description of the Project;
- Description of the environment likely to be affected by the Project (including Baseline);
- Description of the Project's likely significant effects;
- Alternatives;
- Description of Mitigation and Compensation Measures;

- Description of Monitoring Measures;
- Quality (presentation, Non-Technical Summary, and quality of experts).

This appendix comprises the completed review of the final EIA Report for the UWF Related Works.

A2.4 PART C: EIA REPORT REVIEW CHECKLIST

A2.4.1 SECTION 1: DESCRIPTION OF THE PROJECT

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
The Objectives and Physical Characteristics of the Project					
1.1	Are the Project's objectives and the need for the Project explained?	Y	Y	None	Volume C2: EIAR Main Report C.1 Introduction – S. 1.5.1 C.5 Description of Development - S. 5.2.1
1.2	Is the programme for the Project's implementation described, detailing the estimated length of time (e.g. expected start and finish dates) for construction, operation, and decommissioning? (this should include any phases of different activity within the main phases of the Project, extraction phases for mining operations for example)	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development - S.5.3
1.3	Have all of the Project's main characteristics been described? (for assistance, see the Checklist in Part C of the Scoping Guidance Document in this series)	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development - S.5.2
1.4	Has the location of each Project component been identified, using maps, plans, and diagrams as necessary?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development - S.5.1 Volume C3: EIAR Figures F.RW 1.1, F.RW 5.1 & F.CE 1.1
1.5	Is the layout of the site (or sites) occupied by the Project described? (including ground levels, buildings, other physical structures, underground works, coastal works, storage facilities, water features, planting, access corridors, boundaries)	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S.5.2 Volume C3: EIAR Figures F.RW 5.2 & F.RW 5.3

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
1.6	For linear Projects, have the route corridor, the vertical, and horizontal alignment and any tunnelling and earthworks been described?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development - S.5.2 Volume C3: EIAR Figures F.RW 5.2, F.RW.5.5, F.RW.5.6
1.7	Have the activities involved in the construction of the Project (including land-use requirements) all been described?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S.5.3.1, S5.3.1.1 to S5.3.1.4, & 5.4.1.1 (land use)
1.8	Have the activities involved in the Project's operation (including land-use requirements and demolition works) all been described?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S.5.3.2 & S5.3.2.1 to S5.3.2.4, & 5.4.1.1 (land use)
1.9	Have the activities involved in decommissioning the Project all been described? (e.g. closure, dismantling, demolition, clearance, site restoration, site re-use, etc.)	N	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S.5.3.3
1.10	Have any additional services, required for the Project, been described? (e.g. transport access, water, sewerage, waste disposal, electricity, telecoms)	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of the Development – S.5.2.3.5.9, S.5.3.1.8, S.5.3.1.9, S.5.4.3, S.5.6.1
1.11	Are any developments likely to occur as a consequence of the Project identified? (e.g. new housing, roads, water or sewerage infrastructure, aggregate extraction)	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S.5.6.2
1.12	Have any existing activities that will alter or cease as a consequence of the Project been identified?	N			No existing activities will cease or alter.
1.13	Have any other existing or planned developments, with which the Project could have cumulative effects, been identified?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S.5.6.3
1.14	Has the 'whole Project' been described, e.g. including all associated/ancillary works?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S.5.2.2, 5.2.3 and S.5.6.1
1.15	Are any activities described as part of the 'whole Project' excluded from the assessment? Are such exclusions justified? (e.g. associated/ancillary activities can be included either because they fall under the scope of the Directive (Annex I or II) or because they can be considered as an integral	N			All parts of the 'whole project' are included in the EIA Report.

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
	part of the main infrastructure works using the 'centre of gravity test'. Guidance on associated and ancillary works has been published by the European Commission in an Interpretation Line available at: http://ec.europa.eu/environment/eia/pdf/Note%20-%20Interpretation%20of%20Directive%2085-337-EEC.pdf)				
The Size of the Project					
1.16	Is the area of land occupied by each of the permanent Project components quantified and shown on a scaled map? (including any associated access arrangements, landscaping, and ancillary facilities)	Y	Y	None	Volume B: Planning Drawings Volume C2: EIAR Main Report C.5 Description of Development – S. 5.4.1.1
1.17	Has the area of land required temporarily for construction been quantified and mapped?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S. 5.4.1.1 Volume C3: EIAR Figures F.RW 5.3
1.18	Is the reinstatement and after-use of the land occupied temporarily for the operation of the Project described? (e.g. land used for mining or quarrying)	Y	Y	None	Volume C2: EIAR Main Report C. 5 Description of Development – S.5.2.3.4.11 & S.5.2.3.4.12
1.19	Has the size of any structures or other works developed as part of the Project been identified? (e.g. the floor area and height of buildings, the size of excavations, the area or height of planting, the height of structures such as embankments, bridges or chimneys, the flow or depth of water)	Y	Y	None	Volume B: Planning Drawings C. 5 Description of Development – S.5.2.3 Volume C3: EIAR Figures Figures RW.5.4 to RW.5.27
1.20	Has the form and appearance of any structures or other works developed as part of the Project been described? (e.g. the type, finish, and colour of materials, the architectural design of buildings and structures, plant species, ground surfaces, etc.)	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S.5.2.3
1.21	For urban or similar development Projects, have the numbers and other characteristics of new populations or business communities been described?	N			Not an urban development
1.22	For Projects involving the displacement of people or businesses, have the numbers and other characteristics of those displaced been described?	N			No displacement of people or businesses

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
1.23	For new transport infrastructure or Projects that generate substantial traffic flows, has the type, volume, temporal pattern, and geographical distribution of new traffic generated or diverted as a consequence of the Project been described?	N			No new transport infrastructure and substantial volumes of traffic will not be generated by the project
Production Processes and Resources Used					
1.24	Have all of the processes involved in operating the Project been described? (e.g. manufacturing or engineering processes, primary raw material production, agricultural or forestry production methods, extraction processes)	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S.5.3.2 and S. 5.4
1.25	Have the types and quantities of outputs produced by the Project been described? (these could be primary or manufactured products, goods such as power or water or services such as homes, transport, retailing, recreation, education, municipal services (water, waste, etc.)	N			No products associated with the project
1.26	Have the types and quantities of resources, e.g. natural resources (including water, land, soil, and biodiversity), raw materials, and energy needed for construction and operation been discussed?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S. 5.4
1.27	Have the environmental implications of the sourcing of resources, e.g. natural resources (including water, land, soil and biodiversity), raw materials, and energy been discussed?	Y	Y	None	Volume C2: EIAR Main Report C.8: Biodiversity (S.8.X.4), Ch9: Land (Section 9.2.4 and Section 9.3.4) C.10: Soil (S.10.X.4), Ch.11: Water (Section 11.X.4)
1.28	Have efficiency and sustainability in use of resources, e.g. natural resources (including water, land, soil and biodiversity), raw materials, and energy been discussed?	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered
1.29	Have any hazardous materials used, stored, handled or produced by the Project been identified and quantified? during construction; during operation; during decommissioning.	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S. 5.4.3.3
1.30	Has the transportation of resources, including natural resources (including water, land, soil, and biodiversity) and raw materials to the Project site, and the number of traffic movements involved, been discussed? (including road, rail and sea transport) during construction; during operation; during decommissioning.	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S.5.3.1.8, Volume C3: EIAR Figures F.RW 5.23 & F.RW 5.24

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C. Section S. Figure F. Appendix A.*
					Volume C2: EIAR Main Report C.15 Environmental Factor: Material Assets (Roads) Volume C4: EIAR Appendices A.15.1 Traffic & Transport Assessment Report
1.31	Have the Project's environmentally relevant social and socio-economic implications been discussed? Will employment be created or lost as a result of the Project, for instance? during construction; during operation; during decommissioning.	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S.5.3.1.3 and S.5.3.2.2 C.6: Environmental Factor: Population – S.6.2 Local Economy.
1.32	Have the access arrangements and the number of traffic movements involved in bringing workers and visitors to the Project been estimated? during construction; during operation; during decommissioning.	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S.5.3.1.1 Volume C4: EIAR Appendices A.15.1 Traffic & Transport Assessment
1.33	Has the housing and provision of services for any temporary or permanent employees for the Project been discussed? (this is relevant for Projects that require the migration of a substantial, new workforce into the area, either for construction or in the long term)	N			Construction personnel will either travel to site each day or stay locally/regionally in rented accommodation. Small numbers of personnel involved in the operational stage.
Residues and Emissions					
1.34	Have the types and quantities of solid waste generated by the Project been identified? (including the construction or demolition of wastes, surplus spoil, process wastes, by-products, surplus or reject products, hazardous wastes, household or commercial wastes, agricultural or forestry wastes, site clean-up wastes, mining wastes, decommissioning wastes) during construction; during operation; during decommissioning.	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S. 5.4.3 - S.5.4.3.1: Waste Water - S.5.4.3.2: General Waste - S.5.4.3.3: Chemical Waste - S.5.4.3.4: Arisings - S.5.4.3.5 & EMP: Waste Management Plan

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
1.35	Have the composition and toxicity, or other hazards from all solid wastes produced by the Project, been discussed?	N			No solid waste will be produced.
1.36	Have the methods for collecting, storing, treating, transporting, and finally disposing of these solid wastes been described?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S. 5.4.3
1.37	Have the locations for the final disposal of all solid wastes been discussed, in consideration with the Waste Management Plan(s) concerned?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S. 5.4.3
1.38	Have the types and quantities of liquid effluents generated by the Project been identified? (including site drainage and run-off, process wastes, cooling water, treated effluents, sewage) during construction; during operation; during decommissioning.	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development - S.5.2.3.5.6: Drainage Systems – S. 5.4.3: Wastes
1.39	Have the composition and toxicity or other hazards of all liquid effluents produced by the Project been discussed?	Y	Y	None	Volume C2: EIAR Main Report C.11: Environmental Factor Water, S.11.X.4
1.40	Have the methods for collecting, storing, treating, transporting, and finally disposing of these liquid effluents been described?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S. S.5.2.3.5.6: Drainage Systems - S.5.2.4: Environmental Protection Measures designed into the UWF Related Works -C.11: Environmental Factor Water, S.11.X.4
1.41	Have the locations for the final disposal of all liquid effluents been discussed?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S. 5.4.3
1.42	Have the types and quantities of gaseous and particulate emissions generated by the Project identified? (including process emissions, fugitive emissions, emissions from combustion of fossil fuels in stationary and mobile plant, emissions from traffic, dust from materials handling, odours) during construction; during operation; during decommissioning.	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S. 5.4.2 Volume C4: EIAR Appendix A.12.1 Air Quality & Monitoring Standards C.11: Environmental Factor Water, S.11.X.4
1.43	Have the composition and toxicity or other hazards of all of emissions to the air produced by the Project been discussed?	Y	Y	None	Volume C2: EIAR Main Report C.12: Air

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
1.44	Have the methods for collecting, treating, and finally discharging these emissions to the air described?	N			No toxic emissions to air
1.45	Have the locations for discharge of all emissions to the air been identified and have the characteristics of the discharges been identified? (e.g. height of stack, velocity and temperature of release)	N			No toxic emissions to air
1.46	Have the methods for capturing, treating, and storing these emissions been described?	N			No toxic emissions to air
1.47	Have the locations for the storage of all emissions identified and the characteristics of the storage unit been identified? (e.g. type of storage unit, storing capacity, methods used)	N			No storage required
1.48	Has the potential for resource recovery from wastes and residues been discussed? (including re-use, recycling or energy recovery from solid waste and liquid effluents)	N			
1.49	Have any sources of noise, heat, light or electromagnetic radiation from the Project been identified and quantified? (including equipment, processes, construction works, traffic, lighting, etc.)	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S. 5.4.2 C.8: Biodiversity – S.8.8: Bats, Ch.12: Air
1.50	Have the methods for estimating the quantities and composition of all residues and the emissions identified and any difficulties discussed?	Y	Y	None	Volume C2: EIAR Main Report Ch.12: Air – S.12.1.8
1.51	Have the uncertainty attached to estimates of residues and emissions been discussed?	Y	Y	None	Volume C2: EIAR Main Report Ch.12: Air – S.12.1.7
Risks of Accidents and Hazards					
1.52	Have any of the risks associated with the Project been discussed? - risks from handling of hazardous materials; - risks from spills fire, explosion; - risks of traffic accidents; - risks from breakdown or failure of processes or facilities; - risks from exposure of the Project to natural disasters (earthquake, flood, landslide etc.).	 Y Y Y N Y	 Y Y Y Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S. 5.5 C.10 Soils (S.10.X.4), Ch.11 Water (S.11.X.4), C.15 Roads – S. 15.3 C.5 Description of Development – S. 5.5
1.53	Have the measures to prevent and respond to accidents and abnormal events been described? (preventive measures, training, contingency plans, emergency plans, early-warning systems, etc.)	Y	Y	None	C.5 Description of Development – S. 5.5 Volume D: Environmental Management Plan – S.6 Environmental Emergency Response Measures
1.54	Is there a plan in place detailing the preparedness for an emergency (e.g. suggested as part of the EIA Report's Mitigation Measures)?	Y	Y	None	Volume D: Environmental Management Plan

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
					– S.6 Environmental Emergency Response Measures
1.55	Is this plan in line with other EU legislation requirements, in particular Article 12 of the Seveso Directive (Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances) which refers to emergency plans?	N			Only small volumes of hazardous materials used on site – limited mainly to diesel used in site vehicles and machinery.
Other Questions on Description of the Project					

A2.4.2 SECTION 2: DESCRIPTION OF ENVIRONMENTAL FACTORS LIKELY TO BE AFFECTED BY THE PROJECT

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
Baseline: Aspects of the Environment					
2.1	Have the existing land uses on the land to be occupied by the Project and the surrounding area described and are any people living on or using the land been identified? (including residential, commercial, industrial, agricultural, recreational, and amenity land uses and any buildings, structures or other property)	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development -S.5.4.1.1 C.9 Land – S.9.1.3, 9.1.4, 9.2.1 and S.9.3.1 C.6 Population – S.6.1.3, 6.1.4, 6.2.1
2.2	Have the topography, geology and soils of the land to be occupied by the Project and the surrounding area been described?	Y	Y	None	Volume C2: EIAR Main Report C.10 Soils – S. 10.1.3, 10.1.4, 10.2.1, 10.3.1, 10.4.1 Volume C4: EIAR Appendix A.10.1 Consented UWF Site Investigations
2.3	Have any significant features of the topography or geology of the area been described and are the conditions and use of soils been described? (including soil quality stability and erosion, agricultural use and agricultural land quality)	Y	Y	None	Volume C2: EIAR Main Report C.9 Land – S.9.1.3, 9.1.4, 9.2.1, S.9.3.1 C.10 Soils – S.10.1.3, 10.1.4, 10.2.1, 10.3.1, 10.4.1 Volume C4: EIAR Appendix A.10.1 Consented UWF Site Investigations
2.4	Has the biodiversity of the land/sea to be affected by the Project and the surrounding area been described and illustrated on appropriate maps?	Y	Y	None	Volume C2: EIAR Main Report C.8 Biodiversity – S.8.1.3, 8.1.4, 8.2.1, 8.3.1, 8.4.1, 8.5.1, 8.6.1, 8.7.1, 8.8.1, 8.9.1, 8.10.1, 8.11.1 Volume C3: EIAR Figures Figures for Chapter 8 – F.RW 8.1 to F.CE.8.11

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
2.5	Have the species (including their populations and habitats), and the habitat types that may be affected by the Project been described? Particular attention should be paid to any species and habitats protected under the Habitats and Birds Directives (Directives 92/43/EEC and 2009/147/EC).	Y	Y	None	Volume C2: EIAR Main Report C.8 Biodiversity – S.8.1.3, 8.1.4, 8.2.1, 8.3.1, 8.4.1, 8.5.1, 8.6.1, 8.7.1, 8.8.1, 8.9.1, 8.10.1, 8.11.1
2.6	Have the Natura 2000 sites that may be affected by the Project been described?	Y	Y	None	Volume C2: EIAR Main Report C.8 Biodiversity – S.8.21
2.7	Has the water environment of the area been described? (including reference to any River Basin Management Plans/Programme of Measures under the WFD, running and static surface waters, groundwaters, estuaries, coastal waters and the sea and including run off and drainage). N.B. not relevant if water environment will not be affected by the Project	Y	Y	None	Volume C2: EIAR Main Report C.11 Water – S.11.1.3, 11.1.4, 11.2.1, 11.3.1, 11.4.1, 11.5.1, 11.6.1, 11.7.1 Volume C3: EIAR Figures Figures for Chapter 11 – F.RW 11.1 to F.CE.11.8
2.8	Have the hydrology, water quality, and use of any water resources that may be affected by the Project been described? (including any River Basin Management Plans/Programme of Measures under the WFD, use for water supply, fisheries, angling, bathing, amenity, navigation, effluent disposal)	Y	Y	None	Volume C2: EIAR Main Report C.11 Water – S.11.1.3, 11.1.4, 11.2.1 and S.11.4.1
2.9	Have local climatic and meteorological conditions in the area been described? (N.B. not relevant if the atmospheric environment will not be affected by the Project)	N			Local atmospheric environment not effected. Effects on Climate nationally is evaluated in Chapter 13: Climate.
2.10	Has existing air quality in the area been described, including, where relevant, limit values set out by Directives 2008/50/EC and 2004/107/EC as well as relevant Programmes adopted under this legislation? (N.B. not relevant if the ambient air will not be affected by the Project)	Y	Y	None	Volume C2: EIAR Main Report C.12 Air – S. 12.1.3, 12.1.4, 12.2.1 and 12.3.1 (Air Quality)
2.11	Has the existing noise climate been described, including, where relevant, reference to noise maps and actions plans set out by the Environmental Noise Directive (2002/49/EU)? (N.B. not relevant if acoustic environment will not be affected by the Project)	Y	Y	None	Volume C2: EIAR Main Report C.12 Air – S. 12.1.3, 12.1.4, 12.2.1 and 12.3.1 (Noise)
2.12	Has the existing situation regarding light, heat, and electromagnetic radiation been described? (N.B. not relevant if these characteristics of the environment will not be affected by the Project)	Y	Y	None	Volume C2: EIAR Main Report C.12 Air – S. 12.1.3, 12.1.4, 12.2.1, 12.3.1 and 12.4.1 (EMF)
2.13	Have any material assets in the area that may be affected by the Project been described? (including buildings, other structures, mineral resources, water resources)	Y	Y	None	Volume C2: EIAR Main Report

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
					C.14 Built Services – S. 14.1.3, 14.1.4, 14.2.1, S.14.3.1 C.15 Roads – S.15.1.3, 15.1.4, 15.2.1 C.16 Cultural Heritage – S.16.1.3, 16.1.4, 16.2.1, 16.3.1, 16.4.1 and 16.5.1 Volume C3: EIAR Figures Figures RW.14.1 to CE.16.5
2.14	Have any locations or features of archaeological, historic, architectural or other community or cultural importance in the area that may be affected by the Project been described, including any designated or protected sites?	Y	Y	None	Volume C2: EIAR Main Report C.16 Cultural Heritage – S.16.1.3, 16.1.4, 16.2.1, 16.3.1, 16.4.1 and 16.5.1 Volume C3: EIAR Figures Figures RW.16.1 to CE.16.5
2.15	Has the landscape or townscape of the area that may be affected by the Project been described, including any designated or protected landscapes and any important views or viewpoints?	Y	Y	None	Volume C2: EIAR Main Report C.17 Landscape – S.17.1.3, 17.1.4, 17.2.1 and S.17.3.1 Volume C3: EIAR Figures Figure RW.17.1 to 2 to RW.17.4
2.16	Have the demographic, social and socioeconomic conditions (e.g. employment) in the area been described?	Y	Y	None	Volume C2: EIAR Main Report C.6 Population – S.6.1.3, 6.1.4, 6.2.1 Volume C4: EIAR Appendices – App 6.1
2.17	Have any future changes in any of the above aspects of the environment that may occur in the absence of the Project, been described? (the so-called Dynamic Baseline)	Y	Y	None	Environmental Topic Chapters - C.6 to 17 S. X.X.1.5 Trends in the Baseline Environment (the 'Do-Nothing' scenario)
Data Collection and Methods					
2.18	Has the study area been defined widely enough to include all of the areas likely to be significantly affected by the Project?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 S. X.X.1 – Study Area Justification

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
					Volume C3: EIAR Figures Figure for each Chapter illustrate the Study Areas
2.19	Have all relevant national and local authorities been contacted to collect information on the Baseline environment?	Y	Y	None	Volume C2: EIAR Main Report C.3 Consultation Scoping, S3.1, 3.2, 3.3 Volume C4: EIAR Appendix – App 3.1
2.20	Have all the sources of data and information from existing databases, free services, and other relevant environmental assessments been investigated?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 S. X.1.7 – Sources of Baseline Information
2.21	Have sources of data and information on the Existing environment been adequately referenced?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 S. X.1.7 – Sources of Baseline Information Reference list at the end of each Topic Chapter
2.22	Is justification provided about which particular existing datasets was(were) were relied upon, as opposed to others?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 S.X.1.7.1 – Certainty and Sufficiency of Information Provided
2.23	Where data collection has been undertaken to characterise the Baseline environment, have the methods used, any difficulties encountered, and any uncertainties been the data described?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 S.X.1.7.1 – Certainty and Sufficiency of Information Provided S.X.1.8 Methodology for Evaluating Effects Volume C4: EIAR Appendices - Appendices to chapters 6, 8, 10, 11, 12, 14, 15, 16, 17.
2.2	Were the methods used appropriate for the purpose?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 S.X.1.7.1 – Certainty and Sufficiency of Information Provided

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C. Section S. Figure F. Appendix A.*
					S.X.1.8 Methodology for Evaluating Effects
2.25	Have the methods used to predict the impact of the Project on climate changes been described? (if relevant)	Y	Y	None	Volume C2: EIAR Main Report C.13 Climate – S.13.1.8
2.26	Have the methods used to predict climate change's impact on the Project been described?	N			No effects to the project expected.
2.27	Is the uncertainty attached to the climate change evolution predictions discussed? (if relevant)	N			No effects to the project expected.
2.28	Did you consider life cycle assessment of the Project to describe the Project's impact on climate change? (if relevant)	Y	Y	None	Volume C2: EIAR Main Report C.13 Climate – S.13.1.7
2.29	Have any important gaps in the data on the existing environment/ evolution prediction been identified (e.g. climate change), and the means used to deal with these gaps during the assessment, been explained?	N			No important gaps in data
2.30	Where data collection would be required to adequately characterise the Baseline environment, but they have not been practicable for any reason, are the reasons explained and have proposals been set out for the surveys to be undertaken at a later stage?	N			All data collected to enable adequate characterisation of the baseline environment
Other Questions on the Description of the Environment					

A2.4.3 SECTION 3: DESCRIPTION OF THE LIKELY SIGNIFICANT EFFECTS OF THE PROJECT

No.	Review Question	Relevant?	Adequately Addressed	What further information is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C. Section S. Figure F. Appendix A.*
Scoping of Effects					
3.1	Has the process by which the scope of the information for the EIA Report defined been described? (for assistance, see the Scoping Guidance Document in this series)	Y	Y	None	Volume C2: EIAR Main Report C.2 The EIA Report Process - S.2.3: Scoping for Content and Extent of the EIA Report
3.2	Is it evident that a systematic approach to Scoping has been adopted?	Y	Y	None	Volume C2: EIAR Main Report C.2 The EIA Report Process - S.2.3: Scoping for Content and Extent of the EIA Report Environmental Topic Chapters - C.6 to 17 S.X.1.3 Sensitive Aspects Included, X.1.4: Sensitive Aspects Excluded S.X.4.6 (last part): Description and Rationale for Excluded (scoped out) Impacts
3.3	Was consultation carried out during Scoping?	Y	Y	None	Volume C2: EIAR Main Report C.2 The EIA Report Process - S.2.3: Scoping for Content and Extent of the EIA Report C3: Consultation Scoping Volume C4: EIAR Appendix - A.3.1, A 3.2 and A3.3
3.4	Have the comments and views of consultees been presented?	Y	Y	None	Volume C2: EIAR Main Report C.3 Scoping & Consultation – S.3.1, 3.2, 3.3 Volume C4: EIAR Appendix - A.3.1 and A 3.2
Prediction of Direct Effects					
3.5	Have the direct, primary effects on land uses, people, and property been described and, where appropriate, quantified?	Y	Y	None	Volume C2: EIAR Main Report C.6 Population – S6.2.4 C.7 Human Health – S7.2.4, S7.3.4, S7.4.4 C.9 Land – S9.2.4, S9.3.4 C.12 Air – S12.2.4, S12.3.4, S12.4.4 C.14 Built Services – S14.2.4

No.	Review Question	Relevant?	Adequately Addressed	What further information is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
					C.15 Roads – S15.3.4
3.6	Have the direct, primary effects on geological features and characteristics of soils been described and, where appropriate, quantified?	Y	Y	None	Volume C2: EIAR Main Report C.10 Soils – S.10.2.4, S10.3.4 and S10.4.4
3.7	Have the direct, primary effects on biodiversity been described and, where appropriate, quantified? (if relevant, are references made to Natura 2000 sites? (Directive 2009/147/EC and Directive 92/43/EEC))	Y	Y	None	Volume C2: EIAR Main Report C.8 Biodiversity – S8.3.4, S8.4.4, S8.5.4, S8.6.4, S8.7.4, S8.8.4, S8.9.4, S8.10.4, and S.8.2.4 (European Sites) and Vol.E Natura Impact Statement
3.8	Have the direct, primary effects on the hydrology and water quality of water features been described and, where appropriate, quantified?	Y	Y	None	Volume C2: EIAR Main Report C.11 Water – S11.2.4, S11.3.4, S11.4.4, S11.5.4, S11.6.4, S11.7.4, S11.8.4,
3.9	Have the direct, primary effects on uses of the water environment been described and, where appropriate, quantified? (if relevant, are references made for River Basin Management Plans/Programmes of Measures under the WFD (2000/60/EC))	Y	Y	None	Volume C2: EIAR Main Report C.8 Biodiversity – S.8.2.4, 8.4.4, 8.9.4, 8.10.4 C.11 Water – S11.4.4
3.10	Have the direct, primary effects on air quality been described and, where appropriate, quantified? (if relevant, are references made to Air Quality Plans under Directives 2008/50/EC and 2004/107/EC))	Y	Y	None	Volume C2: EIAR Main Report C.12 Air – S.12.2.4 Volume C4: EIAR Appendices – A12.1
3.11	Have the direct, primary effects on climate change been described and, where appropriate, quantified?	Y	Y	None	Volume C2: EIAR Main Report C.13 Climate – S.13.2.4
3.12	Have the direct, primary effects on the acoustic environment (noise or vibration) been described and, where appropriate, quantified? (if relevant, are references made to Action Plans/Programme under the Environmental Noise Directive (2002/49/EU))	Y	Y	None	Volume C2: EIAR Main Report C.12 Air – S.12.2.4 Volume C4: EIAR Appendices – A12.2
3.13	Have the direct, primary effects on heat, light or electromagnetic radiation been described and, where appropriate, quantified?	Y	Y	None	Volume C2: EIAR Main Report C.12 Air –S.12.2.4.4 and S.12.3.4.1 C.8 Biodiversity – Last subsection of S8.3.4, S8.6.4, S8.7.4, S8.8.4, S8.9.4, S8.10.4. Volume C4: EIAR Appendices – A12.3

No.	Review Question	Relevant?	Adequately Addressed	What further information is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
3.14	Have the direct, primary effects on material assets and depletion of natural resources (e.g. fossil fuels, minerals) been described?	Y	Y	None	Volume C2: EIAR Main Report C.8 Biodiversity C.9 Land C.10 Soils C.14 Material Assets - Built Services C.15 Material Assets - Roads Sensitive Aspect Section – S.X.X.4 Evaluation of Impacts
3.15	Have the direct, primary effects on locations or features of cultural importance been described?	Y	Y	None	Volume C2: EIAR Main Report C.16 Cultural Heritage – S.16.2.4, 16.3,4, 16.4.4, 16.5.4
3.16	Have the direct, primary effects on the quality of the landscape and on views and viewpoints been described and, where appropriate, illustrated?	Y	Y	None	Volume C2: EIAR Main Report C.17 Landscape – S.17.2.4, S.17.3.4 Volume C3: EIAR Figures Figure RW 17.4 (montage)
3.17	Have the direct, primary effects on environmentally relevant demography, social, and socio-economic condition in the area been described and, where appropriate, quantified?	Y	Y	None	Volume C2: EIAR Main Report C.6 Population – S.6.2.4
3.18	Have the secondary effects on any of the environment's aspects, above, caused by primary effects on other aspects been described and, where appropriate, quantified? (e.g. effects on biodiversity, including species and habitats protected under Directives 92/43/EEC and 2009/147/EC caused by soil, air or water pollution or noise; effects on uses of water caused by changes in hydrology or water quality; effects on archaeological remains caused by desiccation of soils)	Y	Y	None	Volume C2: EIAR Main Report C.18: Interaction of the Environmental Factors Environmental Topic Chapters – S.X.X.4 of the following chapters: Ch.6 Population Ch.7 Human Health Ch.8 Biodiversity Ch.9 Land Ch.11 Water Ch.12 Air Ch.17 Landscape
3.19	Have the temporary, short term effects caused only during construction or during time limited phases of Project operation or decommissioning been described? (e.g. emissions produced during the construction)	Y	Y	None	Volume C2: EIAR Main Report S.X.X.4 of the Environmental Topic Chapters C6 to C17 (most effects will occur during the construction stage)

No.	Review Question	Relevant?	Adequately Addressed	What further information is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
3.20	Have the permanent effects on the environment caused by construction, operation or decommissioning of the Project been described?	Y	Y	None	Volume C2: EIAR Main Report S.X.X.4 of the Environmental Topic Chapters C6 to C17
3.21	Have the long-term effects on the environment, caused over the lifetime of Project operations or caused by build-up of pollutants, in the environment been described?	Y	Y	None	Volume C2: EIAR Main Report S.X.X.4 of the Environmental Topic Chapters C6 to C17
3.22	Have the effects that could result from accidents, abnormal events or exposure of the Project to natural or man-made disasters been described and, where appropriate, quantified?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development S.5.5
3.23	Have the effects on the environment, caused by activities ancillary to the main Project, been described? (ancillary activities are part of the Project but usually take place at a distance from the main Project location e.g. construction of access routes and infrastructure, traffic movements, sourcing of aggregates or other raw materials, generation and supply of power, disposal of effluents or wastes). For further guidance and explanation concerning ancillary works assessment see http://ec.europa.eu/environment/eia/pdf/Note%20-%20Interpretation%20of%20Directive%2085-337-EEC.pdf	Y	Y	None	Volume C2: EIAR Main Report S.X.X.4 of the Environmental Topic Chapters C6 to C17 (cumulative evaluation section of the impact tables)
Impact Assessment Methods					
3.24	Have the indirect effects on the environment caused by consequential development been described? (consequential development is other Projects, not part of the main Project, stimulated to take place by implementation of the Project e.g. to provide new goods or services needed for the Project, to house new populations or businesses stimulated by the Project)	N			No consequential or secondary developments are known at present. Volume C2: EIAR Main Report C.5 Description of Development S.5.6.2
3.25	Have the cumulative effects on the environment of the Project, together with other existing or planned developments in the locality, been described? (different future scenarios including a worst-case scenario should be described, as well as the effects on both climate change and biodiversity). For further guidance on the assessment of cumulative impacts see *http://europa.eu. environment/eia/eia-support http://ec.europa.eu/environment/archives/eia/eia-studiesand-reports/pdf/guidel.pdf).*	Y	Y	None	Volume C2: EIAR Main Report S.X.X.4 of the Environmental Topic Chapters C6 to C17 (cumulative evaluation section of the impact tables)
3.26	Have the transboundary effects on the environment of the Project, either during construction or operation, been described?	N			No transboundary effects

No.	Review Question	Relevant?	Adequately Addressed	What further information is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
3.27	Have the geographic extent, duration, frequency, reversibility, and probability of occurrence of each effect been identified as being appropriate?	Y	Y	None	Volume C2: EIAR Main Report S.X.X.4 of the Environmental Topic Chapters C6 to C17
Prediction of Effects on Human Health and Sustainable Development issues					
3.28	Have the primary and secondary effects on human health and welfare described and, where appropriate, been quantified? (e.g. health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups).	Y	Y	None	Volume C2: EIAR Main Report C.7 Human Health – S.7.2.4, S.7.3.4, S.7.4.4
3.29	Have the impacts on issues such as biodiversity, marine environment, global climate change, use of natural resources and disaster risk been discussed, where appropriate?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development – S.5.5 Ch.8: Biodiversity Ch.10: Soils Ch.13: Climate
Evaluation of the Significance of Effects					
3.30	Is the significance or importance of each predicted effect clearly explained with reference to legal or policy requirements, other standards, and the number, importance, and sensitivity of people, resources or other receptors affected?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 S.X.X.4 of the Environmental Topic Chapters C6 to C17 *- See 'Rational for Impact Evaluation' in the Impact Evaluation Tables)*
3.31	Where effects are evaluated against legal standards or requirements, have the appropriate local, national or international standards been used and has relevant guidance followed?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 S.X.1.8 – Methodology for Evaluating Effects
3.32	Have the positive effects on the environment been described, as well as the negative effects?	Y	Y	None	Volume C2: EIAR Main Report S.X.X.4 of the Environmental Topic Chapters:

No.	Review Question	Relevant?	Adequately Addressed	What further information is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
					C.6 Population C.7 Human Health C.8 Biodiversity C.13 Climate
Impact Assessment Methods					
3.33	Have the methods used to predict the effects described, and the reasons for their choice, any difficulties encountered, and uncertainties in the results been discussed?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 S.X.1.7.1 – Certainty and Sufficiency of Information Provided S.X.1.8 – Methodology for Evaluating Effects
3.34	Where there is uncertainty about the precise details of the Project, and its impact on the environment/climate change, have worst-case predictions been described?	N			No uncertainty about the precise details of the project
3.35	Where there have been difficulties in compiling the data needed to predict/evaluate effects, have these difficulties been acknowledged and their implications for the results been discussed?	N			No difficulties in compiling data
3.36	Has the basis for evaluating the significance or importance of impacts been described clearly?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 S.X.1.8 – Methodology for Evaluating Effects S.X.X.4 of the Environmental Topic Chapters C6 to C17 *- See 'Rational for Impact Evaluation' in the Impact Evaluation Tables)*
3.37	Have the impacts been described on the basis that all Mitigation Measures proposed have been implemented i.e. have the residual impacts been described?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 – starting at S.X.2 of each topic chapter (S.X.X.5 Mitigation Measures for Impacts, S.X.X.6 Evaluation of Residual Impacts)
3.38	Is the level of treatment of each effect appropriate to its importance for the Development Consent decision? Does the discussion focus on the key issues and avoid irrelevant or unnecessary information?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 (S.X.X.4 (last part): Description and Rationale for Excluded (Scoped Out) Impacts

No.	Review Question	Relevant?	Adequately Addressed	What further information is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
					Use of Appendices – See Volume C4: EIAR Appendices
3.39	Is appropriate emphasis given to the most severe, adverse effects of the Project with lesser emphasis given to less significant effects?	Y	Y	None	All likely measurable effects are evaluated in the EIA Report to facilitate the cumulative evaluations, however more focus has been applied to those sensitive aspects of the environment likely to be effected more adversely than others (i.e. Moderate or Significant effects), See C.11 Water, S.11.2 Local Surface Water Bodies C.8: Biodiversity, S.8.4 Aquatic Habitats and Species, S.8.9 Non Volant Mammals.
Other Questions relevant to Description of Effects					
	Have, with a view to avoiding duplication of assessments, the available results of other relevant assessments under Union or national legislation, in preparing the environmental impact assessment report been taken into account? If so, how was this done?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 Section X.1.7 Sources of baseline Information, includes the 2013/2014 EIA and AA reporting for the Consented Upperchurch Windfarm. C8 Biodiversity refers to the Natura Impact Statement in Volume E.

A2.4.4 SECTION 4: CONSIDERATION OF ALTERNATIVES

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
4.1	Have the different Alternatives suggested during Scoping been considered and assessed, and if not has justification been provided?	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered
4.2	Have the Developer and practitioners, who are preparing the EIA Report, identified and assessed additional Alternatives (to the ones suggested during Scoping)?	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered
4.3	Have the process by which the Project was developed been described and are the Alternatives to the design of the Project considered during this process been described? (for assistance, see also the guidance on types of Alternatives which may be relevant in the Scoping Guidance Document)	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered - S.4.1
4.4	Have the Alternatives to the design considered during this process been described? (for assistance, see also the guidance on types of alternatives which may be relevant in the Scoping Guidance Document in this series)	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered S.4.2.2 and S.4.4
4.5	Have the Alternatives to technology been considered during this process? (for assistance, see also the guidance on types of Alternatives which may be relevant in the Scoping Guidance Document in this series)	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered S.4.2.2
4.6	Have the Alternatives to the location considered during this process been described? (for assistance, see also the guidance on types of alternatives which may be relevant in the Scoping Guidance Document in this series)	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered S.4.2
4.7	Have the Alternatives to the size considered during this process been described (for assistance, see also the guidance on types of alternatives which may be relevant in the Scoping Guidance Document in this series)	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered S.4.2.2
4.8	Have the Alternatives to the scale considered during this process been described? (for assistance, see also the guidance on types of alternatives which may be relevant in the Scoping Guidance Document in this series)	Y	Y	Non	Volume C2: EIAR Main Report C.4 Alternatives Considered S.4.4.1
4.9	Has the Baseline situation in the 'do-nothing' scenario been described?	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered S.4.7 – 'Do Nothing' Alternative Environmental Topic Chapters - C.6 to 17

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
					S. X.X.1.5 Trends in the Baseline Environment (the 'Do-Nothing' scenario)
4.10	Are the Alternatives realistic and genuine Alternatives to the Project? (i.e. feasible Project options that meet the objectives)	Y	Y	None	Only reasonable and genuine alternatives described in Ch.4 Alternatives Considered
4.11	Have the main reasons for choosing the proposed Project been provided, including an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects?	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered S. 4.2 to 4.7
4.12	Are the main environmental effects of the Alternatives compared to those of the proposed Project?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters - C.6 to 17 Sensitive Aspect Section – starting at S.X.2 of each topic chapter (S.X.X.4 Evaluation section in general impact description commentary)
4.13	Are Mitigation Measures considered in the assessment of Alternatives? (more on mitigation in section 5 below)	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered S. 4.6 Alternative Mitigation Measures
Other Questions on Consideration of Alternatives					

A2.4.5 SECTION 5 DESCRIPTION OF MITIGATION

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
5.1	Where there are significant adverse effects on any aspect of the environment, has the potential for the mitigation of these effects been discussed?	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered S. 4.2 to 4.7 C.5 Description of Development, S.5.2.4 Environmental Protection Measures designed into the UWF Related Works C.8 Biodiversity, S.8.9.4 – Disturbance/Displacement Effects to Otter (Table 8-100), Additional Mitigation Measure AMM-01 included after Table 8-100.
5.2	Have the measures that the Developer has proposed to implement, in order to mitigate effects, been clearly described and is their effect on the magnitude and significance of impacts clearly explained?	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered S. 4.2 to 4.7 C.5 Description of Development S.5.2.4 Environmental Protection Measures designed into the UWF Related Works C.8 Biodiversity, S.8.9.4 – Disturbance/Displacement Effects to Otter (Table 8-100), Additional Mitigation Measure AMM-01 included after Table 8-100. (relates to UWF Grid Connection effects).
5.3	Have any proposed mitigation strategy's negative effects been described?	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered – S.4.6
5.4	If the effect of Mitigation Measures on the magnitude and significance of impacts is uncertain, has this been explained?	N			No uncertainties regarding mitigation measures

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
5.5	Is it clear if the Developer has made a binding commitment to implement the mitigation proposed or acknowledged that the Mitigation Measures are just suggestions or recommendations?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development S.5.2.4 Environmental Protection Measures (PD) designed into the UWF Related Works (PD 01 to PD43) Volume D: Environmental Management Plan for UWF Related Works (EMP) S.4 Environmental Commitments Volume B: Planning Drawings – Environmental Protection Measures (where relevant) shown on the Drawings
5.6	Do the Mitigation Measures cover both the construction and operational phases of the Project?	Y	Y	None	Volume C2: EIAR Main Report C.5 Description of Development S.5.2.4 Environmental Protection Measures designed into the UWF Related Works (PD01 to PD43) (both construction and operational stages covered)
5.7	Have the Developer's reasons for choosing the proposed mitigation been explained?	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered – S.4.2 to 4.7
5.8	Have the responsibilities for the implementation of mitigation including roles, responsibilities, and resources been clearly defined?	Y	Y	None	Volume D: Environmental Management Plan for UWF Related Works (EMP) S.3.3 Duties & Responsibilities
5.9	Where the mitigation of significant adverse effects is not practicable, or where the Developer has chosen not to propose any mitigation, have the reasons for this been clearly explained?	N			No other potential or likely significant effects.
5.10	Is it evident that the practitioners developing the EIA Report and the Developer have considered the full range of possible approaches to mitigation, including measures to avoid, prevent or reduce and, where possible, offset impacts by alternative strategies or locations, changes to the Project design and layout, changes to methods and processes, 'end of pipe' treatment, changes	Y	Y	None	Volume C2: EIAR Main Report C.4 Alternatives Considered S. 4.2 to 4.7

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
	to implementation plans and management practices, measures to repair or remedy impacts and measures to compensate impacts?				C.5 Description of Development S.5.2.4 Environmental Protection Measures designed into the UWF Related Works. Environmental Topic Chapters - C.6 to 17 (S.X.X.3. Project Design Measures for 'Topic')
Other Questions on Mitigation					

A2.4.6 SECTION 6 DESCRIPTION OF MONITORING MEASURES

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
6.1	Where adverse effects on any aspect of the environment are expected, has the potential for the monitoring of these effects been discussed?	Y	Y	None	Volume C2: EIAR Main Report C19: Monitoring Arrangements Volume D: EMP for UWF Related Works S.7 Monitoring
6.2	Are the measures, which the Developer proposes implementing to monitor effects, clearly described and has their objective been clearly explained?	Y	Y	None	Volume C2: EIAR Main Report C19: Monitoring Arrangements
6.3	Is it clear whether the Developer has made a binding commitment to implement the proposed monitoring programme or that the Monitoring Measures are just suggestions or recommendations?	Y	Y	None	Volume C2: EIAR Main Report C19: Monitoring Arrangements Volume D: EMP for UWF Related Works S.4 Environmental Commitments S.7 Monitoring
6.4	Have the Developer's reasons for choosing the monitoring programme proposed been explained?	Y	Y	None	Volume C2: EIAR Main Report C19: Monitoring Arrangements Volume D: EMP for UWF Related Works S.7 Monitoring
6.5	Have the responsibilities for the implementation of monitoring, including roles, responsibilities, and resources been clearly defined?	Y	Y	None	Volume C2: EIAR Main Report C19: Monitoring Arrangements Volume D: EMP for UWF Related Works S.7 Monitoring
6.6	Where monitoring of adverse effects is not practicable, or the Developer has chosen not to propose any Monitoring Measures, have the reasons for this been clearly explained?	N			All adverse effects are monitored

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
6.7	Is it evident that the practitioners developing the EIA Report and the Developer have considered the full range of possible approaches to monitoring, including Monitoring Measures covering all existing environmental legal requirements, Monitoring Measures stemming from other legislation to avoid duplication, monitoring of Mitigation Measures (ensuring expected significant effects are mitigated as planned), Monitoring Measures capable of identifying important unforeseen effects?	Y	Y	None	Volume C2: EIAR Main Report C19: Monitoring Arrangements Volume D: EMP for UWF Related Works S.7 Monitoring
6.8	Have arrangements been proposed to monitor and manage residual impacts?	Y	Y	None	Volume C2: EIAR Main Report C19: Monitoring Arrangements Volume D: EMP for UWF Related Works S.7 Monitoring
Other Questions on Monitoring Measures					

A2.4.7 SECTION 7: QUALITY

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
Quality of presentation					
7.1	Is the EIA Report available in one or more clearly defined documents?	Y	Y	None	Volume C2: EIAR Main Report C.1 Introduction S.1.4 – Table 1-1 Volume C1: EIAR Non-Technical Summary Volume C2: EIAR Main Report Volume C3: EIAR Figures Volume C4: EIAR Appendices Also available on www.upperchurchwindfarm.ie
7.2	Is the document(s) logically organised and clearly structured, so that the reader can locate information easily?	Y	Y	None	Volume C2: EIAR Main Report C.2 The EIAR Process including Scoping – S.2.5 Presentation of the EIAR Report
7.3	Is there a table of contents at the beginning of the document(s)?	Y	Y	None	Beginning of each volume, and at the beginning of each Chapters
7.4	Is there a clear description of the process that has been followed?	Y	Y	None	Volume C2: EIAR Main Report C.2 The EIAR Process including Scoping S.2.1 to S.2.5
7.5	Is the presentation comprehensive but concise, avoiding irrelevant data and information?	Y	Y	None	Volume C2: EIAR Main Report C.2 The EIAR Process including Scoping – S.2.3 Scoping for Content and Extent. Use of Volume C4: EIAR Appendices
7.6	Does the presentation make effective use of tables, figures, maps, photographs, and other graphics?	Y	Y	None	Volume C3: EIAR Figures Comprising **176 No.** EIAR Figures
7.7	Does the presentation make effective use of annexes or appendices to present detailed data that is not essential to understanding the main text?	Y	Y	None	Volume C4: EIAR Appendices Comprising **40 No.** EIAR Appendices
7.8	Are all analyses and conclusions adequately supported with data and evidence?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters C.6 to C.17 (S.X.X.4 Evaluation - Impact Magnitude and Rationale for Impact in Evaluation Table)

No.	Review Question	Relevant?	Adequately Addressed	What further info is needed?	Relevant part of the EIA Report *Abbreviations: Chapter C.* *Section S.* *Figure F.* *Appendix A.*
7.9	Have all sources of data been properly referenced?	Y	Y	None	Volume C2: EIAR Main Report Environmental Topic Chapters C.6 to C.17 – S.X.1.7, Use of Footnotes throughout chapters and List of References at the end of Topic Chapter. All cross referencing in red text
7.10	Has terminology been used consistently throughout the document(s)?	Y	Y	None	Yes, project naming and impact description uses consistent terms throughout the EIAR. Volume C2: EIAR Main Report C.2 The EIAR Process including Scoping – S.2.4: Descriptive Terminology Used in this EIA Report
7.11	Does it read as a single document, with cross referencing between sections used to help the reader navigate through the document(s)?	Y	Y	None	Checked in final review All cross referencing in red text All Topic chapters presented using the same structure and format. Colour codes used to distinguish sensitive receptors Side Tabs used to aid navigation through the document.
7.12	Is the presentation demonstrably fair and, as far as possible, impartial and objective?	Y	Y	None	Use of independent competent experts to evaluate all effects on the environment. Volume C2: EIAR Main Report C.2 The EIAR Process including Scoping – S.2.2.3 The Project Design Team and S.2.2.4: The EIA Report Team

Non-Technical Summary					
7.13	Does the EIA Report include a Non-Technical Summary?	Y	Y	None	Volume C1: EIAR Non-Technical Summary
7.14	Does the Summary provide a concise but comprehensive description of the Project, its environment, the effects of the Project on the environment, the proposed Mitigation Measures, and proposed monitoring arrangements?	Y	Y	None	Yes, concise but comprehensibly covers project, environment, effects, mitigation measures and monitoring arrangements.
7.15	Does the Summary highlight any significant uncertainties about the Project and its environmental effects?	N			No significant uncertainties
7.16	Does the Summary explain the Development Consent process for the Project and the EIA's role in this process?	Y	Y	None	Volume C1: EIAR Non-Technical Summary C.1: S.1.6 The proposed development as part of the Whole Upperchurch Windfarm Project C2: S2.1 Why is this EIA Report required
7.17	Does the Summary provide an overview of the approach to the assessment?	Y	Y	None	Volume C1: EIAR Non-Technical Summary C2 The EIA Report Process
7.18	Has the Summary been written in nontechnical language, avoiding technical terms, detailed data, and scientific discussion?	Y	Y	None	Yes, non-technical language and approach used throughout.
7.19	Would it be comprehensible to a lay-member of the public?	Y	Y	None	Yes, main objective of the Non-Technical Summary
Expertise					
7.20	Is the competency of experts, who are responsible for the preparation of the EIA Report, indicated or otherwise explained in the EIA Report?	Y	Y	None	C.2 The EIAR Process including Scoping – S.2.2.3 The Project Design Team and S.2.2.4: The EIA Report Team
7.21	Has the Developer complied with national or local legal requirements and practices for the selection of experts responsible for the preparation of the EIA Report?	Y	Y	None	Guidance on selection of experts from: EC (2017) Guidance on the preparation of the Environmental Impact Assessment Report S.2.2 The competence of Expertise and Quality Control Guidelines on the information to be contained in environmental impact assessment reports (EPA Draft August 2017) S.2.5 Competency of Experts
Other Questions on Quality of Presentation					

	Are Non-Technical Summary figures and mapping included with the text or form a separate volume, similar to V2 EIAR Main Report?				Non-Technical Summary figures are presented with the NTS, at the end of the text.

Appendix to Chapter 3: The Scoping Consultation

The data and descriptions in this appendices have informed Chapter 3: The Scoping Consultation of the EIA Report.

Appendics to Chapter 3	Section Heading
A3.1	Consultation with Competent Authorities
A3.2	Consultation with Statutory Bodies and Other Parties
A3.3	Public Consultation Information Day Documentation
A3.4	Community Liaison & Consultation Strategy
A3.5	Reply to 3rd Party Submissions Post Application

Appendix 3.1: Consultations with Competent Authorities

Appendix 2.2 Document	Order of Documents	Relevant EIA Report
A3.1.1	Tipperary County Council, Pre-planning meeting, 9th July 2015	UWF Related Works UWF Replacement Forestry UWF Grid Connection
A3.1.2	An Bord Pleanála (ABP), Pre Application Consultation Request and ABP receipt (ABP Ref: 22.VC0098)	
A3.1.3	ABP Strategic Infrastructure Development (SID) Meeting No.1 24th June 2016 - meeting minutes	
A3.1.4	ABP SID Meeting No.2 27th January 2017 - meeting minutes	
A3.1.5	ABP SID Meeting No.3 18th August 2017 - meeting minutes	
A3.1.6	ABP Inspectors Report No.1, 12th July 2016	
A3.1.7	ABP Inspectors Report No.2, 14th December 2017	
A3.1.8	ABP Determination Notice re SID, 11th January 2018	

PP 4094.

Appendix 3.1.1

Comhairle Contae Thiobraid Árann
Tipperary County Council

PLANNING SECTION
RECORD OF CONSULTATION IN RELATION TO PROPOSED DEVELOPMENT
In accordance with Section 247 of the Planning and Development Act, 2000-2010 as amended
Planning & Development Regulations 2001 – 2012 as amended

Date of Consultation: 09/07/15 **Venue:** Nenagh **Time:** 12.00.

Person Requesting Consultation: Pat Brett.

In attendance:

Location of proposed development to which consultation relates:

Montpellier Newport.

Full Details of the nature and extent of the proposed development:

110 KV. Substation.

Details of the interest of the person requesting consultation in the property referred to above:

Does the said person propose to make a planning application Yes ☑ No ☐

Is this development considered significant: Yes ☐ No ☑ not in itself.

Has the person requesting the consultation submitted:

A site location map - Yes ☑ No ☐

A landholding map - Yes ☐ No ☑

Sketch proposals - Yes ☐ No ☑

Details (including planning register reference nos.)of any previous planning history (including refusals) on the site or which are relevant to the proposed development –
Yes ☐ No ☑

Matters Discussed

- Purpose to serve 22 turbine wind farm at Uppadine
- CDP policy. -

Issue of project splitting.

- EIA + AA would need to be addressed.
- Current permission subject to judicial review

S.I.D? Applicant to seek own view.

Note: The purpose of this consultation in relation to the proposed development is to enable the person concerned to be advised by the Planning Authority of the procedures involved in considering a planning application, including any requirements of the Planning and Development Regulations, 2001-2013 (which govern the preparation and submission of planning applications) and to, as far as possible, indicate the relevant objectives in the current statutory Development Plan, which are relevant to the proposed development and which may have a bearing on the decision of the Planning Authority.

The carrying out of this consultation in relation to the proposed development shall not prejudice the performance by Tipperary County Council as Planning Authority of any of its functions under the Planning and Development Acts, 2000-2013, or any Regulations made under the Acts, and cannot be relied upon in the formal planning process or in legal proceedings.

The matters discussed at this consultation shall not prejudice any decision which may be made by the Planning Authority in relation to any planning application on the subject site. Furthermore, the advice offered is only relevant in so far as the applicable Planning and Development Act, 2000-2011, the Regulations made thereunder, and the appropriate statutory Development Plan current for the time being, remain so.

It is recommended that a copy of this record be submitted with any planning application in respect of the proposed development.

We agree that the above represents a true and clear account of the matters discussed at the above consultation in relation to the proposed development described above between the person named above and the undersigned.

Signed: _____

Position: District Planner
Planning Section,
Tipperary County Council.

Date: 09/07/15

Signed: _____

Person Requesting Consultation

Date: 09/07/15

ECOPOWER DEVELOPMENTS

Ecopower Developments Ltd.
Sion Road • Kilkenny • Ireland
Tel: 056 775 0140 • E-mail: office@ecopower.ie

Strategic Infrastructure Division
An Bord Pleanála
64 Marlborough Street
Dublin 1

5th April 2016

Re: 'Development' (Upperchurch Windfarm Grid Connection) consisting of an 110kV electrical substation at Mountphillips, Newport, County Tipperary and laying underground of c.30km of 110kV electrical line to connect the proposed substation and an 110kV electrical substation (element of permitted Upperchurch Windfarm) at Knockcurraghbola Commons, Upperchurch, Thurles, Co. Tipperary. The proposed development is located in County Tipperary in its entirety.

A Chara,

With reference to the above, Ecopower Developments wishes to enter into the pre-application process with An Bord Pleanála under the provisions of Section 182E of the Planning and Development Act 2000 (as amended).

There are two issues which Ecopower Developments seeks to discuss with the Board:

1. Whether or not the proposed Mountphillips 110kV substation, the underground 110kV line and associated works constitutes Strategic Infrastructure Development particularly in the context that the development will form part of ESB Network operated Distribution System?
2. Is the submission of an Environmental Impact Statement required to accompany an application for permission for the Development?

Ecopower Developments is of the opinion that the Development does constitute Strategic Infrastructure Development because it is proposed to transport electricity at a voltage of 110kV, thereby satisfying the criteria of Section 182A (9) (a) of the Planning and Development Act 2000 (as amended), quoted below

> *182A (9) In this section 'transmission', in relation to electricity, shall be construed in accordance with section 2(1) of the Electricity Regulation Act 1999 but, for the purposes of this section, the foregoing expression, in relation to electricity, shall also be construed as meaning the transport of electricity by means of—*
>
> *(a) a high voltage line where the voltage would be 110 kilovolts*

Registered in Ireland No. 361900
Registered Office: Sion Road, Kilkenny, Ireland.
Vat Registration No.: IE 6381900T

Directors:
Pat Brett, Philomena Kenealy

a) Upperchurch Windfarm Grid Connection

The Development described below constitutes the Upperchurch Windfarm Grid Connection;

1. Underground Line Route: c.30km of underground 110kV line connecting the permitted 110kV Upperchurch Windfarm substation at Knockcurraghbola Commons to the proposed Mountphillips substation. The underground 110kV line will follow a route through the following townlands, from east to west; Knockcurraghbola Commons, Knockcurraghbola, Knockmaroe, Knocknabansha, Churchquarter, Laghile, Goulmore, Baurnadomeeny, Bealaclav, Knockacullin, Killeen, Castlewaller, Fiddane, Newross, Oakhampton, Freagh, Coole and Mountphillips.
2. Mountphillips substation, compound, end masts and site access road: 110kV Gas Insulated Switchgear (GIS) substation and compound on c.0.2 hectare site with c.800m in length of site access road, in the townland of Mountphillips, close to the existing Nenagh – Killonan 110kV overhead lines; the removal of a portion of the existing overhead lines including the removal of 1 No. lattice tower; the construction 2 No. new 23m high end mast lattice towers and associated cables, through which the substation will be connected to the Nenagh – Killonan 110kV overhead lines and thus to the National Grid.
3. All associated and ancillary site development works

See Figures 1-3 appended to this letter for illustrative details:

- **Figure 1: Upperchurch Windfarm Grid Connection on Discovery mapping**
- **Figure 2: Mountphillips substation, compound and access road layout**
- **Figure 3a: Plan and Elevation for Mountphillips substation**
- **Figure 3b: Site Sections for Mountphillips substation**

The applicant's legal interest in the substation site and underground line route will be through both land purchase and wayleave agreements.

b) Locational Context of the Upperchurch Windfarm Grid Connection

The proposed underground line route is a predominately cross-country route, with 17.5km through agricultural land, 10.9km through forestry/forestry fire breaks/forestry roads and 1km through public road following an east/west route through the Silvermine Mountain range.

Land use in the Silvermines area is dominated by blocks of commercial conifer plantation on the elevated ground and agricultural fields on the mid to lower reaches.

Settlements in the area and the nearest point to the underground line, include the villages of Upperchurch (3.7km), Kilcommon (0km), Rear Cross (1.2km), Toor (1.8km) and Newport (2.2km). Rural residences and farmsteads are also sparsely scattered in the vicinity of the underground line route and substation.

In the North Tipperary County Development Plan 2010 (as varied) Figure 2.4: Core Strategy Map demonstrates how the county works, with respect to the main geographical areas, the settlement hierarchy and existing transportation, energy, communication and waste infrastructure, together with its relationship to adjoining regions. The underground line route for the Upperchurch Windfarm grid connection crosses the Silvermine Mountains east/west through the upland area

identified as the Slievefelim Complex, with rural designation Secondary Amenity Area, on the Core Strategy Map. In the vicinity of Mountphillips, the underground line crosses an area with rural designation 'Open Countryside' applied.

See Figures 4-5 in the Appendix of this letter for an aerial view of the underground line route.

- **Figure 4: Upperchurch Windfarm Grid Connection Map 1 of 2 on Aerial Photography Mapping**
- **Figure 5: Upperchurch Windfarm Grid Connection Map 2 of 2 on Aerial Photography Mapping**

The Mountphillips substation is proposed for a location in agricultural farmland with access through some fields, from the Local Road network.

The substation site is in the 'Open Countryside' designation in the County Development Plan Core Strategy Map.

There is limited visibility of the site afforded from the surrounding area due to the separation distance from Local Roads, its low lying location at 68m OSL and the presence of mature hedgerows and trees in the area surrounding the site. The nearest house to the proposed substation is 266m to the southwest and is the residence of the landowner of the substation site. The nearest 3rd party residence is 462m to the south.

c) Permitted Upperchurch Windfarm

Permission was granted for Upperchurch Windfarm (LA Planning Ref. 13510003 and ABP Ref No. PL22.243040) in August 2014. The Upperchurch Windfarm application was accompanied by an Environmental Impact Statement and Natura Impact Statement.

The Upperchurch Windfarm planning permission consists of planning for 22 No. turbines, 1 No. electrical substation and compound, site access roads, 2 No. meteorological masts and associated works. Ecopower Developments has secured a Gate 3 Grid Connection Agreement (DG96) from ESB Networks for Upperchurch Windfarm. In this Agreement, the physical connection is required to be at a point along the existing Nenagh to Killonan 110kV overhead line, in the Mountphillips-Freagh area, near Newport, Co. Tipperary. The Nenagh to Killonan 110kV line forms part of the Distribution System and is operated by the Distribution System Operator (DSO).

The subject development will provide the infrastructure to transport electricity from the windfarm to the National Grid network in accordance with the Grid Connection Agreement for the windfarm and is necessary in order to allow the windfarm to be developed.

In North Tipperary County Development Plan 2010 (as varied) there is supportive policy statements in Section 8.7 on Access to the Electricity Supply Network where

> *The appropriate expansion of the national grid is important to ensure adequacy of regional connectivity for sustainable economic growth as well as facilitate the development and connectivity of sustainable renewable energy resources*. In this respect, the Council will facilitate the sustainable and appropriate development of additional electricity generation capacity throughout the region/county and support the sustainable expansion of the network.*

*Ecopower Developments emphasis

d) Environmental Assessment

The Upperchurch Windfarm Grid Connection is proposed for locations within the source of a number of watercourses that drain from the upland area to the River Suir system to the east and to the River Shannon system to the west. The majority of the footprint of the Upperchurch Windfarm Grid Connection drains into the River Shannon. The underground line route transverses 3 No. Rivers – the Aughvaria River, the Clare River, and the Mulkear River and some small streams. The route crosses the Lower River Shannon SAC (002165) at the crossing point of the Mulkear River and the Aughvaria (Bilboa) River.

The underground line route traverses the Slievefelim to Silvermine Mountains SPA (004165).

See Figure 6: Location of Upperchurch Windfarm Grid Connection in relation to Natura 2000 sites

The subject proposal does not belong to any type of development as set out in Schedule 5 of the Planning and Development Regulations 2001 (as amended), however an environmental assessment on the various environmental topics is currently being prepared, which includes a Natura Impact Statement.

e) Conclusion

In summary, there are two issues which Ecopower Developments seeks to discuss with the Board;

1. Whether or not the proposed Mountphillips 110kV substation, the underground 110kV line and associated works constitutes Strategic Infrastructure Development particularly in the context that the development will form part of the ESB Networks Distribution System?
2. Is the submission of an Environmental Impact Statement required to accompany an application for permission for the Development?

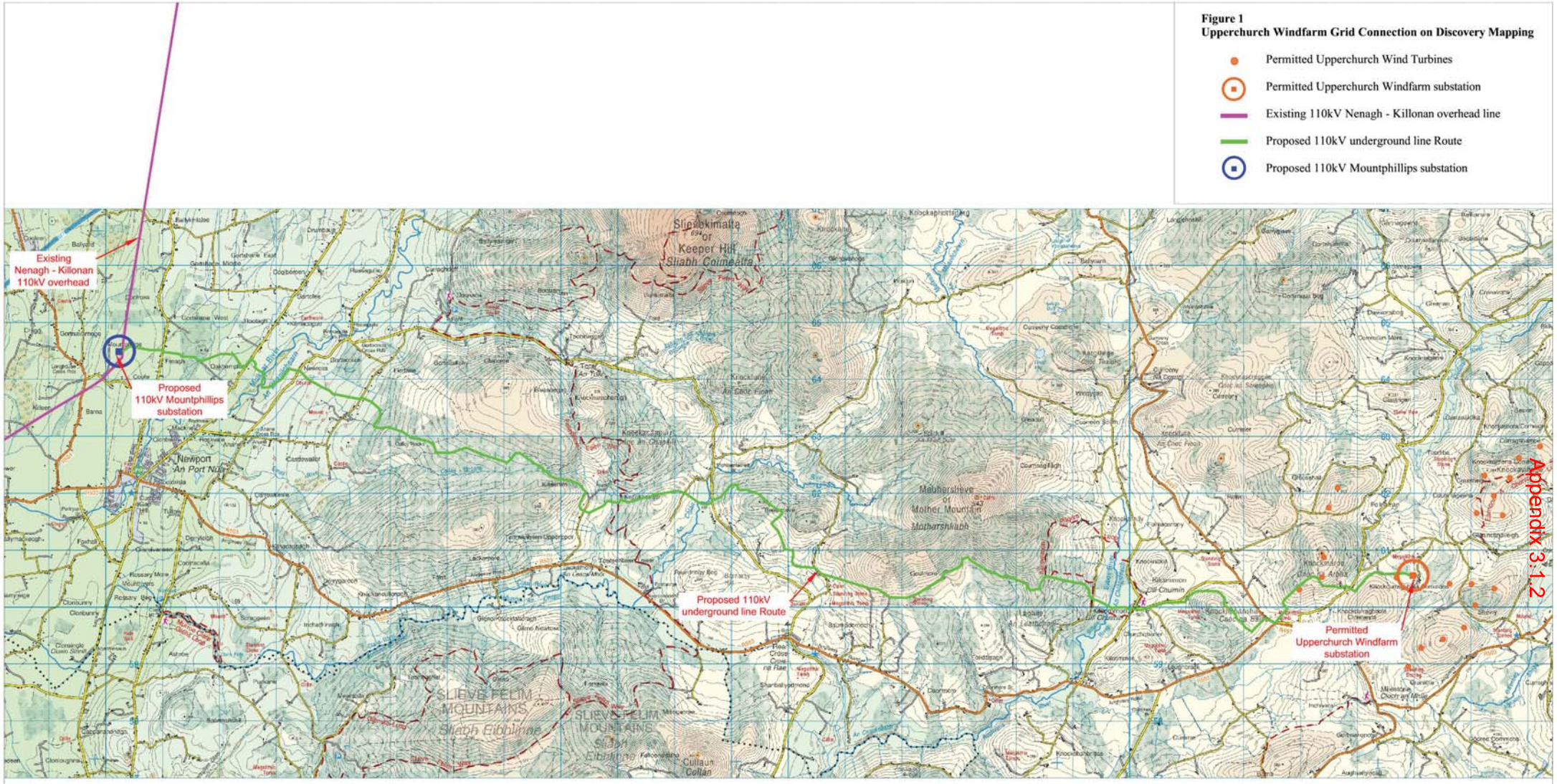
Ecopower Developments puts forward that the development does constitute Strategic Infrastructure Development as the development will facilitate the transport of electricity at 110kV, by the construction of 110kV underground line and substation.

The appropriate fee of €4,500 is enclosed along with Figures 1 to 6.

Yours Sincerely

Philomena Kenealy

Figure 1
Upperchurch Windfarm Grid Connection on Discovery Mapping



Appendix 3.1.2

TRIAL MODE – a valid license will remove this message. See the keywords property of this PDF for more information.

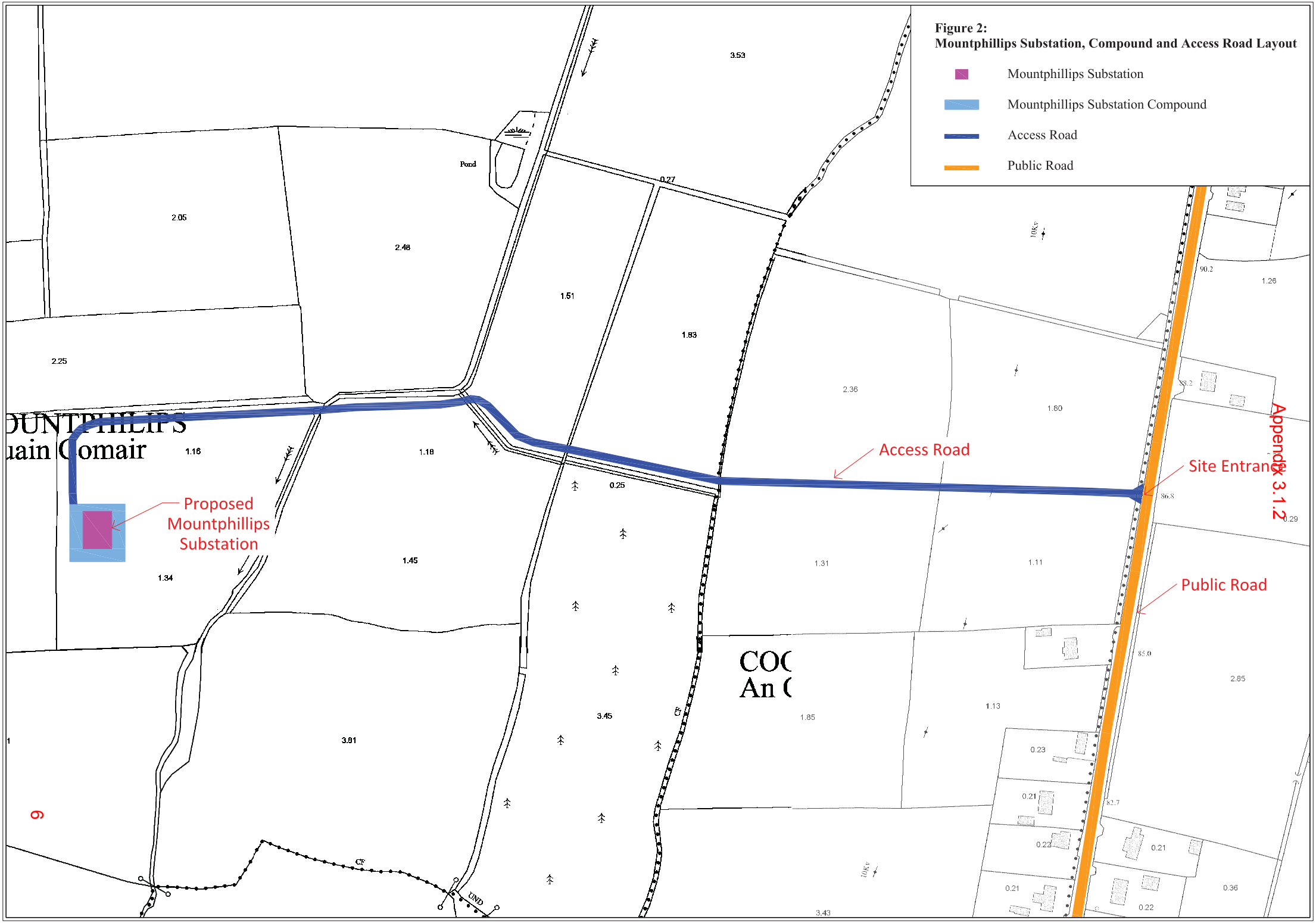
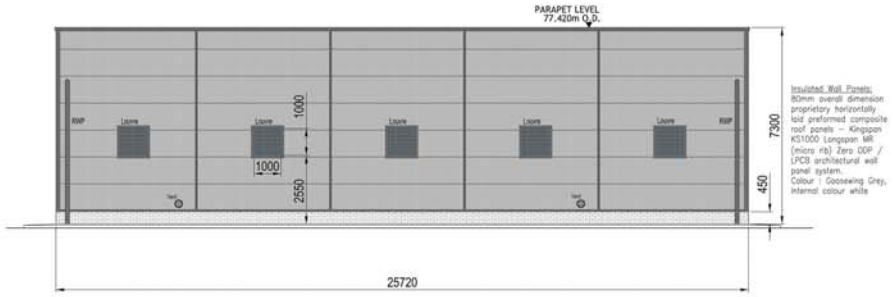
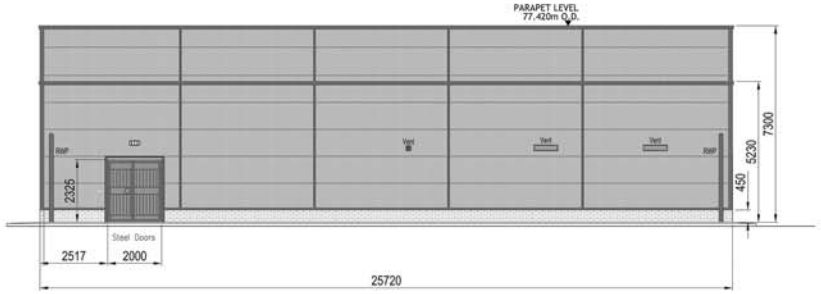


Figure 2:
Mountphillips Substation, Compound and Access Road Layout
Mountphillips Substation
Mountphillips Substation Compound
Access Road
Public Road
Proposed Mountphillips Substation
Access Road
Site Entrance
Public Road
Appendix 3.1.2
Pond
3.53
0.27
2.05
2.48
1.51
1.83
2.25
1.16
1.18
0.25
2.36
1.80
1.45
1.34
1.31
1.11
3.45
1.85
1.13
3.81
0.23
0.21
0.22
3.43
0.36
2.85
1.26
90.2
86.8
85.0
0.29
6

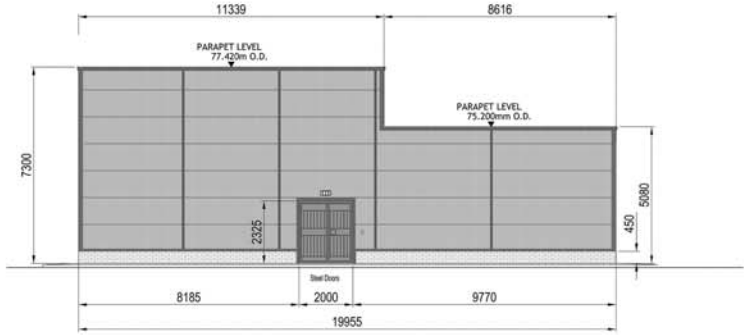


EAST FACING ELEVATION

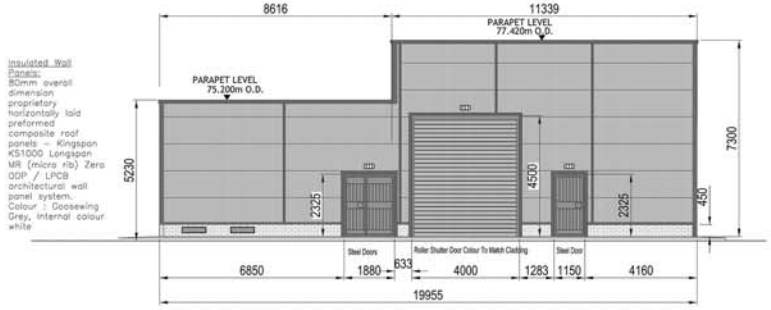
Insulated Wall Panels:
80mm overall dimension proprietary horizontally laid preformed composite roof panels – Kingspan KS1000 Longspan MR (micro rib) Zero ODP / LPCB architectural wall panel system.
Colour : Goosewing Grey, internal colour white



WEST FACING ELEVATION

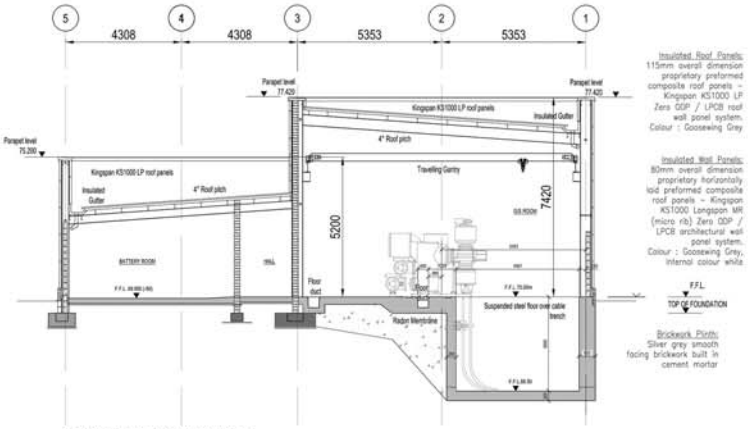


NORTH FACING ELEVATION



SOUTH FACING ELEVATION

Insulated Wall Panels:
80mm overall dimension proprietary horizontally laid preformed composite roof panels – Kingspan KS1000 Longspan MR (micro rib) Zero ODP / LPCB architectural wall panel system.
Colour : Goosewing Grey, internal colour white

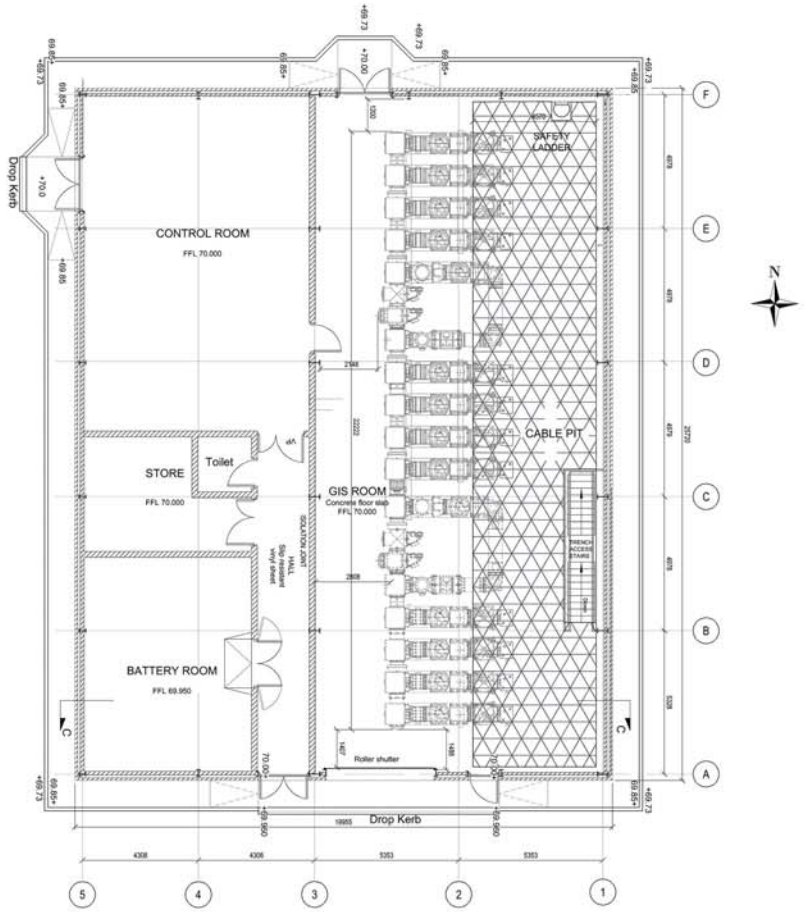


SECTION C-C THROUGH BUILDING

Insulated Roof Panels:
115mm overall dimension proprietary preformed composite roof panels – Kingspan KS1000 LP Zero ODP / LPCB roof wall panel system.
Colour : Goosewing Grey

Insulated Wall Panels:
80mm overall dimension proprietary horizontally laid preformed composite roof panels – Kingspan KS1000 Longspan MR (micro rib) Zero ODP / LPCB architectural wall panel system.
Colour : Goosewing Grey, internal colour white

Brickwork Plinth:
Silver grey smooth facing brickwork built in cement mortar



GROUND FLOOR LAYOUT PLAN

NOTES:
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
4. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.
5. DIMENSIONS IN MILLIMETRES.
6. DIMENSIONS, TYPE, QUANTITY AND LAYOUT OF EQUIPMENT MAY VARY DEPENDING ON CURRENT ESB NETWORKS SPECIFICATIONS AT THE TIME OF BUILD

Appendix 3.1.2

rev.	modifications	by	date

Client
ECOPOWER DEVELOPMENTS LIMITED

Project
MOUNTPHILIPS 110kV GIS SWITCHING STATION

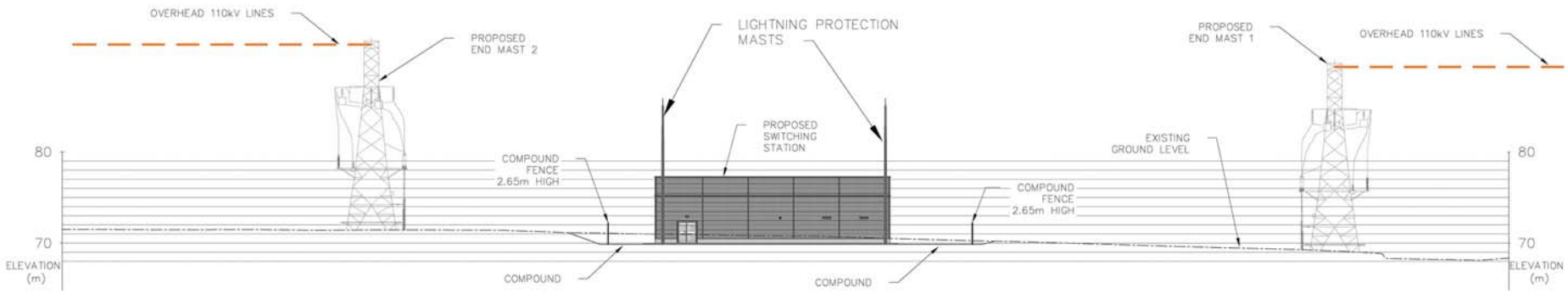
Stage
PLANNING

Title
Figure 3A:
Plan and Elevation for Mountphillips Substation

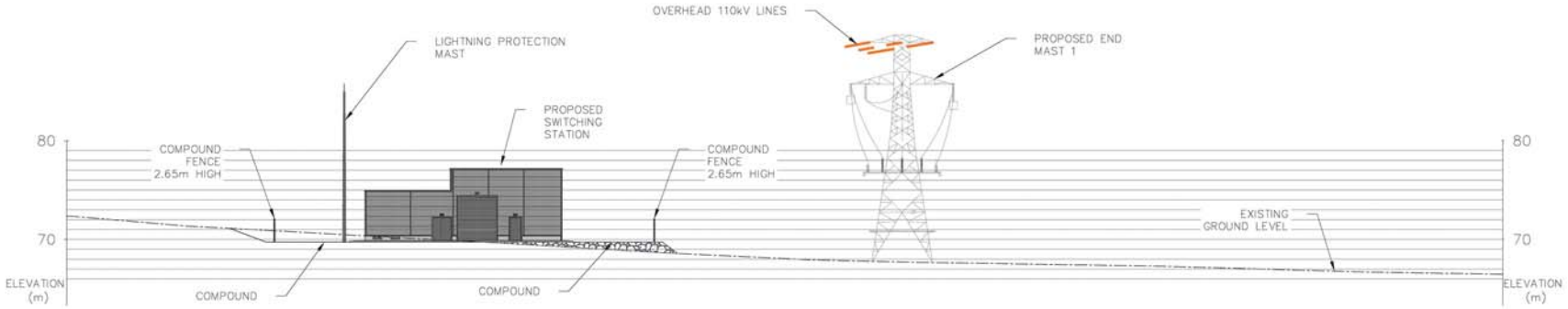
Prepared By	Checked	Date
A.McC.	S.M.	23.12.2015

© COPYRIGHT OF
JENNINGS O'DONOVAN & PARTNERS LIMITED,
CONSULTING ENGINEERS,
FINISKLIN,
SLIGO,
IRELAND.
TEL. (0035371) 9161416.
FAX. (0035371) 9161080.
Email. info@jodireland.com
Web. www.jodireland.com

Job No.	Drawing no.	Revision
5409	5409-PL-105	



SECTION A-A
SCALE = 1: 250



SECTION B-B
SCALE = 1: 250

8

NOTES:
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
4. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

Appendix 3.1.2

rev.	modifications	by	date

Client
ECOPOWER DEVELOPMENTS LIMITED

Project
MOUNTPHILIPS 110kV GIS SWITCHING STATION

Stage
PLANNING

Title
Figure 3B:

Site Sections for Mountphillips Substation

	Prepared By	Checked	Date
	A.McC.	S.M.	23.12.2015

© COPYRIGHT OF
JENNINGS O'DONOVAN & PARTNERS LIMITED,
CONSULTING ENGINEERS,
FINISKLIN,
SLIGO,
IRELAND.
TEL. (0035371) 9161416.
FAX. (00353371) 9161080.
Email. info@jodireland.com
Web. www.jodireland.com

Job No.	Drawing no.	Revision
5409	5409-PL-106	

Figure 4
Underground Cable Route Map 1 of 1 on Aerial Photography Mapping

Figure 5
Underground Cable Route Map 2 of 2 on Aerial Photography Mapping

Permitted 110kV Upperchurch Windfarm Substation

Proposed 110kV Underground Cable Route

Proposed 110kV Mountphillips Switching Station

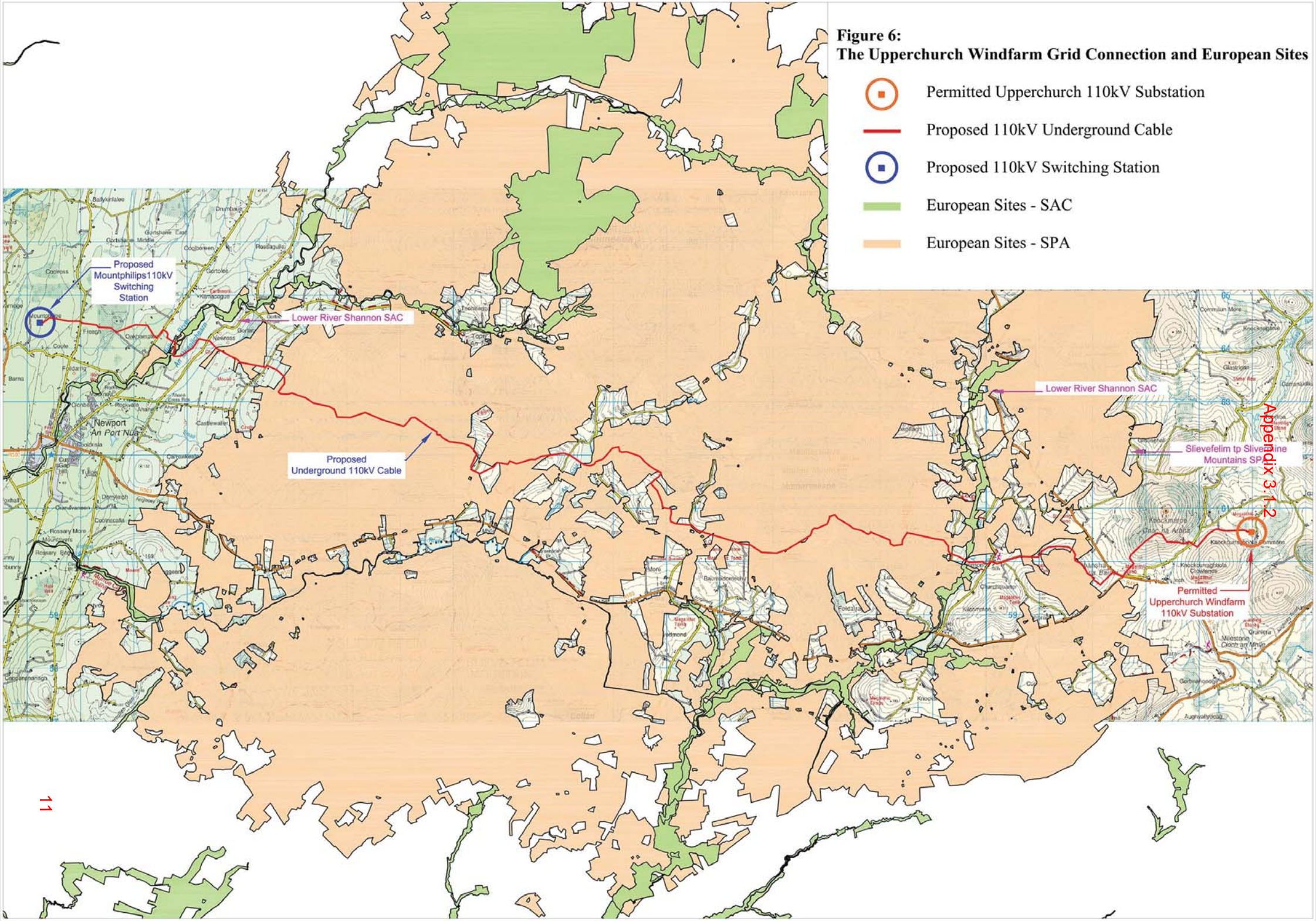
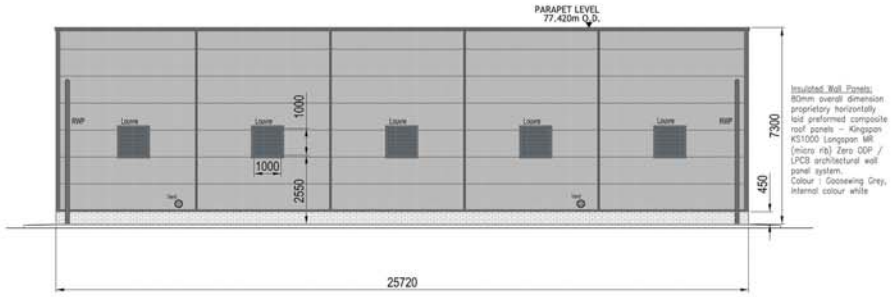
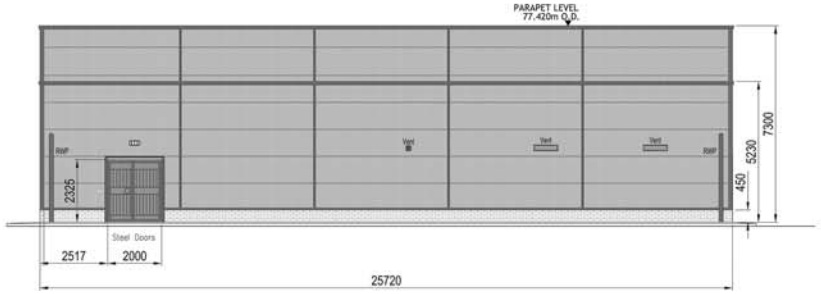


Figure 6:
The Upperchurch Windfarm Grid Connection and European Sites
Permitted Upperchurch 110kV Substation
Proposed 110kV Underground Cable
Proposed 110kV Switching Station
European Sites - SAC
European Sites - SPA
Proposed Mountphilips110kV Switching Station
Lower River Shannon SAC
Proposed Underground 110kV Cable
Lower River Shannon SAC
Slievefelim tp Slieveardagh Mountains SPA
Permitted Upperchurch Windfarm 110kV Substation
Newport An Port Nua
Appendix 3.1.2

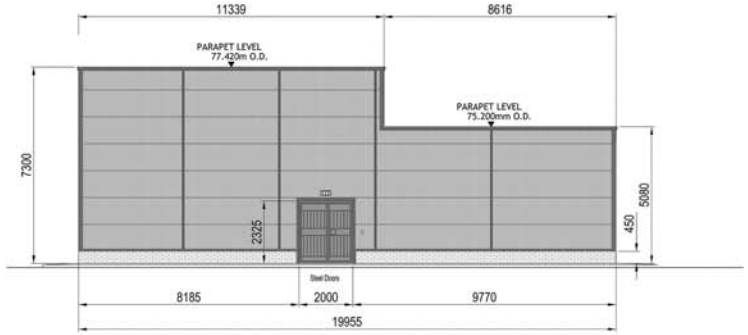


EAST FACING ELEVATION

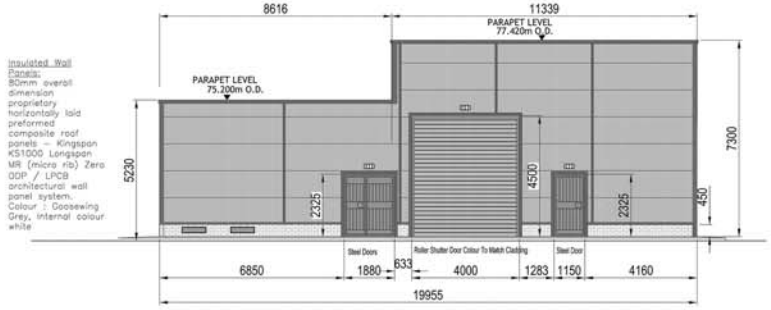
Insulated Wall Panels:
80mm overall dimension proprietary horizontally laid preformed composite roof panels – Kingspan KS1000 Longspan MR (micro rib) Zero ODP / LPCB architectural wall panel system.
Colour : Goosewing Grey, internal colour white



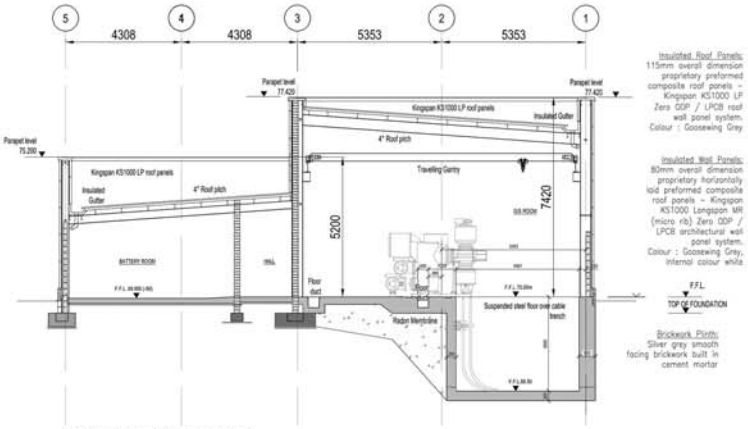
WEST FACING ELEVATION



NORTH FACING ELEVATION



SOUTH FACING ELEVATION

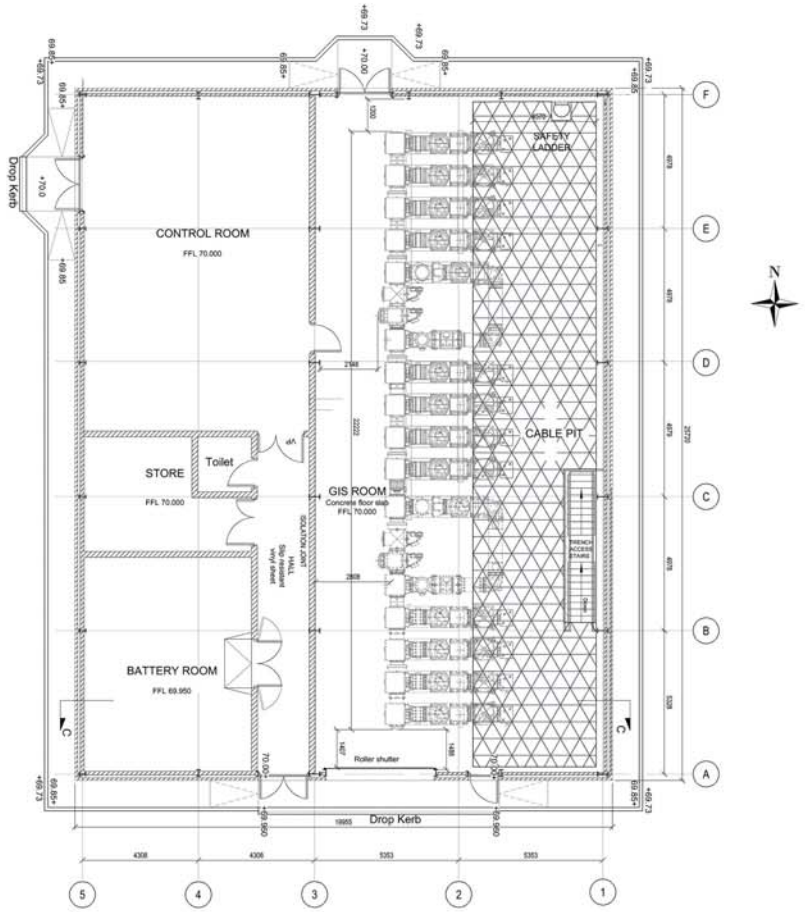


SECTION C-C THROUGH BUILDING

Insulated Roof Panels:
115mm overall dimension proprietary preformed composite roof panels – Kingspan KS1000 LP Zero ODP / LPCB roof wall panel system.
Colour : Goosewing Grey

Insulated Wall Panels:
80mm overall dimension proprietary horizontally laid preformed composite roof panels – Kingspan KS1000 Longspan MR (micro rib) Zero ODP / LPCB architectural wall panel system.
Colour : Goosewing Grey, internal colour white

Brickwork Plinth:
Silver grey smooth facing brickwork built in cement mortar



GROUND FLOOR LAYOUT PLAN

NOTES:
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
4. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.
5. DIMENSIONS IN MILLIMETRES.
6. DIMENSIONS, TYPE, QUANTITY AND LAYOUT OF EQUIPMENT MAY VARY DEPENDING ON CURRENT ESB NETWORKS SPECIFICATIONS AT THE TIME OF BUILD

Appendix 3.1.2

rev.	modifications	by	date

Client
ECOPOWER DEVELOPMENTS LIMITED

Project
MOUNTPHILIPS 110kV GIS SWITCHING STATION

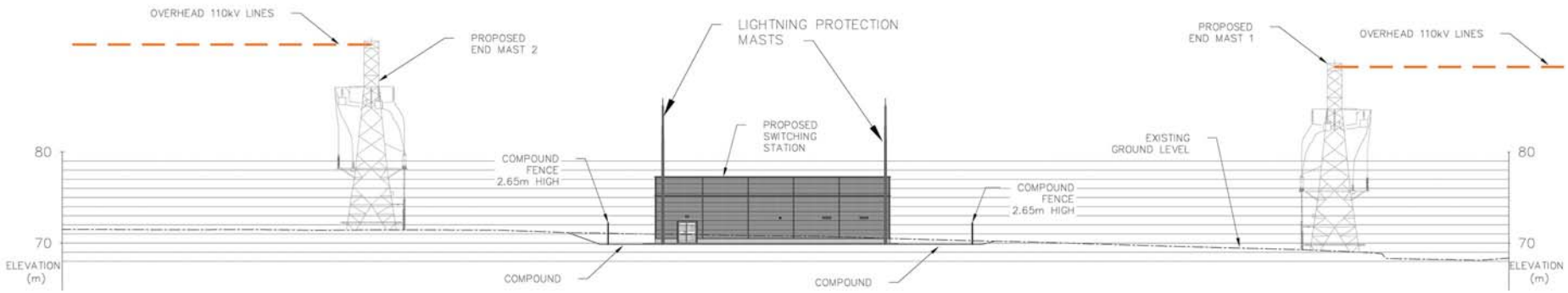
Stage
PLANNING

Title
Figure 3A:
Plan and Elevation for Mountphillips Substation

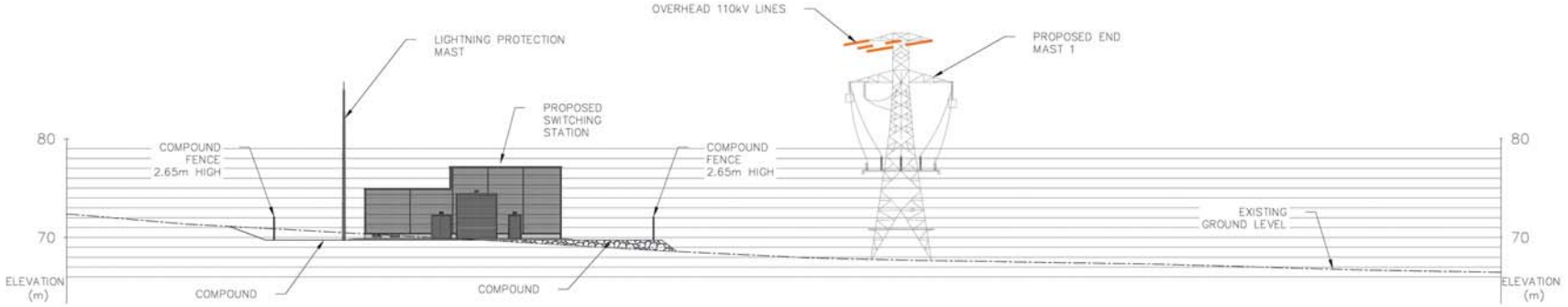
Prepared By	Checked	Date
A.McC.	S.M.	23.12.2015

© COPYRIGHT OF
JENNINGS O'DONOVAN & PARTNERS LIMITED,
CONSULTING ENGINEERS,
FINISKLIN,
SLIGO,
IRELAND.
TEL. (0035371) 9161416.
FAX. (0035371) 9161080.
Email. info@jodireland.com
Web. www.jodireland.com

Job No.	Drawing no.	Revision
5409	5409-PL-105	



SECTION A-A
SCALE = 1: 250



SECTION B-B
SCALE = 1: 250

NOTES:
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
4. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

Appendix 3.1.2

rev.	modifications	by	date

Client: **ECOPOWER DEVELOPMENTS LIMITED**

Project: **MOUNTPHILIPS 110kV GIS SWITCHING STATION**

Stage: **PLANNING**

Title: **Figure 3B:**

Site Sections for Mountphillips Substation

	Prepared By	Checked	Date
	A.McC.	S.M.	23.12.2015

© COPYRIGHT OF
JENNINGS O'DONOVAN & PARTNERS LIMITED,
CONSULTING ENGINEERS,
FINISKLIN,
SLIGO,
IRELAND.
TEL. (0035371) 9161416.
FAX. (00353371) 9161080.
Email. info@jodireland.com
Web. www.jodireland.com

Job No.	Drawing no.	Revision
5409	5409-PL-106	

Our Ref: 22.VC0098
P.A.Reg.Ref:

Your Ref:

Appendix 3.1.2

An Bord Pleanála

Philomena Kenealy
Ecopower Developments
Sion Road
Kilkenny

13th April 2016

Re: 110kV Electrical Substation,
Mountphillips, Newport, Co. Tipperary.

Dear Madam,

An Bord Pleanála has received your request to enter into pre-application consultations under section 182E of the Planning and Development Act, 2000, as amended in respect of the above mentioned proposed development. A receipt for the fee lodged is enclosed.

Please be advised that the amendments introduced by the Planning and Development (Amendment) Act, 2010 provide for the Board to recover its costs in conducting pre-application consultations. These costs together with costs incurred by the Board in determining any **application** made to it will be included in the Board's decision. The Board will offset any application fees paid by the applicant against its costs.

Further advice or details in relation to the above will be provided by the Board at pre-application consultation meetings (if held).

The Board will revert to you in due course in respect of the request.

If you have any queries in the meantime please contact the undersigned officer of the Board.

Please quote the above mentioned An Bord Pleanála reference number in any correspondence with the Board.

Yours faithfully,

Kieran Doherty
Executive Officer
Direct Line:01-8737248

VC01.LTR

64 Sráid Maoilbhríde,
Baile Átha Cliath 1.

Teil (01) 858 8100 Tel
Glao Áitiúil 1890 275 175 LoCall
Facs (01) 872 2684 Fax
Láithreán Gréasáin www.pleanala.ie Web
Ríomhphost bord@pleanala.ie Email

64 Marlborough Street,
Dublin 1.

AN BORD PLEANÁLA
TÁILLE REACHTÚIL
STATUTORY FEE RECEIPT

Uimh. B
No. B
133515

UIMHIR THAG. ABP
ABP. REF NUMBER
22.VC.0098

FUARTHAS Ó
RECEIVED FROM
Ecopower Developments Ltd
Sion Road
Kilkenny

Suim
The sum of
€4,500
ar achomharc nó ar tháille reachtúil eile mar atá thíos* (ticeáil mar is cuí)
in respect of appeal/other statutory fee as indicated below* (tick as appropriate)

Achomharc alt 37 Section 37 appeal		Achomharc eile Other appeal		Táille Páirtí Party fee	
Tagairt alt 5 Section 5 referral		Tagairt eile Other referral		Táille laghdaithe Reduced fee	
Achomharc Truailliú Uisce Water Pollution appeal		Achomharc Truailliú Aeir Air Pollution appeal		Aighneacht/Brethnadóireacht Submission/Observation	
Achomharc Rialú Tógála Building Control appeal		Cás eile Other case		Iarratas ar éisteacht ó bhéal Oral hearing request	

An Bord Pleanála
64 Marlborough Street
Dublin 1
64 Sráid Maoilbhride
Baile Átha Cliath 1
Telephone/Teileafón: 01 858 8100
Fax/Faics: 01 872 2684
Email/Ríomhpost: bord@pleanala.ie

Íocaíocht (cárta creidmheasa, seic, airgead tirim nó eile)
Payment (credit card, cheque, cash, etc.)
Cash

Baile / Contae
City / County
Tipperary

Sínithe
Signed
Orla Kiernan

Dáta
Date
7/4/16.

Our Ref: 22.VC0098
P.A.Reg.Ref:

Your Ref:

Appendix 3.1.2

An Bord Pleanála

Philomena Kenealy
Ecopower Developments
Sion Road
Kilkenny

6th May 2016

Re: 110kV Electrical Substation,
Mountphillips, Newport, Co. Tipperary.

Dear Madam,

An Bord Pleanála has received your recent letter in relation to the above mentioned case. The contents of your letter have been noted.

If you have any queries in relation to the matter please contact the undersigned officer of the Board. Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

Kieran Doherty
Executive Officer
Direct Line:01-8737248

VA03.LTR

64 Sráid Maoilbhríde,
Baile Átha Cliath 1.

Teil (01) 858 8100 Tel
Glao Áitiúil 1890 275 175 LoCall
Facs (01) 872 2684 Fax
Láithreán Gréasáin www.pleanala.ie Web
Ríomhphost bord@pleanala.ie Email

64 Marlborough Street,
Dublin 1.

Our Ref: 22.VC0098
P.A.Reg.Ref:

Appendix 3.1.3

An Bord Pleanála

Your Ref: Ecopower Developments

McCarthy KOS
Received on
2 4 JUN 2016
160431
Jimmy Green

Jimmy Green
McCarthy Keville O'Sullivan Ltd.
Block 1, G.F.S.C.
Moneenageisha Road
Galway

23rd June 2016

Re: 110kV Electrical Substation,
Mountphillips, Newport, Co. Tipperary.

Dear Sir,

I have been asked by An Bord Pleanála to refer further to the above-mentioned pre-application consultation request.

Please find enclosed a copy of the written record of the meeting of the 20th May 2016.

If you have any queries in relation to the matter please contact the undersigned officer of the Board. Please quote the above-mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

Kieran Doherty
Executive Officer
Direct Line:01-8737246

Encls.

ADHOC/VC0098/01

64 Sráid Maoilbhríde,
Baile Átha Cliath 1.

Teil (01) 858 8100 Tel
Glao Áitiúil 1890 275 175 LoCall
Facs (01) 872 2684 Fax
Láithreán Gréasáin www.pleanala.ie Web
Ríomhphost bord@pleanala.ie Email

64 Marlborough Street,
Dublin 1.

Record Of Meeting

An Bord Pleanála

Case Reference/ Description	22.VC0098 A 110kV Electricity Substation, Mountphillips, Newport, Co. Tipperary		
Case Type:	Pre-app consultation		
Date:	20th May 2016	**Start Time:**	11.05 a.m.
Location:	Meeting Room 3	**End Time:**	12.00 p.m.
Chairperson:	Anne Marie O'Connor	**Executive Officer:**	Kieran Doherty

Attendees:

Representing An Bord Pleanála

Anne Marie O'Connor – Assistant Director of Planning

Juliet Ryan – Senior Planning Inspector

Marcella Doyle – Senior Executive Officer

Kieran Doherty – Executive Officer

Representing Prospective Applicant

Pat Brett – Director, Ecopower Developments Ltd

Julie Brett – Project Manager, Ecopower Developments Ltd

Brian Keville – Director, McCarthy Keville O'Sullivan Ltd

Record Of Meeting

An Bord Pleanála

Introduction

The Board's representatives welcomed the representatives of the prospective applicant and introductions were made.

The Board's representatives referred to the letter received by it from the prospective applicant dated the 5th April, 2016 formally requesting pre-application consultations with the Board in accordance with section 182E of the Planning and Development Act, 2000. It advised the prospective applicant that the instant meeting essentially constituted an information gathering exercise for the Board; it also invited the prospective applicant to outline the nature of the proposed development and to highlight any matters it wished to receive advice on from the Board.

The Board's representatives mentioned general procedures in relation to the pre-application consultation process as follows:

- The Board will keep a record of this meeting and any other meetings, if held. Such records will form part of the file which will be made available publicly at the conclusion of the process. The prospective applicant may put in writing any comment it has on the written record
- The Board will serve formal notice at the conclusion of the process as to whether or not the proposed development is strategic infrastructure development. It may form a preliminary view at an early stage in the process.
- A further meeting or meetings may be held in respect of the proposed development.
- Further information may be requested by the Board and public consultations may also be directed by the Board.
- The Board may hold consultations in respect of the proposed development with other bodies.
- The holding of consultations does not prejudice the Board in any way and cannot be relied upon in the formal planning process or any legal proceedings.

The Board's representatives invited the prospective applicant to make its presentation.

Record Of Meeting

Presentation

Introduction

The proposed development will provide the infrastructure to transport electricity from the Upperchurch wind farm to the national grid network in accordance with the grid connection agreement for the wind farm. The wind farm was granted planning permission in August 2014 but was subject to judicial review until September 2015 when the permission was upheld. When operational, the proposed development will be handed over to ESB Networks to become part of the national grid. A number of drawings formed part of the presentation.

Proposed development

- A 110kV Gas insulated substation (GIS) building. This type of substation is now commonly used by ESB Networks and would have a smaller footprint than an external air insulated substation.
- The assigned grid connection node is on the 110kV Nenagh – Killonan overhead line.
- There will be c.30km of underground 110kV electricity cable mainly through agricultural land and forestry roads. Landowner consents are in place.
- Replacement of part of existing 110kV overhead line and 1 no. existing lattice tower with 2 no. 23 metre lattice towers.
- An 800 metre access road which meets the public road at an existing farm entrance with good sightlines.
- The cable will be placed in a standard trefoil duct arrangement 1.2 metres deep. An illustration of the trench layout was submitted. There will be a permanent wayleave should maintenance be required.

Strategic Infrastructure Issue

The prospective applicant noted the section 182A(9) (P&D Act) definition of electricity transmission:

> In this section 'transmission', in relation to electricity, shall be construed in accordance with section 2(1) of the Electricity Regulation Act 1999 but, for the purposes of this section, the foregoing expression, in relation to electricity, shall also be construed as meaning the transport of electricity by means of—
> **(a) a high voltage line where the voltage would be 110 kilovolts or more,**

Furthermore, section 2(1) of Electricity Regulation Act, 1999 defines transmission as:

> The transport of electricity by means of a transmission system, that is to say, a system which consists, wholly or mainly, of **high voltage lines and electric plant** and which is **used for conveying electricity from a generating station to a substation**, from one generating station to another, **from one substation to another** or to or from any interconnector or to final customers but shall not include any such lines which the Board may, from time to time, with the approval of the Commission, specify as being part of the distribution system but shall include any interconnector owned by the Board.

The prospective applicant has written confirmation from the Commission for Energy Regulation, which has been submitted to the Board, that the connection is to the electricity distribution network, not transmission network.

With regard to the section 182A(9) (P&D Act) definition, specifically the 110kV line portion, it is considered by the prospective applicant to be independent of the section 2(1) of Electricity Regulation Act definition of transmission which excludes distribution connections.

The prospective applicant cited precedent cases with regard to previous decisions by the Board which enforce the contention that the proposed development is strategic infrastructure.

Other Information Provided

- A pre-planning meeting was held with Tipperary Co. Co. – recommendation to seek SID determination from the Board.
- Scoping of environmental assessments is underway.
- Project design underway.
- Preparation of planning & environmental reports are underway including a Natura impact statement on the advice of the National Parks and Wildlife Service.
- Target application date is July 2016 in order to meet the Refit 2 deadline of mid-2018 to be operational.
- The proposed substation is within the source of a number of watercourses that drain to the River Suir and River Shannon. The underground line route traverses three rivers, 38 smaller watercourses, and the Slievefelim to Silvermine Mountains SPA (004165). The route crosses the Lower River Shannon SAC (002165).
- The regional fisheries officer has been consulted.
- Test bore holes have been drilled with directional drilling via gravel bases. Core auger drilling may also be required.
- A habitat survey will be carried out 50 metres either side of trench. For watercourses the survey area will depend on the zone of impact, including downstream.
- 150 metres of the existing 110kV line will be removed.
- Landscaping and security measures for the substation will be provided in the planning application.
- The site is partially screened by high hedgerows.
- At this time public consultations have been confined to the affected landowners.
- With regard to cultural heritage, the cable is within a potential zone of interest of a wedge tomb and ring fort, and there is a church and graveyard in Kilcommon village.
- The site is not prone to flooding.
- A hen harrier has been seen along the cable route.

Record Of Meeting

An Bord Pleanála

Questions for the Board

- Whether or not the proposed Mountphillips 110kV substation, the underground 110kV line, and associated works, constitute Strategic Infrastructure Development particularly in the context that the development will form part of ESB Network operated Distribution System.
- Is an environmental impact statement required for the application?

Board's Comments

The Board will give consideration to the information before it and will come to a conclusion regarding whether or not the development constitutes Strategic Infrastructure Development and the requirement for an EIS.

Regard should be had to the following matters should the Board determine that the application does constitute Strategic Infrastructure Development, and that an EIS is required to be submitted:

- The prospective applicant should consider the cumulative impacts of the wind farm and any other development, or potential development, feeding into the proposed substation.
- EIS study areas should be clearly identified.
- The issue of alternatives will need to be addressed in the application.
- Wider public consultation should be undertaken.
- Tipperary County Council should be kept informed as they will be required to submit a report to the Board.
- Condition 6 of the Upperchurch Wind Farm permission should be considered in relation to the phasing of construction works.
- Site notices should be erected where the red line meets public areas, in particular at the 10 road crossings.

Conclusion

The Board's representatives advised the prospective applicant that a subsequent meeting could be arranged to discuss the matters further and provide a preliminary view on the matters raised. The prospective applicant indicated that it would be likely seek to close the process as soon as possible. The Board recommended leaving the consultation process open until it is ready to submit its application in case any issues arise. The Board will contact the applicant with its decision on strategic infrastructure or to arrange a second meeting if required.

Record Of Meeting

An Bord Pleanála

The procedures for making a strategic infrastructure application are attached.

PP

Anne Marie O'Connor
Assistant Director of Planning
23rd June 2016

Record Of Meeting

An Bord Pleanála

Electricity Applications Procedures

- The application must be made by way of full completion of application form to An Bord Pleanála.

- The sequencing of the application process and the content of the public notice is as set out at section 182A of the Planning and Development Act, 2000, as amended.

- The Board requires as a minimum that the public notice of the application would be in two newspapers circulating in the area to which the proposed development relates, one of which should be a national newspaper (A sample public notice is attached). A site notice may be required in certain circumstances in respect of structures such as sub-stations and, where required, should accord with the protocols set out in the Planning and Development Regulations 2001-2011. The date of the erection of the site notice is to be inserted; otherwise it should contain the same information as the newspaper notices and should remain in place for the duration of the period during which the public can make submissions to the Board.

- The documentation relating to the application is to be available for public inspection at the offices of the relevant planning authority and the offices of An Bord Pleanála. In this regard the requirements in terms of the number of copies of the documentation to be lodged with the relevant planning authority and the Board is as follows:

  - Planning Authority – 5 hard copies and 2 electronic copies.

  - An Bord Pleanála – 3 hard copies and 7 electronic copies.

- The Board also requires the prospective applicant to provide a stand alone website containing all of the application documentation. The address of this website is to be included in the public notice.

- The public notice of the application is to indicate that the application documentation will be available for public inspection after the elapsment of at least 5 working days from the date of the publication of the notice so as to ensure that the documentation is in place for such inspection.

- The time period for the making of submissions by the public is to be at least seven weeks from the date the documents become available for inspection (not from the date of publication of the public notices). The Board requires that the public notice must indicate the deadline time and date for the making of submissions to the Board. It was agreed that the prospective applicant would

advise the Board's administrative personnel in advance of the details of its proposed public notice and that any further definitive advice on same including confirmation of dates/times could be communicated at that stage.

- The service of notice of the application on any prescribed bodies must include a clear statement that the person served can make submissions to the Board by the same deadline as specified in the public notice (Sample letter to prescribed bodies is attached).

- The service letter on the planning authority with the necessary copies of the documents should be addressed to the Chief Executive and should also alert the authority to the Board's requirement that the application documentation be made available for public inspection/purchase by the planning authority in accordance with the terms of the public notice (copies of any newspaper/site notices should be provided to the planning authority). It is the Board's intention that all of the application documentation will remain available for public inspection during the currency of the application.

- The depositing of the application documentation and the making of the application to the Board should take place immediately after the publication of the notice and the completion of the service requirements. It should not await the elapsment of the period for the public to make submissions. The application should include a list of the persons served with the application, the date of such service and a sample copy of the notice of service.

- The fee for lodging an application is €100,000. The fee for making a submission in respect of an application is €50 (except for certain prescribed bodies which are exempt from this fee). There is a provision in the Planning and Development (Amendment) Act 2010 enabling the Board to recover its costs for processing any application from the applicant. In addition it was pointed out that the legislation also enables the Board direct payment of costs or a contribution towards same to the planning authority and third parties.

The sequencing of the making of the application was summarised as follows:

1. Publish newspaper notices.

2. Serve copy of relevant documents on bodies/persons required to be notified of the application. Deposit required number of copies with relevant planning authority.

3. Deposit required number of copies of application documentation with An Bord Pleanála and make an application to it.

Record Of Meeting

An Bord Pleanála

Guidelines for Electronic Copies of Applications (Standalone Website & CD Copies)

1. Each document/drawing should be clearly labelled:
   - EIS and NIS chapters saved individually should be named with the number and title of the chapter e.g. Chapter 2: Ecology, Chapter 3: Human Beings etc., and not just the chapter number.
   - Document names cannot begin or end with a dot, cannot contain consecutive dots and cannot contain any of the following characters: ~ " # % & * : < >? / \ { | }.
   - Drawings should be saved with the drawing title and/or number, not just the drawing number.
   - Large documents to have 'contents' page e.g. EIS and to be paginated appropriately to allow ease of access to its various sections.

2. Documents/drawings should not be compressed e.g. not Winzipped, and should open directly.

3. Each document/drawing when opened should be clearly legible and any scaling of the drawing clearly and accurately indicated.

4. Each document/drawing when opened should be oriented in the appropriate way (portrait/landscape). It should also be possible to rotate the document/drawing.

5. The documents/drawings should be presented in the same sequence as they appear in the hard copy of the application, in order to make the electronic copy as accessible as possible.

6. All photographs/photomontages shall be in colour, not blurred and clearly legible.

7. All drawings/maps which rely on any colour interpretation e.g. red/blue edging, zoning etc. must be provided in colour.

Record Of Meeting

An Bord Pleanála

Guidance Note on Providing Spatial Data on Strategic Infrastructure Developments

About these Guidance Notes

These guidance notes have been prepared to assist applicants in submitting Geographical Information data relating to Strategic Infrastructure Development applications to An Bord Pleanála.

Introduction

In order to assist An Bord Pleanála in keeping a record of Strategic Infrastructure Development Applications in spatial data format, applicants are being requested to submit the site boundary or extents of a site, as an ESRI shapefile in the Irish Transverse Mercator (ITM IRENET95) co-ordinate reference system for use in Geographical Information Software.

Overview of Data Required

Applicants are requested to submit geo-referenced digital drawing or map files (ESRI shapefile) with the application, showing the following in Irish Transverse Mercator (ITM):

- The application site boundary

Data Format and Conventions

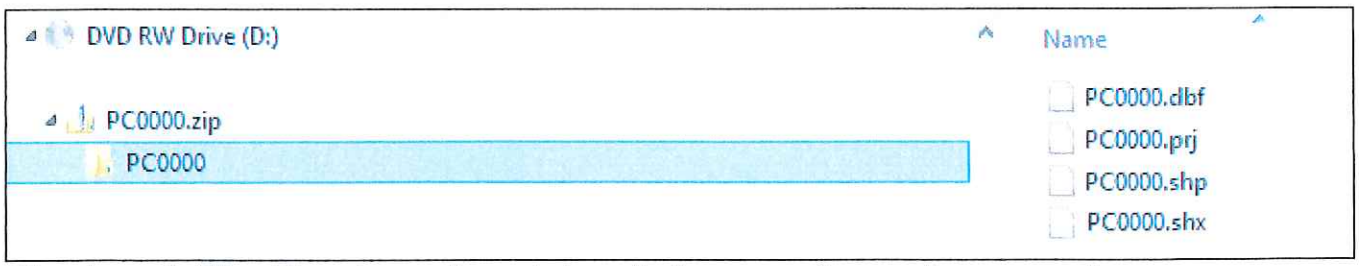
Data Format

The spatial data submitted should comply with the following format and shall be readable by ESRI ArcMAP version 10.1 and 10.2.

ESRI Shapefile (.shp)

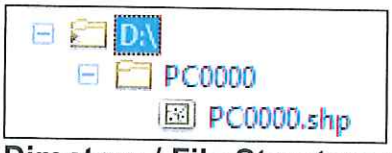
File naming convention

The spatial data submitted should follow the following directory/file structure:



Directory / File Structure viewed in windows explorer, the example case number is PC0000.

Record Of Meeting



Directory / File Structure viewed in ArcMAP, (the folder has been unzipped) the example case number is PC0000.

Spatial parameters

All spatial data submitted must have the following set of parameters which is currently in use by An Bord Pleanála.

Horizontal Coordinate system

Projected coordinate system name: Irish Transverse Mercator ITM (IRENET95)

Submission of GIS Data

The data is to be submitted on a separate CD-ROM. The CD-ROM will be labelled digitally with the An Bord Pleanála Pre-Application Consultation Reference Number, Project Title and date of submission in yyyymmdd format.

Data Quality

Topological Rules

The topological rules which apply are as listed below. The data submitted must not violate these topological rules.

The site boundary is to be represented by a polygon. The polygon must not overlap or self-intersect.

Completeness

All mandatory attributes in the shapefile are to be updated. Please refer to section 8 for the list of mandatory fields.

Data Specification

The details of the data to be submitted are as follows:

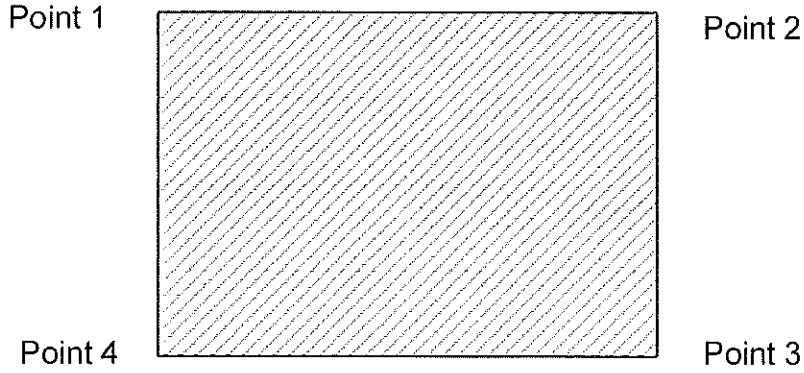
Preparation of ESRI Shapefile

The ESRI shapefile should have the following fields;

Field Name	Data Type	Field Value	Description
FID	Object ID	Default	Object ID automatically created by default.
Shape	Geometry	Polygon	See Notes 1, 2 and 3.
GIS_REF	Text		The An Bord Pleanála Reference Number. This field is to be left blank and will be completed by An Bord Pleanála.
PRE_APP	Text	xxxxxx	The An Bord Pleanála Pre_applicaiton Consultation Reference Number e.g. PC0000. This field is to be completed by the applicant.

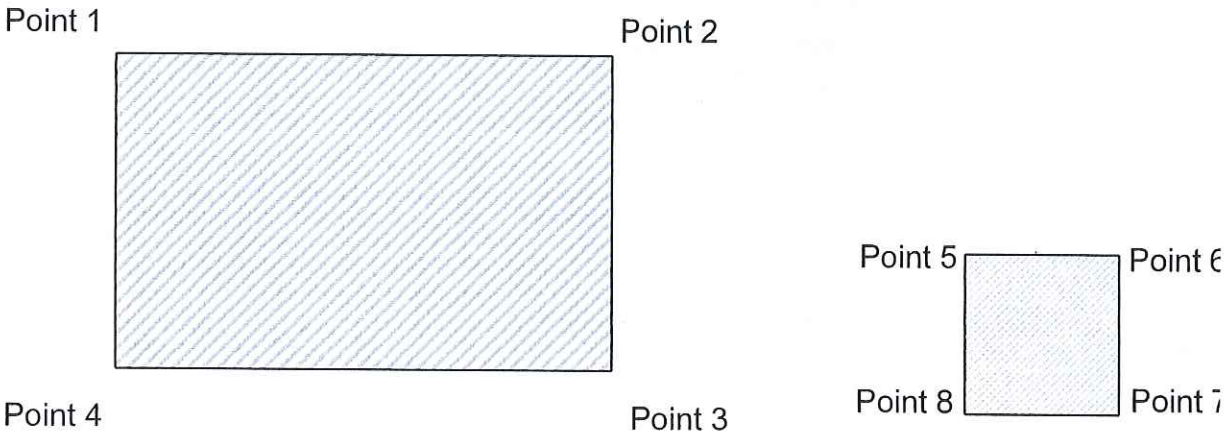
Notes:

1. Where the application site is contained within a single parcel, the application site boundary shall be represented by a polygon outlining the site as seen from an aerial view. The outline shall correspond to the outer edge of the application site, as shown on example below by points 1, 2, 3, and 4.



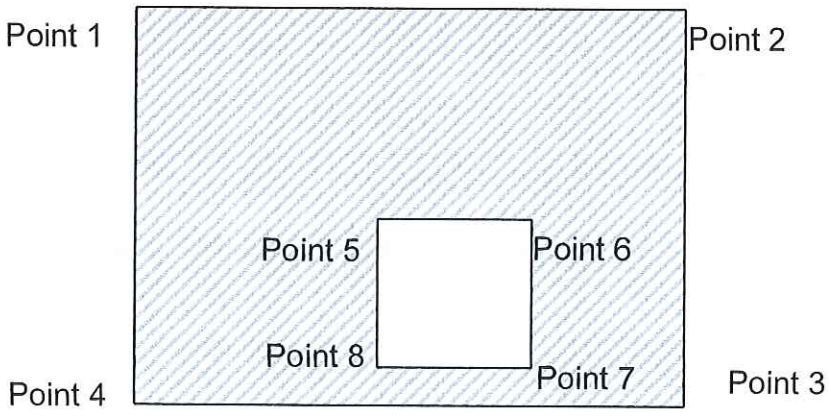
Aerial View of an Application Site Boundary

2. Where the application site is contained within two or more distinct parcels which are not adjoining to each other a multi-part polygon shall be used to represent the application site outline. The site outline or boundary shall be represented by a single multi-part polygon outlining each of the boundaries of the site as seen from aerial view. The outline shall correspond to the outer edge of each parcel which forms a part of the application site, as shown on example below by points 1, 2, 3, 4 represent one parcel and points 5, 6, 7 and 8 representing another parcel.



Aerial View of an Application Site Boundary where there are two or more distinct parcels which do not adjoin each other

3. Where the application site surrounds or entirely encloses a parcel of land which is not included in the application the application site shall be represented by a donut polygon. The site outline or boundary shall be represented by a donut polygon outlining the boundaries of the site as seen from aerial view. The outline shall correspond to the outer and inner edges of lands which form a part of the application site, as shown on example below by points 1, 2, 3, 4, 5, 6, 7 and 8.



Aerial View of an Application Site Boundary where the site surrounds or encloses a parcel of land which does not form a part of the planning application

Glossary

Attributes – Nonspatial information about a geographic feature in a GIS, usually stored in a table and linked to the feature by a unique identifier. For example, attributes of a river might include its name, length, and sediment load at a gauging station. (http://support.esri.com/en/knowledgebase/Gisdictionary/term/attribute accessed 23/10/15)

ESRI Shapefile – A vector data storage format for storing the location, shape, and attributes of geographic features. A shapefile is stored in a set of related files and contains one feature class. (http://support.esri.com/en/knowledgebase/Gisdictionary/term/shapefile accessed 23/10/15).

Field – An attribute field (or item) are characteristics used to describe each feature in a geographic data set usually viewed as columns in a table. (http://gisgeography.com/gis-dictionary-definition-glossary/#F accessed 23/10/15).

Geographical Information (GI) – is information about places on the Earth's surface, knowledge about where something is, knowledge about what is at a given location (GOODCHILD 1997). (http://stats.oecd.org/glossary/detail.asp?ID=6246 accessed 23/10/15).

Geographical Information Software – The software component of a geographical information system.

Geographical Information System - is an organized collection of computer hardware, software, geographic data, and personnel designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced information. (http://www.volusia.org/gis/whatsgis.htm accessed 23/10/15)

Irish Transverse Mercator (ITM) - Irish Transverse Mercator (ITM), is the geographic coordinate system for Ireland. It was implemented jointly by the Ordnance Survey Ireland (OSI) and the Ordnance Survey of Northern Ireland (OSNI) in 2001. The name is derived from the Transverse Mercator projection it uses and the fact that it is optimised for the island of Ireland. (https://en.wikipedia.org/wiki/Irish_Transverse_Mercator accessed 23/10/15)

Polygon - A polygon is a closed, connected set of lines that defines a geographic boundary with an area and perimeter. Examples are lakes, forests and country boundaries. (http://gisgeography.com/gis-dictionary-definition-glossary/#P accessed 23/10/15)

Projected Co-ordinate Reference System - A reference system used to locate x, y, and z positions of point, line, and area features in two or three dimensions. A projected coordinate system is defined by a geographic coordinate system, a map projection, any parameters needed by the map projection, and a linear unit of measure. (http://support.esri.com/en/knowledgebase/GISDictionary/search accessed 23/10/15).

Spatial Data - Information about the locations and shapes of geographic features and the relationships between them, usually stored as coordinates and topology. (http://support.esri.com/en/knowledgebase/GISDictionary/term/spatial%20data accessed 23/10/15).

Our Ref: 22.VC0098
P.A.Reg.Ref:

Appendix 3.1.4

Your Ref: Ecopower Developments

An Bord Pleanála

Jimmy Green
McCarthy Keville O'Sullivan Ltd.
Block 1, G.F.S.C.
Moneenageisha Road
Galway

McCarthy KOS
Received on
27 JAN 2017
160431
Jimmy Green

26th January 2017

Re: 110kV Electrical Substation,
Mountphillips, Newport, Co. Tipperary.

Dear Sir,

I have been asked by An Bord Pleanála to refer further to the above mentioned pre-application consultation request.

Please find enclosed a copy of the written record of the 2nd meeting of the 19th December 2016.

If you have any queries in relation to the matter please contact the undersigned officer of the Board. Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

Kieran Doherty
Executive Officer
Direct Line:01-8737246

Encls.

VC07.LTR

Teil Tel (01) 858 8100
Glao Áitiúil LoCall 1890 275 175
Facs Fax (01) 872 2684
Láithreán Gréasáin Website www.pleanala.ie
Ríomhphost Email bord@pleanala.ie

64 Sráid Maoilbhríde
Baile Átha Cliath 1
D01 V902

64 Marlborough Street
Dublin 1
D01 V902

Record Of Meeting

An Bord Pleanála

Case Reference/ Description	22.VC0098 A 110 kV Electricity Substation, Mountphillips, Newport, Co. Tipperary		
Case Type:	Section 182A of the Planning and Development Act 2000, as amended		
Meeting:	2nd Meeting		
Date:	19th December 2016	**Start Time:**	11.10 a.m.
Location:	Offices of An Bord Pleanála	**End Time:**	12.05 p.m.
Chairperson:	Anne Marie O'Connor, Assistant Director of Planning		

Attendees:
Representing An Bord Pleanála
Anne Marie O'Connor – Assistant Director of Planning
Mary Kennelly – Senior Planning Inspector
Marcella Doyle – Senior Executive Officer
Kieran Doherty – Executive Officer
Representing Prospective Applicant
Pat Brett – Director, Ecopower Developments Ltd
Julie Brett – Project Manager, Ecopower Developments Ltd
Brian Keville – Director, McCarthy Keville O'Sullivan Ltd

Record Of Meeting

An Bord Pleanála

Introduction

The representatives of An Bord Pleanála welcomed the representatives of the prospective applicant and introductions were made.

The representatives of the prospective applicant confirmed that the record of the previous meeting was accurate.

The representatives of An Bord Pleanála referred to a meeting that had taken place with the Commission for Energy Regulation with regard to whether or not the proposed development is considered to be part of the electricity distribution network or transmission network. This would inform whether or not the development constitutes strategic infrastructure development. The representatives of An Bord Pleanála confirmed that clarity had now been received from CER, and that the proposed development is considered to be part of the transmission network and, therefore, strategic infrastructure.

Presentation

The representatives of the prospective applicant gave a presentation to the meeting (appendix 1) which is summarised hereunder.

Amended Development

- c.30 km of underground 110 kV electricity cable (NEW minor revisions to previous route).
- 110 kV electricity substation (GIS).
- Removal of overhead line timber pole set. Underground cable from the substation to the towers will replace approximately 100 metres of overhead line.
- Construction of 2 No. new 23m lattice towers.
- 800m access road, from the public road.
- Associated and ancillary works.
- NEW 38 kV transformer.
- NEW - Local road widening (EIS/NIS only). Not part of application but addressed in EIS.
- NEW - Off-site forestry replanting (EIS/NIS only).
- NEW – 38 kV underground cable running parallel to 110 kV cable for 3km in western portion of route.
- Proposed route to run along local road. Some route options to be finalised – last section of route remains to be finalised.

Record Of Meeting

An Bord Pleanála

Project Status

The representatives of the prospective applicant are now proposing a revised cable route to the Mountphillips substation. The new route will follow existing roads but will still require 27.5 km off road for cables and trenches. To facilitate turbine delivery, local road widening is required. The cable trenches will require tree felling; the licence for which requires forestry replanting. The replanting, which will take place in Co. Roscommon, should not be considered as a compensatory measure and will not form part of the application. The tree felling will take place in the Slievefelim to Silvermines Mountains Special Protection Area and will cover an area of half of a hectare.

Bunkimalta Cable

The new route will facilitate a dual ducting arrangement, for a distance of 3 km, of the 110 kV cable from the Upperchurch wind farm with a cable from the Bunkimalta 38 kV substation, both ending at the Mountphillips substation. The Bunkimalta cable would serve a permitted windfarm development, which does not as yet have a grid connection. The planning permission for the wind farm is currently the subject of a legal challenge. If planning permission is not received, the dual ducting will not be required.

Should the dual ducting arrangement proceed, it could be via one larger trench with a double duct bank, or via two parallel, separate trenches, as illustrated in the presentation document.

The Upperchurch 110 kV cable will feed into the Mountphillips 110 kV substation; however, the Bunkimalta 38 kV cable will require a 38/110 kV transformer to step up the voltage before feeding into the substation. The transformer will be situated beside, but separate from, the substation. The Bunkimalta cable is expected to remain at 38 kV as this is what is required for the wind farm it serves.

Record Of Meeting

An Bord Pleanála

Consultations

The representatives of the prospective applicant stated that consultations are ongoing with:

- National Parks and Wildlife Service with regard to the proposed development, surveys, and construction methodology.
- Inland Fisheries with regard to the 3 river and 40 watercourse crossings. Directional drilling and auger boring will be used.
- Local Authority with regard to the road openings. An additional 1.5 km of local roads will need to be opened. There are approximately seven houses along this stretch of road, but road closures will not be necessary as the road has a wide verge.
- Environmental Officer, Co. Tipperary, no feedback as yet.
- Bat Conservation Ireland and Bird Watch Ireland, no feedback as yet.
- Public consultation will commence early in 2017.

Environmental Impact Assessment

The representatives of An Bord Pleanála stated that for section 182A applications there is no mandatory requirement for an EIS to be prepared and the proposed development did not appear to be of a class which would require an EIS. As part of the pre-application process An Bord Pleanála could advise on whether an EIS is required. The representatives of the prospective applicant stated that they were minded to prepare an EIS to avoid any doubt and avoid any possible legal challenge.

Project Summary

- The existing steel lattice tower will no longer be removed.
- No Overhead line is proposed.
- The underground cable will include 40 watercourse crossings, including three major crossings, two of which are located in SACs.
- The scoping of environmental assessments is nearing completion.
- Project design nearing completion.
- Further discussion required with ESB Networks regarding an associated 38 kV cable from the Bunkimalta 38 kV substation.
- Planning and environmental reports nearing completion.
- Target application date is March 2017.
- Precedent cases for new substation development, which is considered to be strategic infrastructure, are: VC0062, Co. Galway and VC0049, Co. Tipperary.
- Drawings showing cable routes, road widening, construction compounds, construction planning and transport routes for aggregates and construction materials were submitted.

Record Of Meeting

An Bord Pleanála

Conclusion

The representatives of An Bord Pleanála stated that they were available for a further meeting if required.

Anne Marie O'Connor
Assistant Director of Planning
25th January 2017

Our Ref: 22.VC0098
P.A.Reg.Ref:

Appendix 3.1.5

Your Ref: Ecopower Developments

An Bord Pleanála

Jimmy Green
McCarthy Keville O'Sullivan Ltd.
Block 1, G.F.S.C.
Moneenageisha Road
Galway

16th August 2017

Re:
110kV Electrical Substation,
Mountphillips, Newport, Co. Tipperary.

Dear Sir,

I have been asked by An Bord Pleanála to refer further to the above-mentioned pre-application consultation request.

Please find enclosed a copy of the written record of the third meeting of the 28th July, 2017, which is marked 'Private and Confidential' for your information.

If you have any queries in relation to the matter please contact the undersigned officer of the Board.

Please quote the above-mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

pp Shaun McGee
Kieran Doherty
Executive Officer
Direct Line:01-8737293

McCarthy KOS
Received on
17 AUG 2017
160511
Sean McCarthy

Encls.

VC07.LTR

Teil Tel (01) 858 8100
Glao Áitiúil LoCall 1890 275 175
Facs Fax (01) 872 2684
Láithreán Gréasáin Website www.pleanala.ie
Ríomhphost Email bord@pleanala.ie

64 Sráid Maoilbhride
Baile Átha Cliath 1
D01 V902

64 Marlborough Street
Dublin 1
D01 V902

An Bord Pleanála

Record of Meeting
22.VC0098 3rd meeting

Case Reference / Description	22.VC0098 110kV Electrical Substation, Mountphillips, Newport, County Tipperary.		
Case Type	Pre-application consultation		
1st / 2nd / 3rd Meeting	3rd		
Date	28/07/17	**Start Time**	11.20 a.m.
Location	Meeting Room 3	**End Time**	12.25 p.m.
Chairperson	Anne Marie O'Connor	**Executive Officer**	Kieran Somers

Attendees		
Representing An Bord Pleanála		
Staff Member	**Email Address**	**Phone**
Anne Marie O'Connor, Assistant Director of Planning		
Mary Kennelly, Senior Planning Inspector		
Diarmuid Collins, Senior Administrative Officer		
Kieran Somers, Executive Officer	k.somers@pleanala.ie	01-8737107

Representing the Prospective Applicant		
Brian Keville, McCarthy Keville O'Sullivan		
Pat Brett, Eco Power Developments Ltd		
Julie Brett, Eco Power Developments Ltd		

The meeting commenced at 11.20 a.m.

Presentation by the prospective applicant:

The prospective applicant provided the Board with a design update of the project. It said that the proposed development is to connect the Upperchurch Wind Farm to a new substation at Mountphillips. The main elements of the proposed development were set out which consist of circa 27.5 kilometres of underground 110kV electricity cable and a 110kV electricity substation. The previously discussed inclusion of a 38kV transformer and the 38kV underground cable running parallel to the 110kV cable for three kilometres on the western portion of the route will no longer form part of the proposed development.

The prospective applicant said that the siting and layout of the proposed substation has changed. The substation will now be located to the east of the existing OH line, as opposed to the west. This will entail a shorter section of the existing overhead line being removed. The size of the proposed compound has also increased. The prospective applicant noted that the proposed substation would now be an external Air-Insulated Switchgear (AIS) substation, rather than internal GIS technology, and that this is largely owing to the ESB's specifications and to the site for the substation being enlarged.

Two lattice towers are still proposed as part of the development, but the removal of two timber polesets will no longer be required.

Responding to the Board's query on the matter, the prospective applicant said that some of the forestry proposed to be felled along the route of the cable will be within an SAC. Permanent forestry re-planting in accordance with the felling licence is proposed off-site at Firoda Wood in County Kilkenny. This will involve some 10 acres in total which is a greater area that that which would be removed at the subject site.

There will be new and realigned site access roads required for transportation of turbines to the Upperchurch Wind Farm site, but these will not form part of the instant development. Other new elements which will be detailed in the EIAR to accompany the planning application will include the internal wind farm cabling, the Knockmaroe telecoms relay pole and the turbine haul route works. It is the current

intention of the prospective applicant that these will not be part of the planning application for this project.

The prospective applicant provided the Board with a project status update as regards the proposed development. It advised that a scoping document had issued to consultees in June 2017. The prospective applicant said that the project design is now completed and that discussions are ongoing with the NPWS and the IFI regarding environmental mitigation and construction methodology for watercourse crossings, and potential impact on the hen harrier. The prospective applicant noted that an extra habitat was being provided for the hen harrier by virtue of the felling required to facilitate construction of the underground cable. A total of three hen harrier nests have been identified in the vicinity of the subject site and the prospective applicant said this new area would comprise a foraging area. It also noted the presence of some badger setts. It advised that the EIAR is at an advanced stage and that the current target for lodgement of a formal planning application is the third quarter of 2017.

The prospective applicant provided an update on consultations with EIA scoping consultees. It said that the nature of forestry re-planting to take place in County Kilkenny has been outlined to representatives of that local authority. It added that this particular methodology will be set out in the EIAR. The prospective applicant advised that other statutory bodies have provided feedback on the proposed development and that consultations with the NPWS and the IFI are due to conclude in August 2017.

With respect to the SID determination which the Board must make at the conclusion of the pre-application consultation process, the prospective applicant referred to some previous decisions in this regard. The prospective applicant also noted that in this particular case, the location of the proposed substation is at the far side of the line as opposed to being within the curtilage of the wind farm site.

The prospective applicant said that its letter seeking closure of the process to the Board would request a SID determination of all five elements of the proposal (i.e. the underground 110kV electricity cable, the 110kV electricity substation, the new and realigned site access roads, the internal wind farm cabling and the Knockmaroe telecoms relay pole). Of these five, the prospective applicant offered its own opinion that numbers 3, 4 and 5 would not constitute strategic infrastructure development. The prospective applicant also said that it had concluded that an EIAR would be required in this particular instance having regard to previous legal judgements and that it was aware of the 2014 EIA Directive.

The prospective applicant stated that the Commission for Energy Regulation's opinion was that the proposed development would form part of ESB Network's-operated distribution system. The Board for its part noted that it had met with representatives of the CER and the advice offered subsequent to this meeting was that the proposed development would form part of the transmission network. The Board said that it had this information on the file (which it showed and discussed with the prospective applicant) and that the reporting inspector would give a recommendation as to the SID status of the proposed development.

The Board enquired as to the approach the prospective applicant would take in a scenario whereby it determined that the 110kV electricity cable and substation were SID, but the remaining three elements were not. The prospective applicant replied that in such a situation it would only make a direct application to the Board for the cables and the substation; the other three elements would form part of a planning application to the relevant local authority. It added that it intended to lodge an EIAR in respect of both applications in such a scenario.

Responding to the Board's query, the prospective applicant said that a Natura Impact Statement would be prepared; this will include the proposed replanting of forestry in County Kilkenny.

In response to the Board's question on the matter, the prospective applicant said that its approach to surveying has been discussed with the NPWS. The Board's representatives referred to the Scottish Natural Heritage Guidelines which may be relevant in this case. Noting this, the prospective applicant advised that its hen harrier surveys have had regard to these guidelines. With regard to the preparation of an NIS, the Board advised the prospective application to document clearly the methodology followed including surveying and data collection.

The Board's representatives also advised the prospective applicant that the SID division of the Board might not necessarily give an individual SID determination on all five elements of the proposed development as requested by it. The prospective applicant was advised that a more generic direction might be a possibility in this regard.

The prospective applicant informed the Board that it would be carrying out further public consultations in August 2017.

Application procedures:

Procedures in relation to the making of a formal planning application to it were given by the Board as follows:

- An application can only be lodged after formal notice has been received by the prospective applicant from the Board.
- The application must be made by way of full completion of an application form to the Board.
- The Board requires as a minimum that the public notice of the application would be in two newspapers circulating in the area to which the proposed development relates, one of which should be a national newspaper. A site notice in accordance with the protocols set out in the Planning and Development Regulations, 2001-2017 must also be erected. The date of the erection of the site notice is to be inserted; otherwise it should contain the same information as the newspaper notices and should remain in place for the duration of the period during which the public can make submissions to the Board.

- The documentation relating to the application is to be available for public inspection at the offices of the relevant planning authority and the offices of An Bord Pleanála. In this regard the requirements in terms of the number of copies of the documentation to be lodged with the relevant planning authority and the Board is as follows:

    - Planning Authority – 5 hard copies and 2 electronic copies.

    - An Bord Pleanála – 3 hard copies and 7 electronic copies.

- The Board also requires the prospective applicant to provide a stand-alone website containing all of the application documentation. The address of this website is to be included in the public notice.

    - The public notice of the application is to indicate that the application documentation will be available for public inspection after the elapsment of at least 5 working days from the date of the publication of the notice so as to ensure that the documentation is in place for such inspection.

    - The time period for the making of submissions by the public is to be at least seven weeks from the date the documents become available for inspection (not from the date of publication of the public notices). The Board requires that the public notice must indicate the deadline time and date for the making of submissions to the Board. It was agreed that the prospective applicant could advise the Board's administrative personnel in advance of the details of its proposed public notice and that any further definitive advice on same including confirmation of dates/times could be communicated at that stage.

    - The service of notice of the application on any prescribed bodies must include a clear statement that the person served can make submissions to the Board by the same deadline as specified in the public notice.

    - The service letter on the planning authority with the necessary copies of the documents should be addressed to the Chief Executive and should also alert the authority to the Board's requirement that the application documentation be made available for public inspection/purchase by the planning authority in accordance with the terms of the public notice (copies of any newspaper/site notices should be provided to the planning authority). It is the Board's intention that all of the application documentation will remain available for public inspection during the currency of the application.

    - The depositing of the application documentation and the making of the application to the Board should take place immediately after the publication of the notice and the completion of the service requirements. It should not await the elapsment of the period for the public to make submissions. The application documentation should include a copy of all letters serving notice of the application on prescribed bodies and the local authority, copies of the actual newspaper notices as published and the site notice.

- The fee for lodging an application is €100,000. The fee for making a submission in respect of an application is €50 (except for certain prescribed bodies which are exempt from this fee). There is an existing provision enabling the Board to recover its costs for processing any application from the applicant. In addition, it was pointed out that the legislation also enables the Board direct payment of costs or a contribution towards same to the planning authority and third parties.

- The prospective applicant was requested to submit the site location map in shape file format.

The sequencing of the making of the application was summarised as follows:

1. Publish newspaper notices.

2. Serve copy of relevant documents on bodies/persons required to be notified of the application. Deposit required number of copies with relevant planning authority.

3. Deposit required number of copies of application documentation with An Bord Pleanála and make an application to it.

Conclusion:

Responding to the Board's question, the prospective applicant said its intention was to place site notices at both ends of the subject site and also where the associated grid connection intersects a public road.

The Board informed the prospective applicant that a list of the relevant prescribed bodies to be notified of the formal planning application would be provided with its SID determination letter. The Board also noted that the holding of an oral hearing on the case is at its discretion.

Lastly, the Board advised the prospective applicant to await the record of the instant meeting prior to requesting closure to the process generally.

The meeting concluded at 12.25 p.m.

Anne Marie O'Connor

Assistant Director of Planning

An Bord Pleanála

Inspector's Report

Prospective Applicant:	Ecopower Developments
Planning Authority:	Tipperary County Council
Issue:	SID Pre-application – whether project is or is not strategic infrastructure development
Nature of Development:	Proposed 110kV Electrical Substation at Mountphillips, Newport, County Tipperary
Inspector:	Juliet Ryan
Date of Site Inspection:	5 July 2016

1.0 INTRODUCTION

1.1 The subject pre-application consultation relates to a proposed 110kV electricity substation at Mountphillips, Newport, County Tipperary and associated underground line route. The development constitutes the grid connection for the Upperchurch windfarm (the latter having been granted by ABP under PL22.243040).

1.2 The new substation is intended to connect with the permitted 110kV Upperchurch windfarm substation via c.30km of underground 110kV line, and its purpose is to link the windfarm to the national grid (connecting with the Nenagh – Killonan 110kV overhead lines). The project will be described further below.

1.3 A pre-application consultation meeting with the prospective applicants was held on 20th May 2016 (see below for details). The primary purpose of this meeting was to address the issue of whether or not the proposed development constitutes strategic infrastructure.

2.0 SITE LOCATION

2.1 The subject site comprises an area of c.30km running west from the location of the permitted Upperchurch windfarm to the existing Nenagh – Killonan 110kV overhead line at Mountphillips, County Tipperary. The permitted windfarm (not yet constructed) will be located some 2 kilometres west of the village of Upperchurch and c. 17 km west of Thurles. The grid connection at Mountphillips is located some 15 km northeast of Limerick and c.20 km southwest of Nenagh. The intervening proposed c.30 km of underground cable will run between these two points, largely through agricultural and forested lands. The route roughly parallels the R503 regional road, at an approximate average separation distance of c. 2km to the north of the road. The area is an undulating upland area to the south of the Silvermines Mountains.

2.2 As the route travels west from Upperchurch, it traverses the Bilboa River (at Kilcommon), the Clare River, and the Mulkear River. The prospective applicants submit that some 17.5 km of the route goes through agricultural lands; some 10.9 km through forestry / forest roads, and some 1 km along public roads. Key settlements along the route include Upperchurch, Kilcommon, Rear Cross, Toor and Newport.

2.3 The proposed substation site at Mountphillips is located in an existing field in a rural area and accessed from an existing farm entrance at the western side of the local county road, some 2km north of the village of Newport, at a straight section of carriageway.

2.4 The proposed substation site is at a setback some 800 metres from the road, with the intervening area currently in pasture. Despite a noticeable amount of ribbon rural housing development, the local road in this location has a strong rural character, which is largely attributable to its narrow width, and relatively undisturbed hedgerows. The closest house to the substation is located some c.450 metres to the south.

2.5 The existing 110kv line runs in a north-south direction through the site, with 1 no. existing lattice tower located in the field closest to the road.

3 THE PROPOSED DEVELOPMENT

3.1 The particulars of the proposal are as follows:

- 1 no. new 220kV / 110kV Gas Insulated Switchgear (GIS) substation on a 0.2 ha site
- Site access road of 800m length
- Removal of a section (c.150 m) of existing Nenagh – Killonan 110kv overhead line (including 1 no. lattice tower)
- 2 no. new 23m high end mast lattice towers and associated cables to provide connection with the existing Nenagh – Killonan 110kv Line
- Some 30km (approximately) of underground 110kV line running west from the townland of Knockcurraghola Commons to Mountphillips
- All associated works

3.2 The substation will comprise a single building of 25m x 20m and c.7.3 metre height, with associated landscaping and security measures, including a 2.65 metre high compound fence.

3.3 The proposed substation will be accessed from the proposed new access road running west from the existing farm entrance at the public road.

3.4 The proposed cabling is designed to ESB specifications, with the underground route using standard trefoil ducting in trenches of 1.2 metre depth, which will ultimately become a permanent ESB wayleave. The prospective applicants confirm that all landowner consents (36 no.) are in place.

3.5 The prospective applicants have confirmed that in-stream works will be necessary, with directional drilling in 2 no. rivers and horizontal drilling in one. Some 38 no. further smaller watercourses will be traversed. Consultation has been undertaken with NPWS and Fisheries in this regard.

4.0 PROSPECTIVE APPLICANT'S POSITION

The key elements of the Applicant's submission may be summarised as follows:

- Proposal required to transport electricity to national grid from permitted windfarm at Upperchurch and is necessary to ensure viability of windfarm
- Permission for windfarm granted August 2014 (was subject to judicial review but ABP's decision was upheld) and will be next large project for Ecopower.
- Construction is planned to be underway in Q2 2017, with the project intended to be operational in 2018.
- One of the influencing factors for the choice of access to the proposed substation was the existing farm entrance with good sightlines in both directions
- An NIS is being prepared
- The prospective applicants seek the Board to confirm whether an Environmental Impact Statement is required to accompany the application
- The prospective applicants note that the proposal is not of a type set out in Schedule 5 of PDR, 2001, as amended, but that an environmental assessment is being carried out nonetheless
- The North Tipperary County Development Plan 2010 (as varied) is supportive of facilitating connectivity of sustainable renewable energy resources to the electricity network (S.8.7)
- Various consultations have taken place including with the Planning Authority (including Heritage Officer), NPWS, Regional Fisheries Officer, Coillte, IFI, and the Development Applications Unit.
- All landowner consents are in place

- Prospective Applicants consider proposal **IS SID** in accordance with S.182A (9) insofar as it is proposed to transport electricity at a voltage of 110kV

- Applicants provide written confirmation from CER that the Killonan-Nenagh 110kV line is part of the distribution network

- The substation site is not prone to flooding, nor is it highly visible in the local area, given its setback from the road and low-lying location

5.0 CONSULTATIONS – SUMMARY OF KEY ISSUES AND ADVICE

The key issues arising during consultations with ABP may be summarised as follows (the signed Records should be consulted for further details):

- ABP representatives advised that various alternatives considered and the rationale for the chosen route option be clearly set out in any prospective application

- ABP representatives advised that public consultation would be encouraged in advance of any prospective application

- Ongoing consultation with the Planning Authority should be continued

- Condition no. 6 of the extant permission for the Upperchurch Windfarm requires agreement of construction phasing with NPWS. Any prospective application should demonstrate how it will tie in with same.

- If an EIS were to be submitted, clear identification of the study area would be required

- ABP representatives noted that issues pertaining to, *inter alia*, archaeology and ecology should be addressed in a comprehensive manner in any prospective application

6.0 LEGISLATIVE PROVISIONS

6.1 Under subsection 1 of Section 182A of the Planning and Development Act 2000 [inserted by section 4 of the Planning and Development (Strategic Infrastructure) Act 2006] where an undertaker:

> "*Intends to carry out development comprising or for the purposes of electricity transmission (hereafter referred to in this*

section and section 182B as 'proposed development'), the undertaker shall prepare, or cause to be prepared, an application for approval of the development under section 182B and shall apply to the Board for such approval accordingly."

6.2 Subsection 9 of Section 182A states that:

"*In this section 'transmission' in relation to electricity, shall be construed in accordance with section 2(1) of the Electricity Regulation Act 1999 but, for the purposes of this section, the foregoing expression, in relation to electricity, shall also be construed as meaning the transport of electricity by means of:*

(a) a high voltage line where the voltage would be 110 kilovolts or more, or

(b) an interconnector, whether ownership of the interconnector will be vested in the undertaker or not."

6.3 In section 2(1) of the Electricity Regulation Act 1999, "transmission" is defined in relation to electricity as meaning

"*the transport of electricity by means of a transmission system, that is to say a system which consists, wholly or mainly, of high voltage lines and electric plant and which is used for conveying electricity from a generating station to a substation, from one generating station to another, from one substation to another or to or from any interconnector or to final customers, but shall not include any such lines which the Board may, from time to time, with the approval of the Commission, specify as being part of the distribution system, but shall include any interconnector owned by the Board.***"**

"Electric Plant" is defined as:

"*any plant, apparatus or appliance used for, or for the purposes connected with, the generation, transmission, distribution or supply of electricity other than –*

(a) an electric line,

(b) a meter used for ascertaining the quantity of electricity supplied to any premises, or

(c) an electrical appliance under the control of a consumer."

6.4 Section 3 of the Planning and Development Act sets out the definition of "development", whilst Section 4 sets out provisions in respect of exempted development. In this regard, Section 4(3) states:

> *"Notwithstanding paragraphs (a), (i), (ia) and (l) of subsection (1) and any regulations under subsection (2), development shall not be exempted development if an environmental impact assessment or an appropriate assessment of the development is required.*
>
> *(4A) Notwithstanding subsection (4), the Minister may make regulations prescribing development or any class of development that is—*
>
> *(a) authorised, or required to be authorised by or under any statute (other than this Act) whether by means of a licence, consent, approval or otherwise, and*
>
> *(b) as respects which an environmental impact assessment or an appropriate assessment is required,*
>
> *to be exempted development."*

6.5 Schedule 2 Part 1 Class 26 of the Planning and Development Regulations provides that the following is exempted development:

> "*The carrying out by any electricity undertaking of development consisting of the laying underground of mains, pipes, cables or other apparatus for the purposes of the undertaking*."

7.0 ASSESSMENT

Arising from the nature and extent of the proposal, combined with the legislative context, I consider it first imperative to establish the status of the prospective works vis a vis development and exempted development provisions. Having done this, it will be necessary to consider whether EIA and/or AA are necessary (which may in turn have implications for exempted development status). Following this, a recommendation as to whether the proposal constitutes SID can be made.

7.1 Status of Prospective Works

7.1.1 The subject proposal comprises two main elements as follows:

- c. 30km of underground 110kV electricity cable

- New 110 kV substation and associated works

The 110kV substation and associated works is development for which there is no exemption.

7.1.2 The c.30km of underground electricity cable would come under Class 26 exemption were it carried out by any electricity undertaking. However, the prospective applicant is not an electricity undertaking, and therefore Class 26 exemption does not apply.

7.2 Appropriate Assessment

7.2.1 The proposed substation is not located within a designated site, but the proposed underground cable route runs through the following:

- Slievefelim to Silvermines Mountains SPA 004165
- Lower River Shannon SAC 002165

Given the above, an NIS is required due to its location within two European sites.

7.3 Environmental Impact Assessment

7.3.1 Given the nature and scale of the project, the pertinent references from Schedule 5 of PDR, 2001, as amended (which transposes Directive 2014/52/EU) are as follows:

- Part 1 Class 20
- Part 1 Class 22
- Part 2 Class 3(b)
- Part 2 Class 13(a)
- Part 2 Class 13(c)
- Part 2 Class 14
- Part 2 Class 15

These will be examined below. A summary table is provided further below.

Part 1, Class 20:

Construction of overhead electrical power lines with a voltage of 220 kilovolts or more and a length of more than 15 kilometres

Comment:
The subject proposal does not entail the construction of any overhead power line. It proposes the construction of underground 110kV lines, and a loop-in connection from an existing 110kV line into a proposed substation.

The proposal would not require EIA under Part 1 Class 20.

Part 1, Class 22:

Any change to or extension of projects listed in this Annex where such a change or extension in itself meets the thresholds, if any, set out in this Annex.

Comment:
The subject proposal involves the removal of a certain section of overhead 110kV cable to facilitate the loop-in to the proposed substation. 110kV cable is not a qualifying class.

The proposal would not require EIA under Part 1 Class 22.

Part 2, Class 3(b):

Industrial installations….or transmission of electrical energy by overhead cables not included in Part 1 of this Schedule, where the voltage would be 220 kilovolts or more.

Comment:
The subject proposal does not propose the transmission of electrical energy by overhead cables. It proposes the construction of underground 110kV lines. The proposal would not require EIA under Part 2 Class 3(b).

Part 2, Class 13(a):

(a) Any change or extension of development already authorised, executed or in the process of being executed (not being a change or extension referred to in Part 1) which would:-

(i) result in the development being of a class listed in Part 1 or paragraphs 1 to 12 of Part 2 of this Schedule, and

(ii) result in an increase in size greater than –

- 25 per cent, or

- an amount equal to 50 per cent of the appropriate threshold,

whichever is the greater.

Comment:
The proposal does not entail any change or extension of a class or scale that would result in the need for EIA under Part 2 Class 13(a).

Part 2, Class 13(c):

> *Any change or extension of development being of a class listed in Part 1 or paragraphs 1 to 12 of Part 2 of this Schedule, which would result in the demolition of structures, the demolition of which had not previously been authorised, and where such demolition would be likely to have significant effects on the environment, having regard to the criteria set out under Schedule 7.*

Comment:
The subject proposal involves the removal of a c.150m section of 110kV overhead cable and 1 no. existing lattice tower, both part of the existing Nenagh-Killonan 110kV line. Given that the existing 110 kV overhead line is not of a class requiring EIA (i.e. not 220kV) any change to it would not therefore come under Part 2 Class13(c).

Part 2, Class 14:

> *Works of demolition carried out in order to facilitate a project listed in Part 1 or Part 2 of this Schedule where such works would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7.*

Comment:
The product of the demolition in this instance (i.e. the loop-in to a new 110kV substation) is not of a type requiring EIA under Part 1 or 2. As such, the demolition does not facilitate a project requiring EIA.

The proposal would not require EIA under Part 2 Class 14.

Part 2, Class 15:

> *Any project listed in this Part which does not exceed a quantity, area or other limit specified in this Part in respect of the relevant class of development but which would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7.*

Comment:
As in the case of Part 2, Class 14 above, the subject proposal is not of type requiring EIA under Part 1 or 2, regardless of threshold.

The proposal would not require EIA under Part 2 Class 15.

SUMMARY

TYPE / CLASS	SUMMARY	COMMENT	EIA REQUIRED?
Part 1 Class 20	***Construction*** *of* ***overhead*** *electrical power lines of* ***220 kV*** *or more and length of more than* ***15 kilometres***	No construction of overhead power lines proposed. Everything 110kV.	NO
Part 1 Class 22	*Any* ***change/ extension*** *of projects listed in this Annex where such a* ***change/ extension in itself*** *meets the thresholds*	No part of the project in itself meets the thresholds	NO
Part 2 Class 3(b)	***Transmission*** *of electrical energy by* ***overhead cables*** *not included in Part 1 of this Schedule, where the voltage would be* ***220 kilovolts*** *or more.*	No transmission by overhead cables is proposed All voltage is 110kV.	NO
Part 2 Class 13(a)	*Any* ***change/extension*** *of development* ***already authorized / executed*** *(not being a change or extension referred to in Part 1) which would:-* *(i)* ***result*** *in the development qualifying* *(ii)* ***result*** *in an increase in size greater than –* *- 25 per cent, or* *- an amount equal to 50 % of appropriate threshold.*	Not of a class or scale that would qualify	NO
Part 2 Class 13(c)	*Any* ***change/extension*** *of development being of a class listed in Part 1 or paragraphs 1 to 12 of Part 2 of this Schedule, which would* ***result*** *in the* ***demolition*** *of structures, the demolition of which had not previously been authorised, and where* ***such demolition would be likely to have significant effects*** *on the environment, having regard to the criteria set out under* ***Schedule 7.***	Existing 110kV Nenagh-Killonan line is not qualifying class..	NO
Part 2 Class 14	***Demolition*** *to* ***facilitate*** *a* **project listed in Part 1 or Part 2** *of this Schedule where such works would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7.*	The project is not of a class listed in Part 1 or 2.	NO
Part 2 Class 15	*Any project listed in* ***this Part*** *which does* ***not exceed a quantity, area or other limit*** *specified in this Part in respect of the relevant class of development but which would be likely to have* ***significant effects*** *on the environment, having regard to the criteria set out in Schedule 7.*	The project is not of a class listed in Part 2.	NO

Arising from the above, the subject proposal does not require EIA having regard to Schedule 5 of PDR, 2001 as amended, nor do any issues of sub-threshold EIA arise.

7.3.2 Notwithstanding that I do not consider EIA necessary in the instant case, I would note that the prospective applicant is undertaking environmental assessment, including habitat surveys in an area of 50 metres at either side along the cable route. Further, I note that hen harriers and archaeology are among potential environmental issues.

7.4 Whether Proposal is SID

7.4.1 It would appear that the proposed electricity line aspect of the development would fit the description of 'transmission' as set out in Subsection 9 of 182A insofar as it comprises a '*high voltage line where the voltage would be 110 kilovolts or more*'.

7.4.2 However, the Prospective Applicants have provided written confirmation from CER that the circuit into which the development will link (namely, the existing 110kV Killonan-Nenagh line) is part of the distribution network as a tail-fed 110kV line. Whilst section 2(1) The Electricity Regulation Act 1999, provides that CER can specify from time to time certain lines that are part of the distribution system, and that said lines would therefore not be considered "transmission", this provision does not override subsection 9 of Section 182A, which incorporates the definition from the Electricity Regulation Act as well as its own provisions as follows:

> **"***In this section 'transmission' in relation to electricity, shall be construed in accordance with section 2(1) of the Electricity Regulation Act 1999 but, for the purposes of this section, the foregoing expression, in relation to electricity, shall also be construed as meaning the transport of electricity by means of:*
>
> *(a) a high voltage line where the voltage would be 110 kilovolts or more, or*
>
> *(b) an interconnector, whether ownership of the interconnector will be vested in the undertaker or not."*

It can be seen from the above that the definitions in the Electricity Regulation Act are incorporated and subservient to S.182A(9) for the purposes of strategic infrastructure electricity undertakings.

7.4.3 Having regard to the above, and notwithstanding that the proposed connection would not be considered "transmission" per the Electricity Regulation Act, it would fall under the definition of "transmission" per S.182A(9).

7.4.4 With respect to the substation, however, the legislation is less clear. Section 182A(9) of PDA sets a threshold of 110 kilovolts in order for a high voltage electricity transmission line to be considered strategic infrastructure. No threshold is set in respect of a substation. In this regard I would consider the substation in the subject proposal to constitute "electric plant" in accordance with the Electricity Regulation Act:

> "*any plant, apparatus or appliance used for, or for the purposes connected with, the generation, transmission, distribution or supply of electricity other than –*
>
> *(a) an electric line,*
>
> *(b) a meter used for ascertaining the quantity of electricity supplied to any premises, or*
>
> *(c) an electrical appliance under the control of a consumer."*

It follows, then, that if the new 30km line connected with the plant is deemed to be SID per S.182A(9) due to its 110kV voltage, that the substation itself would also constitute SID, being an integral element of the connection project (i.e. proposed development).

7.4.5 A 110kV substation in and of itself may not necessarily constitute a SID (and the Board has determined previously that similar such substation proposals are not SID – VC0040; VC0045; VC0061; VC0069; VC0074), but given that the substation in the instant case is part of an overall grid connection that would constitute SID by virtue of the 110kV line, then I am satisfied that this also incorporates the substation.

7.4.6 Having regard to the above, I am satisfied that the proposal constitutes SID in accordance with Section 182 A. The Board is advised that the prospective applicants are of the same mind.

7.5 Precedent Cases

7.5.1 There are a large number of decided electricity pre-application consultation cases that have some comparable elements to the subject proposal. With specific respect to substations and associated works, where new substations have been proposed, those of 220kV and higher have generally been deemed by the Board to constitute SID (e.g. VC0058); and, as noted above, 110kV substations have generally been deemed not to constitute SID.

7.5.2 In cases where the Board considers the proposal will form part of the transmission network it has deemed the proposal to constitute SID in accordance with S.182A (e.g. VC0046; VC0058; VC0062).

7.5.3 Case VC0016 related to the construction of two new 110kV towers adjacent to the existing Arklow-Carrickmines 220kV line. The Board deemed this proposal was not SID. Notably, in that history case the 2 no. new 110kV towers were proposed to drop down from the existing 220kV line to facilitate the underground cabling of the 110kV line so that it would ultimately link to the Charlesland 110kV station. Significantly, however, there were no issues pertaining to EIA or AA in Case VC0016; as such, the underground cabling was exempt per Schedule 2 Part 1 Class 26 of PDR, 2001 as amended, and the net issue to be determined for SID purposes was the 2 no. new 110kV towers that would facilitate a dropping down to the distribution system. As such, I consider the subject case to differ in nature and extent from VC0016, particularly having regard to the implications arising from the need for AA.

7.5.4 In a recent pre-application case pertaining to a proposed 'loop-in' connection to an existing 220kV power line at Clonee, County Meath (VC0087), the Board decided that the project was SID in accordance with S.182A. Notably, in that case, the prospective applicants sought to isolate the proposed loop-in connection from a proposed 220kV substation. The Board did not agree with this approach, and considered that the loop-in connection and associated substation could not be separated. This reasoning is instructive in the instant case.

7.5.5 The proposed development at Clonee referenced above (VC0087) was considered to be significantly under the threshold for EIA per Part 1(20) and Part 1 S.3(b) Schedule 5 by the reporting Inspector. However, the Board determined that an EIS should be submitted with that proposal (no explicit reason given). Notably, the subject proposal differs from VC0087 insofar as that case involved development of a type (overhead cables of 220kV) that is included in Schedule 5.

7.6 Summary & Options

There are two main components of the subject proposal – a 110kv substation and a 30km underground cable route. The former is development requiring planning permission, but in and of itself would not constitute SID per S.182A. The 30km underground cable route would generally be considered to be exempted development per Class 26, but is de-exempted in the instant case due it traversing an SPA and an SAC and therefore requiring AA. Accordingly, the trigger for the qualification under SID is the need for AA for the 30km underground

cabling, which, being 110kV, consequently qualifies as SID per S.182A(9).

Having regard to the above, I would consider the following options may be considered by the Board:

7.6.1 Option 1

The Board may seek to assess the substation in isolation (i.e. separate from underground cable route) and therefore deem it not to come within S.182A and not constitute SID. This would leave the underground cable a separate SID proposal that would also be subject to AA. I can see no merit in this approach which would risk various delays at later stages and charges of project splitting. I would also note that the prospective applicants view the proposal as a single project.

7.6.2 Option 2

Accept that the proposal constitutes Strategic Infrastructure per the definition of S.182A(9) given that 30km of 110kV underground cable requiring AA is proposed, and that because of this, the project as a whole is SID. The application should be accompanied by a NIS due to the presence of European Sites along the cable route. The application does not require EIA given that it is not of a type set out in Schedule 5.

7.6.3 Option 3

As in Option 2 above, accept that the proposal constitutes Strategic Infrastructure per the definition of S.182A(9) given that 30km of 110kV underground cable requiring AA is proposed, and that because of this, the project as a whole is SID. The application should be accompanied by a NIS due to the presence of European Sites along the cable route. Notwithstanding that the application is not of a type set out in Schedule 5, the Board may consider that an EIS is required given the nature, extent, and location of the proposal. In forming this position the Board may place weight on the fact that it will facilitate the grid connection for a windfarm of 22 no. turbines (whereby EIA was required). The Board may also rely on the fact that an EIS was required to be submitted with VC0087, notwithstanding that the latter was significantly below threshold. A risk with this approach would be that it would set a

precedent for EIA in projects that are not of a type set out in Schedule 5. In this regard it is noted that the subject proposal differs from VC0087, which, whilst sub-threshold, was of a class included in Schedule 5 (Part 1(20) and Part 2(3(b)).

8 CONCLUSION / RECOMMENDATION

8.1 Conclusion

I confirm that I have carried out an inspection of the substation site, surrounding area, and the proposed underground cable route. Having regard to the nature and scale of the proposed development, which traverses and SAC and an SPA, and to Section 4(3) of the Planning and Development Act 2000; as amended, and having regard to S.182 A and, particularly to the definition of 'transmission' in Subsection 9, I conclude that the proposed development falls within the meaning of Section 182A of the Planning and Development Act 2000. In this regard I consider Option 2 as outlined above to be the most appropriate approach to the instant case.

I consider that any prospective application should be accompanied by a Natura Impact Statement. I do not consider that EIA is required.

8.2 Recommendation

I recommend that the Board serve a notice on the prospective applicant, pursuant to Section 182A of the Planning and Development Act 2000, as amended, stating that it is of the opinion that the proposed development constitutes a strategic infrastructure development for the reasons set out below.

The Board also considers it appropriate that the SID application be accompanied by a Natura Impact Statement.

Reasons and Considerations

Having regard to the nature of the development and to the relevant legislative provisions, I recommend that the proposed 110kV substation and c.30 km of 110kV underground electrical line and all associated works falls within the scope of 182A of the Planning and Development Act, 2000 as amended. Accordingly, the proposed development would be strategic infrastructure within the meaning of the Act and any application for approval must therefore be made directly to An Bord Pleanála.

Juliet Ryan
Senior Planning Inspector

12 July 2016

I recommend that the following list of Prescribed Bodies are consulted in relation to the proposed development in accordance with Section 182(4)(b) of the Act:

- The Minister for the Arts, Heritage and the Gaeltacht (NPWS)
- The Minister for Communications, Energy and Natural Resources
- Tipperary County Council
- TII
- An Taisce
- The Heritage Council
- Inland Fisheries Ireland
- The Commission for Energy Regulation
- Health Service Executive
- EPA
- IDA
- Irish Water
- Waterways Ireland
- Coillte
- OPW

Juliet Ryan
Senior Planning Inspector

An Bord Pleanála

Inspector's Report Strategic Infrastructure pre application consultation 22.VC0098.

Development	New 110kV Air Insulated Switchgear (AIS) electricity substation, new 110kV underground cabling to connect a permitted windfarm at Upperchurch to the national grid, 2 no. interface masts with loop in line, alterations to existing site entrance and associated works including alterations to turbine delivery routes, internal wind farm cabling.
Location	Mountphillips, Newport, Co. Tipperary
Planning Authority	Tipperary County Council.
Prospective Applicant(s)	Eco Power Development Ltd.
Type of Request	Section 182E request for SID Pre-application consultation – whether project is or is not strategic infrastructure development.
Inspector	Mary Kennelly.

1.0 Introduction

1.1. Eco Power Developments propose to construct a 110kV electrical substation along with an associated underground cable connection to the national grid at Mountphilips to serve a permitted windfarm development at Upperchurch, Co. Tipperary. The windfarm was granted planning permission by the Board in August 2014 (PL22.243040), which was accompanied by an EIS and a Natura Impact Statement. The permitted windfarm consists of 22 no. turbines, 1 no. electrical substation and compound, site access roads and 2 no. meteorological masts. It is stated in the request from the prospective applicant that a Gate 3 Grid connection agreement has been granted by ESB Networks which requires that the physical connection be at a point along the Nenagh to Killonan 110kV line. This overhead line is located to the northwest of Newport village and passes through the townland of Mountphilips, County Tipperary.

2.0 Background

2.1. The request from the prospective applicant was first submitted to the Board in April 2016. Following a pre-application meeting, an Inspector's report was submitted to the Board for consideration in July 2016, in which the Inspector considered that the proposed development constituted Strategic Infrastructure Development in accordance with S182A(9). It was further considered that EIA was not required as the development proposed was not of a class set out in Schedule 5 but that a NIS would be required due to the presence of European sites along the cable route. (Inspector's Report attached). The Board considered that matter on 28th July 2016 when it was decided to defer consideration to a further Board meeting.

2.2. It should be noted that the proposed development was very similar to the current proposal except for the type and location of the proposed substation. It was previously proposed to construct a GIS substation which would have been to the west of the overhead line and to remove a lattice tower. It is now proposed to construct an AIS type substation which would be to the east of the OH line and it is no longer proposed to demolish any towers or posts. As the overall project was evolving during the pre-application process, other elements were introduced, such as

alterations to haul routes, delivery routes etc., and these matters are referred to below. The proposed cable route (originally c.30km) has also been refined.

2.3. An issue arose during the pre-application meetings regarding whether the proposed connection to the windfarm development would form part of the electricity transmission or distribution networks. The prospective applicant had expressed a view that the existing 110kV Nenagh-Killonan overhead line is part of the distribution network. Representatives of the Board met with representatives of the Commission for Energy Regulation on 26th September 2016 regarding the criteria for determining the distribution/transmission status of a local transmission network. A specific query relating to the Nenagh-Killonan line was subsequently put to the CER. A written response was received by the Board on 2/12/16, which is on the file.

2.4. The advice from CER is that the classification of 110kV assets as DSO or TSO (and hence the control of the assets) can change over the lifetime of the asset, but that it is generally the feeder arrangements (i.e. tail fed or multiple feeds) that determine whether a station (node) is DSO or TSO. Thus it is not the station itself that determines this matter, but the connection arrangement of the customer into the station as determined by the Systems Operator. In respect of Mountphilips, it is stated that if a new substation is constructed along this (overhead) line, and is looped in, this new station will be a TSO station as it will have two 110kV feeds, i.e. one from Killonan to Mountphilips and one from Mountphilips to Nenagh.

2.5. Following receipt of this advice, two further pre-application meetings were held with the prospective applicant, on the 19th December 2016 and on the 28th July 2017. During the course of these meetings further elements of the overall wind farm project were discussed including a possible dual ducting arrangement with another wind farm. However, this element was subsequently omitted. The prospective applicant is now seeking closure of the pre-application process.

3.0 **Proposed Development**

3.1. EcoPower Developments propose to:-

- **Substation** - Construct a new 110kV AIS substation (and compound) to facilitate the connection of the permitted Upperchurch Windfarm to the national grid. The site of the proposed substation is located at Mountphilips,

near Newport, Co. Tipperary, which is approx. 30km to the west of the permitted substation for the windfarm. Details of the proposed location of the new substation and compound, along with maps showing the geographical relationship with the permitted windfarm site, are provided with the request.

- **Underground cable** - Provide a 110kV underground cable connection between the permitted Upperchurch WF substation and the proposed Mountphilips substation. The cable route is stated to be approx. 27.5km in length and would run predominantly through agricultural lands (17.5km) or commercial forestry (10.9) with approx. 1km along public roads. The cable route is dominated by blocks of commercial forestry and passes close to a number of small settlements, (Upperchurch, Kilcommon, Rear Cross, Toor and Newport). The closest third party residential property to the site of the substation is 462m. The proposed cable route crosses the Silvermines Mountains E-W through the uplands known as the Slievefelim Complex and includes the Silvermines Mountains SPA (004165). The proposed route also crosses a number of rivers. Two of the crossing points, Mulkear River and Aughvaria River, are within the Lower River Shannon cSAC (002165).
- **Grid connection** - Connect the proposed substation to the Nenagh/Killonan 110kV overhead line by means of 2 no. underground cables. This requires the breaking of the overhead line and the erection of 2 no. lattice towers (end masts, 23m high). The proposed feeds from the substation would then be looped in to the end masts (one to each tower).
- **Access road** - Construct a new access road to the proposed substation (800m long) from the public road together with alterations to the existing site entrance.
- **Associated project works** - Carry out associated project works including new and realigned wind farm site access roads for transportation of turbines and internal cabling within the wind farm. It is also proposed to provide a new telecoms relay pole at Knockmaroe. It is proposed to carry out additional works to the temporary haul routes such as temporary groundworks, vegetation trimming and street furniture removal. The cable laying will

necessitate the felling of some forestry trees and it is proposed (as part of the felling licence) to replant forestry at Firoda Wood, Co. Kilkenny. However, it is uncertain whether all of these associated works will form part of the proposed development and some may be addressed by way of separate application. However, all of the associated works will be considered as part of the overall environmental impacts in the planning application.

4.0 Applicant's case

4.1. The prospective applicant's letter seeking closure of the process is seeking a SID determination on all five elements of the proposal, i.e. the 110kV substation, the 110kV underground cable, the new and realigned access roads, the internal wind farm cabling and the Knockmaroe telecoms relay pole. However, it was submitted that should the Board not be disposed to determine each individual element separately, a determination would be sought in respect of two scenarios, firstly, the substation and cable as one project, and secondly, all five elements as a single project.

4.2. The proposed substation and associated underground cable are considered to be strategic infrastructure development given that:

- The proposed 110kV substation and its directly associated 110kV underground cabling constitutes Section 182A development as defined in the Planning and Development Act 2000, as amended, which generally requires that applications for approval of "electricity transmission" proposals to be made directly to the Board;
- Reference is made to previous SID determination cases relating to 110kV substations and associated works which have been determined by the Board. The prospective applicant concluded that each case appears to have been decided on its merits, based on a range of factors including whether the proposal related to new elements of infrastructure or amendments to permitted elements. It was further noted that whilst S182A sets a threshold of 110kV for a high voltage electricity transmission line to be considered as a

SID, it was unclear as to whether this also applies to substations and their associated underground cabling.

- In terms of new electrical infrastructure, it is noted that the Board has previously determined that new substations with associated cabling to serve existing wind farms were determined to be SID. These decisions were in respect of VC0049 at Dulla, Co. Tipperary and VC0062 at Letter near Moycullen, Co. Galway. However, it was further noted that in respect of amendments to permitted wind farm development involving alterations to the permitted substation elements, the Board determined that these developments did not constitute SID. The cases referred to were VC0097 (Donegal) and VC0074 (Barnadivane, Co. Cork).

4.3 The opinion of the CER given to the Board with regard to the proposed development forming part of the transmission network was acknowledged and agreed. It was noted that S2(1) of the Electricity Regulation Act 1999 provides definitions of both “transmission” and “distribution” wherein it is stated that distribution relates to the conveying of electricity to final customers. As such, the prospective applicant agrees that the proposed development would form part of the transmission network.

4.4 In the opinion of the prospective applicant, both an EIA and AA will be required for the proposed works, and it is stated that an Environmental Impact Assessment Report and a Natura Impact Statement are nearing completion. An “Environmental Scoping Document” was issued to consultees in June 2017 and environmental mitigation measures and construction methodology have been the subject of discussion and liaison with the NPWS and Inland Fisheries Ireland in respect of watercourse crossings and potential impacts on hen harrier. It is stated that an EIAR/EIS will be prepared which will include full assessment of the realigned wind farm access roads, internal wind farm cabling and telecoms relay pole as well as considering other projects within its cumulative assessment. Although there is an acknowledgement that these latter elements would not, in themselves, be likely to constitute SID, it is considered that it would be expedient to include them within a single planning application.

5.0 **Legal Provisions**

5.1. Under section 182A(1) of the 2000 Act (inserted by section 4 of the 2006 Act) where a person, (thereafter referred to as the ‘undertaker’) intends to carry out development comprising or for the purposes of electricity transmission, (hereafter referred to in this section and section 182B as ‘proposed development’), the undertaker shall prepare, or cause to be prepared, an application for approval of development under section 182B and shall apply to the Board for such approval accordingly.

Subsection 9 states that

> In this section 'transmission' in relation to electricity, shall be construed in accordance with section 2(1) of the Electricity Regulation Act 1999 but, for the purposes of this section, the foregoing expression, in relation to electricity, shall also be construed as meaning the transport of electricity by means of
>
> (a) a high voltage line where the voltage would be 110 kilovolts or more, or
>
> (b) an interconnector, whether ownership of the interconnector will be vested in the undertaker or not.

In section 2(1) of the Electricity Regulation Act, 1999, "transmission" is defined as

> the transport of electricity by means of a transmission system, that is to say a system which consists, wholly or mainly, of high voltage lines and electric plant and which is used for conveying electricity from a generating station to a substation, from one generating station to another, from one substation to another or to or from any interconnector or to final customers but shall not include any such lines which the Board may, from time to time, with the approval of the Commission, specify as being part of the distribution system but shall include any interconnector owned by the Board.

"Distribution" is defined as

> "The transport of electricity by means of a distribution system, that is to say, a system which consists of electric lines, electric plant, transformers and switch gear and which is used for conveying electricity to final customers."

"Electric plant" is defined as:

> "any plant, apparatus or appliance used for, or for the purposes connected with, the generation, transmission, distribution or supply of electricity other than –
>
> (a) An electric line

(b) A meter used for ascertaining the quality of electricity supplied to any premises, or

(c) An electrical appliance under the control of a consumer."

6.0 Assessment

6.1. The Board will note previous decisions it has made on SI pre application consultation requests in relation to electricity transmission infrastructure under S.182E (including those cases referred to by the prospective applicants). Some of these cases related to the provision of new or additional substations with associated plant/cabling, (such as VC0049 and VC0062), and others involved amendments, additions and expansion of electricity substation infrastructure and overhead lines or underground cable routes, (such as VC0074, VC0097, VC0104, VC0110 and VC0112).

6.2. In the former cases, (**VC0049** at Dulla and **VC0062** at Letter), the Board determined that the provision of a new 110kV substation and associated overhead lines or underground cabling (110kv), which were to act as a node constituted Strategic Infrastructure. These determinations were made on the basis that the proposed development constituted electric plant for the conveying of electricity from a generating station to a substation and/or facilitating connection into the National Transmission Grid from a permitted/existing 110kV overhead line.

6.3. It should be noted that

VC0074 related to the relocation of a permitted substation at Barnadivane, Co. Cork, (associated with a permitted wind farm), some 500m to the southwest and to the facilitation of connection to the transmission network rather than constituting transmission infrastructure in its own right. The decision was that it did not constitute Strategic Infrastructure.

VC0097 related to a proposed substation and 33km length of underground cabling at Drumnalough and Lenlea Wind Farm, involving the replacement of two previously permitted substations, permitted as part of two wind farm developments, some 500m to the southwest. The decision was that it did not constitute Strategic Infrastructure.

VC0104 related to the amalgamation of two previously permitted 110kV substations and the associated laying of underground cables at Carrigdangan, Co. Cork. The decision was that it did not constitute Strategic Infrastructure.

VC0105 related to a revised substation design for a substation permitted as part of a wind farm at Cloosh, Co. Galway. The decision was that it did not constitute Strategic Infrastructure.

VC0110 related to the provision of a new Gas Insulated Switchgear substation within the existing substation compound at Ballybrit, Co. Galway. The decision was that it did not constitute Strategic Infrastructure.

VC0112 related to underground cabling connecting 2 no. existing substations to each other and then to the Transmission Network at Knocknamona Co. Waterford. The decision was that it did not constitute Strategic Infrastructure.

6.4. In the cases outlined at 6.3 above, the Board has exercised some discretion due to a lack of clarity in the interpretation of s.182A and its requirements in regard to such proposed developments, in that it has used the broad definition of the SI Act, “developments of strategic importance to the State”, and the criteria contained in s.37(A)(2) to determine such matters. In these instances, the Board took into account material considerations such as, whether the proposed substation was within the site boundary for the permitted wind farm; whether a substation had previously been permitted to serve the wind farm; and whether the later proposal related to matters such as replacement of the substation with a new substation or to the alteration of the design, layout or siting of the said substation. Thus a need, precedent and decision for the presence of a substation within the site had already been established.

6.5. A review of the cases referred to above revealed that, in such instances, the Inspectorate reports had generally noted that any detailed and specific planning issues arising from the proposed changes in respect of the proper planning and sustainable development of the area, and any associated environmental implications, could have been addressed in a subsequent application to the local authority for the area. It had further been submitted that this would obviate the need to reconsider whether the revised substation would be of strategic importance to the state requiring an application directly to the Board. Thus the Board, having regard to

the particular circumstances of each case, including the extant permission for a substation with the site boundary, to the scale and nature of the particular proposed development, to the stated purpose of the 2006 Act as set out in the long title, and to the general description and scale of strategic infrastructure development set out in section 37A(2), came to the conclusion that certain developments comprising extensions, alterations, refurbishment or replacement of existing or permitted 110kV infrastructure would not constitute SID.

6.6 Substation, grid connection and access road

6.6. In the Mountphilips case that is currently before the Board, a new AIS substation and ancillary works are being proposed which are remote from the permitted substation infrastructure on the wind farm site and are outside the site boundary for the windfarm. Thus a need, precedent or role for the presence of a substation in the Mountphilips location has not previously been established. The stated purpose for the proposed works including connection of significant amounts of wind energy generated in the region to the national grid and to serve the local area securely is considered of some strategic importance. The proposed substation would act as a node on the transmission system whereby the electricity generated by the wind farm would be fed into the substation at 110kV, the existing 110kV line would also feed into the substation and there would be a further feed back into the Killonan to Neneagh overhead line.

6.7. The previous Inspector's report regarding Mountphilips (VC0098) addressed this issue in Sections 7.4 and 7.5. The Inspector concluded that the proposal constitutes SID on the basis that it relates to the "transmission" of electricity by means of a high voltage line (110kV) and that the proposed substation, although not necessarily SID in itself, forms part of the overall grid connection (conveying electricity at 110kV). I do not propose to repeat the analysis provided in the previous Inspector's report but wish to state that I am generally in agreement with the conclusions reached, notwithstanding the fact that further information on certain matters has since come before the Board, as outlined above.

6.9 Underground cabling

6.8. The proposed underground cable connecting the permitted windfarm to the proposed substation at Mountphilips could be considered to be exempted development under

Class 26, Schedule1, Part 2 of the P&D Regulations 2001, as amended. This Class provides an exemption for

> "the carrying out by any undertaker authorised to provide an electricity service of development consisting of the laying underground of mains, pipes, cables or other apparatus for the purposes of the undertaking"

6.11 I note that "electricity undertaking" is defined in Section 2(1) of the Electricity Regulation Act, 1999 as

> "any person engaged in generation, transmission, distribution or supply of electricity, including any holder of a licence or authorisation under this Act or any person who has been granted a permit under section 37 of the Principal Act".

Thus whilst it is unclear at present who would be the undertaker, the exemption would still apply. Notwithstanding this, however, there is no exemption where either Environmental Impact Assessment or Appropriate Assessment is required in accordance with Article 9(1)(a) of the P & D Regulations, 2001 as amended. As previously noted, the c.30km cable route runs through the following European sites:

Slievefelim to Silvermines Mountains SPA 004165

Lower River Shannon SAC 002165.

6.12 The issue of Appropriate Assessment would, therefore, arise in relation to this element of the proposed development, which would remove any exemption under Class 26 of the Regulations, and as such, planning permission would be required. Thus it is considered that in this instance, the proposed 110kV cable route, in conjunction with the proposed 110kV substation, constitute Strategic Infrastructure Development in accordance with S182A of the Act.

6.13 Associated works

The remainder of the works, namely realignment of delivery routes and haul routes, internal cabling and a telecoms relay pole, could generally be considered to form revisions and/or refinements of the original wind farm proposal granted under PL22.243040. It is considered that these works should form a separate application to the planning authority for revisions to the original windfarm application.

6.14 Environmental Impact Assessment

It should be noted at the outset that an EIS is not mandatory for proposed development under Section 182 of the Act. I note that this matter has been comprehensively addressed in the previous Inspector Report on VC0098, Section 7.3. The Inspector had concluded that the proposed development would not come within a class of development set out in Schedule 5 of the Planning and Development Regulations 2001, as amended. The prospective applicant had expressed a similar view in the initial letter of request, but had also sought advice on whether an EIS was required. Notwithstanding this, the prospective applicant has advised in the letter seeking closure of the process that an EIAR/EIS has been prepared which will include all elements of the project. It is further submitted that there is a formal process for scoping for an EIS. The applicant has been advised that an EIAR should have regard to the cumulative effects with the permitted wind farm.

6.15 Conclusion

I consider that the proposed development as described in the submissions and drawings, constitute strategic infrastructure. I conclude that the proposed development consisting of a new 110kV Air insulated switchgear (AIS) substation, 110kV underground cable, interface masts, alterations to existing site entrance and associated works at Mountphilips, Co. Tipperary falls within the scope of section 182A of the Planning and Development Act 2000, as amended necessitating an application direct to the Board.

7 Recommendation

I recommend that EcoPower be informed that the proposed development consisting of a new 110kV air insulated switchgear (AIS) substation and site compound, 110kV underground cable, interface masts, alterations to existing site entrance and associated works at Mountphilips, Co. Tipperary as set out in the plans and particulars received by An Bord Pleanála on the 28th July 2017 falls within the scope of section 182A of the Planning and Development Act 2000, as amended, and that a planning application should be made directly to the Board.

Mary Kennelly
Senior Inspector

14th December 2017

Appendix 3.1.8

Our Ref: 22.VC0098
P.A.Reg.Ref:

Your Ref: Ecopower Developments

An Bord Pleanála

Jimmy Green
McCarthy Keville O'Sullivan Ltd.
Block 1, G.F.S.C.
Moneenageisha Road
Galway

McCarthy KOS
Received on
12 JAN 2018
160431
Colm Harte

11th January 2018

Re:
110kV Electrical Substation,
Mountphillips, Newport, Co. Tipperary.

Dear Sir,

Please be advised that following consultations under section 182E of the Planning and Development Act, 2000, as amended, the Board hereby serves notice that it is of the opinion that the proposed development falls within the scope of section 182A of the Planning and Development Act, 2000 as amended. Accordingly, the Board has decided that the proposed development would be strategic infrastructure within the meaning of section 182A of the Planning and Development Act, 2000, as amended. Any application for approval for the proposed development must therefore be made directly to An Bord Pleanála under section 182A(1) of the Act.

Please also be informed that the Board considers that the pre-application consultation process in respect of this proposed development is now closed. Please find enclosed a copy of the relevant prescribed bodies in respect of any planning application and a copy of the Board Direction dated the 5th January, 2018.

In accordance with section 146(5) of the Planning and Development Act, 2000, as amended, the Board will make available for inspection and purchase at its offices the documents relating to the decision within 3 working days following its decision. This information is normally made available on the list of decided cases on the website on the Wednesday following the week in which the decision is made.

Overleaf contains information in relation to challenges to the validity of a decision of An Bord Pleanála under the provisions of the Planning and Development Act, 2000, as amended.

If you have any queries in relation to the matter please contact the undersigned officer of the Board.

Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

Kieran Somers

Kieran Somers
Executive Officer
Direct Line:01-8737107

Encls.

ADHOC/VC0098/03

Teil (01) 858 8100
Glao Áitiúil 1890 275 175
Facs (01) 872 2684
Láithreán Gréasáin www.pleanala.ie
Ríomhphost bord@pleanala.ie

64 Sráid Maoilbhríde
Baile Átha Cliath 1
D01 V902

64 Marlborough Street
Dublin 1
D01 V902

Judicial review of An Bord Pleanála decisions under the provisions of the Planning and Development Act, 2000, as amended

A person wishing to challenge the validity of a Board decision may do so by way of judicial review only. Sections 50, 50A and 50B of the Planning and Development Act 2000 (as substituted by section 13 of the Planning and Development (Strategic Infrastructure) Act 2006, as amended/substituted by sections 32 and 33 of the Planning and Development (Amendment) Act 2010 and as amended by sections 20 and 21 of the Environment (Miscellaneous Provisions) Act 2011) contain provisions in relation to challenges to the validity of a decision of the Board.

The validity of a decision taken by the Board may only be questioned by making an application for judicial review under Order 84 of The Rules of the Superior Courts (S.I. No. 15 of 1986). Sub-section 50(6) of the Planning and Development Act 2000 requires that subject to any extension to the time period which may be allowed by the High Court in accordance with subsection 50(8), any application for judicial review must be made within 8 weeks of the decision of the Board. It should be noted that any challenge taken under section 50 may question only the validity of the decision and the Courts do not adjudicate on the merits of the development from the perspectives of the proper planning and sustainable development of the area and/or effects on the environment. Section 50A states that leave for judicial review shall not be granted unless the Court is satisfied that there are substantial grounds for contending that the decision is invalid or ought to be quashed and that the applicant has a sufficient interest in the matter which is the subject of the application or in cases involving environmental impact assessment is a body complying with specified criteria.

Section 50B contains provisions in relation to the cost of judicial review proceedings in the High Court relating to specified types of development (including proceedings relating to decisions or actions pursuant to a law of the state that gives effect to the public participation and access to justice provisions of Council Directive 85/337/EEC i.e. the EIA Directive and to the provisions of Directive 2001/12/EC i.e. Directive on the assessment of the effects on the environment of certain plans and programmes). The general provision contained in section 50B is that in such cases each party shall bear its own costs. The Court however may award costs against any party in specified circumstances. There is also provision for the Court to award the costs of proceedings or a portion of such costs to an applicant against a respondent or notice party where relief is obtained to the extent that the action or omission of the respondent or notice party contributed to the relief being obtained.

General information on judicial review procedures is contained on the following website, **www.citizensinformation.ie.**

Disclaimer: The above is intended for information purposes. It does not purport to be a legally binding interpretation of the relevant provisions and it would be advisable for persons contemplating legal action to seek legal advice.

An Bord Pleanála

Board Direction

Ref: 22.VC0098

At a meeting held on 4th January 2018, the Board considered the report of the Senior Planning Inspector, the earlier report of the initial inspector (Juliet Ryan) as well as the documents and submissions on file.

The Board determined that the proposed development (substation and associated works and 110 kV underground grid connection) is strategic infrastructure, generally in accordance with the inspector's reasoning and recommendation.

Note: the Board also noted and concurred with the Inspector's report (paragraph 6.13) whereby she recommends that the 'associated works' relating to the permitted windfarm ought to be subject to a separate planning application to the local authority.

List of Statutory Consultees: SIDs section to prepare based on recommendation of report dated July 2016. Please consult with the undersigned if necessary.

Please issue a copy of this Board Direction with the letter.

Board Member: _____ Date: 5th January 2018

Conall Boland

22.VC0098

The following is a schedule of prescribed bodies considered relevant:

- Minister for Culture, Heritage and the Gaeltacht (NPWS)
- Minister for Communications, Climate Action and Environment
- Tipperary County Council
- Transport Infrastructure Ireland
- An Taisce
- The Heritage Council
- Inland Fisheries Ireland
- The Commission for Energy Regulation
- Health Service Executive
- Environmental Protection Agency
- IDA Ireland
- Irish Water
- Waterways Ireland
- Coillte
- Office of Public Works

Appendix 3.2: Consultations with Statutory Bodies & Other Parties

Appendix 3.2 Document	Order of Documents	Relevant EIA Report
A3.2.1	Official Consultation Response from IFI (Mr. Michael Fitzsimons, Senior Fisheries Environmental Officer, May 2016)	UWF Grid Connection UWF Related Works UWF Replacement Forestry
A3.2.2	Official Consultation Response from DAU (Mr. Michael Murphy, October 2016)	
A3.2.3	Consultation Response from Kilkenny County Council	
A3.2.4	Consultation Response from Southern Assembly	
A3.2.5	Consultation Response from Department of Arts Heritage and the Gaeltacht	
A3.2.6	Consultation Response from the Health Service Executive	
A3.2.7	Consultation Response from Transport Infrastructure Ireland	
A3.2.8	Consultation Response from Fáilte Ireland	
A3.2.9	Consultation Response from Irish Peatland Conservation Council	

Mr Howard Williams,
Inís Environmental Consultants Ltd.,
Suite 18, Shannon Commercial Properties,
Information Age Park,
Gort Road,
Ennis, County Clare.

Iascach Intíre Éireann
Inland Fisheries Ireland

27 May, 2016.

Re-Proposed Crossing Methodologies to be used by Ecopower in respect of the UpperChurch Grid Connection Project.

Dear Mr Williams.
I refer to our site inspections on 19 May, 2016 in respect to the above. A number of photographs were taken in relation to the different types of crossing. The photographs, reproduced below are accompanied with recommendations as to the type of crossing methodology that should be employed.

The fundamental driver is to minimise disruption of the aquatic habitat and the immediate riparian habitat. In terms of the aquatic habitat the main potential impact is the generation of silt. This is particularly the case in "open cut" crossings and it could be a knock-on effect on bands of spawning gravel and small fish in particular.

Currently the open season, in waters of "fisheries importance", for in-stream works has been reduced to July, August and September. This is a very tight window. Where it is applicable it is therefore desirable to get infrastructure in place during the open season. This of course does not apply to directional drilling operations it can be done at any time as they are unlikely to interfere with surface waters. The main item with directional drilling is the safe disposal of water which has been used as a lubricant and is carrying significant quantities of silt and debris.

The details in relation to the specific crossings that were inspected are as follows.

Photo 1. 34 W. This is U/S an old farm bridge using two 600 mm approx. concrete pipes. These pipes are too small. There woody debris on the upstream side and the apparent erosion of riverbank indicate that significant blockage of the pipes has occurred. If this bridge is being replaced IFI recommends that a box culvert should be the first choice alternatively large diameter pipes 1.2 m – 1.5 m should provide sufficient conveyance. Generally fisheries recommend between 300mm and 500mm embedment. In a small stream such as we have here probably 300

If the existing bridge is being replaced this would be an ideal location to either divert the channel off from the right bank or, depending on weather conditions, to have a pump over facility. In the event

IIE Luimneach, Páirc Gnó Cill Dhéagláin, Bóthar an Duga, Luimneach.
IFI Limerick, Ashbourne Business Park, Dock Road, Limerick.
+ 353 (0)61 300238 - limerick@fisheriesireland.ie - www.fisheriesireland.ie

of a pump over sandbags, containing washed sand could be used to form a dam to divert water into a prepared temporary channel. Alternatively a pump over system could be established. At all times a suitable splash plate should be in position downstream to ensure that energy dispersal from the waterjet is assured.

If a diversion channel is put in the channel should be lined with Teram, pinned to the banks, and a layer of crushed rock or round washed stone on the bed. There may be a requirement for electro-fishing of the area in between the sandbag dams upstream and downstream. The necessity for this can be determined on site. Prior to closing off the temporary bypass channel electro-fishing should take place so as to remove any fish in the temporary channel.

Photo 2. W34.
It is possible to discern the two relatively small diameter pipes currently used at this bridge. The section of concrete block wall in the left foreground is close to a state of collapse. On completion of the bridge or the directional drilling it would be desirable to use some small rock armour to delineate and tighten the river. It should be done both upstream and downstream

Photo 3. W35a.

This is a photo taken at W35a. This is on the right-hand side of an old bridle path (as you head north). There is very little flow here and no fisheries interest. A pump over and open cut operation would be ideal at this location. It would appear that no particular mitigation measures are required. Equally a directional drilling to go under this watercourse, the bridle path and watercourse W35 on the far side would be ideal.

Photo 4. W35.
This is the small watercourse to the left of the bridle path. There is gravel eminently suitable for trout spawning. At higher flows small trout would spawn in this River and juveniles might still be present.

If an open cut was proposed the area will need to be checked for the presence of fish which would need to be removed.

Directional drilling should not cause any problems and can be done at any season.

Photo 4. W36.
This is a larger watercourse circa 2 m in width. It is anticipated that directional drilling would take place at or beside the clump briars at this location on the left bank.
The woodland area would probably easily absorb soiled water from the directional drilling operation. The discharge would need to be monitored to ensure that direct discharges at another location do not take place.
Directional drilling can be done at any time
Dry gravel bank.

If flow levels are low and this season for in stream crossings is still open it should be possible to carry out an open cut and pump over. Ideally the backfill should be tamped to within say 8 inches of the bed level. It should then be filled over with river gravel and the dry bank of gravel shown on the right-hand side would be very suitable. The gravel can be removed down to 6 inches above water level at this location.

Photo 5. W34a.
This is a small watercourse that was identified as we were leaving this area.

It appears that there is a small amount of flow on the left-hand channel. The flow is seasonal. There is evidence of erosion under the pipes.
IFI recommend that after the cable is laid that the bed is backfilled with crushed rock to a point level with the lowest pipe.

It may also be necessary to put small amount of light cobble as rock armour against the clay banks on either side.
If this bridge is being replaced a 900mm diam. pipe would be the minimum requirement.

Photo 6. W33.
This is a directional drilling site going through bed rock under the Mulkear River.
On the left bank exposed fractured bedrock could be observed. This may be limestone or it could be a mudstone.

It is anticipated that this riffle area is being caused by bedrock.
The long pool upstream of this riffle is likely to be an important salmon resting area. It would be important to try and have this directional drilling completed before the run of salmon. Noise and vibration could disturb these fish.

Photo 6 a. W33.
This is a clearer photo showing the fractured bedrock on the left bank and the Riffle caused by the bed rock

Photos 7 & 8. W32.

These two photographs show a shallow watercourse with very sandy bottom. It is unlikely that this particular watercourse is of fisheries importance. However, applying the precautionary principle an inspection preferably using an electro-fishing gear should be undertaken.

It is likely that this would be crossed using an open cut method. At the location of the cut on both banks but particularly on the high left-hand bank rock armor should be bedded back into the exposed cut and along the foot of the bank upstream and downstream.

Yellow line shows typical open cut direction. Lower sections of the bank should be rock armoured especially as the soil is friable in this area.

Red arrows indicate placement of rock armor upstream and downstream

Conclusion.

The open cut options discussed will be time-dependent in terms of the open season for in stream works. The main thrust of the discussions centred on the prevention of pollution particularly from silt. Also the feasibility of the various options at the different crossing points was discussed. The selection of crossing points was typical of those to be found along the route.

IFI considers that all the crossings are possible during the open season. And directional drilling will facilitate crossing under any watercourse at any time. Main drawback will be the disposal of soiled water used for lubrication and grit removal from the drill line.

More detailed methodologies can be drafted prior to work commencing. Should you require further clarification on any point please do not hesitate to contact me.

Yours sincerely

Michael Fitzsimons

Michael Fitzsimons
pgDip, MSc, LLB(*Hons*), MCIWEM, C.WEM.
Senior Fisheries Environment Officer.

An Roinn Ealaíon, Oidhreachta,
Gnóthaí Réigiúnacha, Tuaithe agus Gaeltachta

Department of Arts, Heritage,
Regional, Rural and Gaeltacht Affairs

28 October 2016 **Our Ref:** G Pre00048/2016

Mr Howard Williams,
INIS Environmental Consultants Ltd
Suite 11
Shannon Commercial Properties
Information Age Park
Gort Road
Ennis
County Clare

Re: Pre-planning notification Reg. Ref. No. G Pre00048/2016 by Inis Environmental Consultants: Preparation of an Ecology report etc for proposed grid connection at Mountphillips, Co Tipperary

A Chara,

I refer to your pre-planning enquiry in relation to the preparation of an ecology report etc for the proposed grid connection at Mountphillips, Co Tipperary

I can confirm that those documents submitted were assessed by NPWS and that following your meeting with Divisional Staff of NPWS that the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs has no further observations regarding nature conservation considerations.

These recommendations are based on the papers submitted to this Department on a pre-planning basis and are made without prejudice to any decision the Minister may take upon sight of a formal planning application.

Is mise le meas,

Michael Murphy,
Development Applications Unit
Tel: (053) 911 7516

Comhairle Chontae Chill Chainnigh
Halla an Chontae, Sráid Eoin, Cill Chainnigh, R95 A39T.

Kilkenny County Council
County Hall, John Street, Kilkenny, R95 A39T.

Fónamh don Phobal - Caomhnú don Oidhreacht
Serving People – Preserving Heritage

5th July, 2017

Our Ref.IR 467

Julie Brett,
Ecopower Developments,
Zetec House,
Purcellsinch
IDA Business Park,
Kilkenny

Re.: Response to Scoping Document submitted on 6th June 2017 as part of pre-planning consultation process for Upperchurch Windfarm (UWF) Related Works

A Chara,

I refer to your correspondence of 6th June 2017 in regard to the above and wish to comment as follows:-

The applicant shall formally consult inter-alia the following bodies:

- National Parks and Wildlife Service of the Department of the Environment
- National Monuments Section of the Department of the Environment
- Inland Fisheries Ireland
- An Taisce

Kilkenny County Council's comments relate only to the development works located within the County Kilkenny administrative boundary; it is considered that as the substantive area of works are not located within County Kilkenny, that this Planning Authority is not deemed as the appropriate body to the overall and cumulative impacts of the complete development.

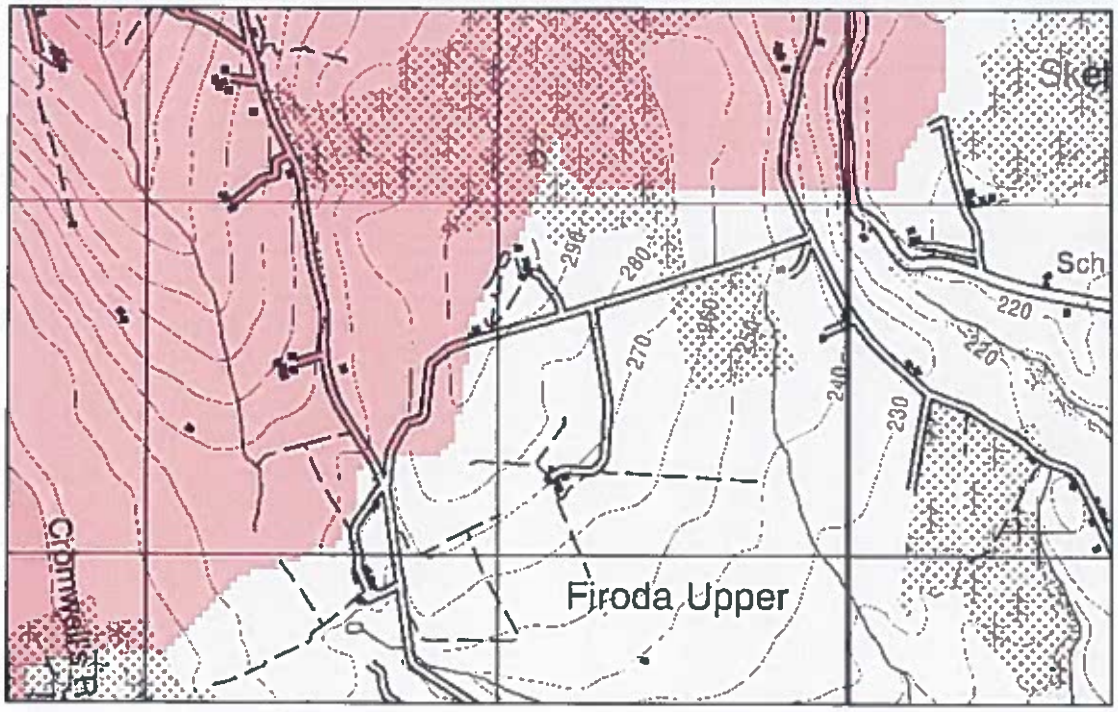
The Environment Section has advised as follows:

It would appear that the only aspect of the proposed development which would be likely to have any significant impact within Kilkenny County Council's functional area is the afforestation of lands at Firoda Wood, Firoda Upper. The woods would appear to be located within the protected catchment of the River Nore Freshwater Pearl Mussel – see sketch overleaf highlighting the extent of the catchment at the area of interest.

Freshwater Pearl Mussels are very sensitive to water pollution and in particular silt or sediment in the waters. This will need to be addressed as part of the Environmental Impact Assessment. It would appear that the location of the afforestation (being a compensatory measure for felling elsewhere) is somewhat discretionary. The assessment should in the

first instance consider alternative locations. Where other locations are not feasible, the assessment will need to assess the proposal in line with the Forestry Service document *Forestry and Freshwater Pearl Mussel Requirements – Site Assessment and Mitigation Measures.*

Apart from the above, the Environmental Impact Assessment should obviously comply with all statutory requirements under Environmental Impact Assessment legislation as well as having full regard to the EPA's general guidance on preparing Environmental Impact Statements.



Extent of River Nore Pearl Mussle Area Highlighted in Red

Additional Considerations:
The entrance to the lands at Firoda would need to be assessed fully as an entrance to serve a forestry land use, including adequate sightlines and would require planning permission.

Archaeology
It appears that there are two recorded monuments within the area proposed for planting:

- KK005-007 Enclosure
- KK005-006 Enclosure

Legislation:
Circular Letter PL 1/2017, dated 15th May 2017 *Implementation of Directive 2014/52/EU in the effects of certain public and private projects on the environment (EIA Directive) – Advice on Administrative Provisions in Advance of Transposition* requires that:
Where the screening for EIA has commenced prior to 16 May 2017 and is carried out in accordance with Directive 2011/92/EU, but the application for planning permission or other

development consent and accompanying EIS, where EIA is determined to be required, is submitted on or after 16 May 2017, the application will fall to be dealt with in accordance with Directive 2014/52/EU.

Therefore the applicant is advised to fully comply with the requirements of Directive 2014/52/EU on the effects of certain public and private projects on the Environment (EIA Directive) and any resulting amendments to the Planning and Development Act 2000 as amended and the Planning and Development Regulations 2001-2015 to provide for the transposition of the Directive into the Irish planning code. The applicants should also comply with any the requirements of the 'Guidelines for Planning Authorities and An Bord Pleanala on carrying out Environmental Impact Assessment' and any updates subsequent to the above Directive.

Is mise le meas,

Annette Fitzpatrick,
Administrative Officer,
Planning.

Tionól Réigiúnach an Deiscirt

Teach an Tionóil,
SráidUiChonaill,
PórtLáirge,
Éire.

Tionól Réigiúnach an Deiscirt
Southern Regional Assembly

Ag cur chuncinnárRéigiúin
Promoting our Region

Southern Regional Assembly

Assembly House,
O'Connell Street,
Waterford,
Ireland.

Ecopower Developments Limited.
Zetec House,
Purcellsinch IDA Business Park,
Kilkenny.

6ú Iúil, 2017.

A Chara,

Consultation on EIA Scoping for a planning application for related works at Upperchurch Windfarm, Co. Tipperary.

Further to your correspondence of 1st June, 2017, the Southern Regional Assembly sets out below its observations on the Scoping Document for the Environmental Impact Assessment Report (EIA Report) under preparation in respect of a planning application for related works at Upperchurch Windfarm, Co. Tipperary.

Purpose of proposed EIA Scoping exercise

It is noted that the purpose of the correspondence is to request input into the EIA Scoping exercise with regard to additional matters that are not already scoped for examination to be considered for inclusion in the Environmental Impact Assessment Report (EIA Report)

Description of proposed works to which the EIA Scoping relates.

The EIA Scoping to be carried out is for 'related works' at Upperchurch Windfarm, Co. Tipperary. It is noted that these works have been summarised on page 4 of the scoping document as consisting of:-

- Mountphillips 110kv substation
- Mountphillips – Upperchurch 110kv underground cable
- Internal windfarm cables
- New or re-aligned site access roads
- Knockmore relay pole
- Haul route related works
- Firoda Wood forestry re-planting in Firoda Upper townland, Co. Kilkenny

It is further noted on page 1 of the scoping report states that planning permission for the windfarm itself at Upperchurch, Co. Tipperary has already been granted. (An Bord Pleanála Reg. Ref. PL22.243040 – Bord Direction to Grant permission on 6th August, 2014)

Tionól Réigiúnach an Deiscirt

Teach an Tionóil,
SráidUíChonaill,
PórtLáirge,
Éire.

Tionól Réigiúnach an Deiscirt
Southern Regional Assembly

Ag cur chuncinnárRéigiúin
Promoting our Region

Southern Regional Assembly

Assembly House,
O'Connell Street,
Waterford,
Ireland.

Additional matters recommended to be considered in the EIA Scoping process.

In preparation of the final Scoping Report it is recommended that the following matters be considered in the course of the EIA scoping process. It is recommended that EIA Scoping Document should take account of the relevant Regional Planning Guidelines for the subject area, which is principally in Co. Tipperary, with the haul route through County Limerick and a small area of forestry re-planting in Co. Kilkenny.

The **Mid-West Regional Planning Guidelines 2010-2022** sets out the Regional Strategic Framework for the Mid-West Strategic Planning Area (SPA) consisting of Counties Clare, Limerick and Tipperary and the **South-East Regional Planning Guidelines 2010-2022** sets out the Regional Strategic Framework for the South-East Strategic Planning Area (SPA) including Co. Kilkenny.

In particular the Section on Renewable Energy (section 6.6.1) in the **Mid-West Regional Planning Guidelines 2010-2022** is highlighted for your consideration and is set out below:-

Development Plan Implications (Renewable Energy)
It is not the function of these guidelines to set precise requirements for this provision.
However, in general, favourable consideration should be given to such proposals provided that:
• Consideration has been given to the environmental and social impacts of the proposed development through the processes of SEA and HDA and development is not permitted if such assessments indicate a negative impact on a European site;
• The impact of the development on the landscape has been given due consideration in accordance with the National Guidelines on wind energy development or other such guidelines for other forms of renewable energy development, and;
• Connection to and reinforcement of the National Grid has been taken into account and appropriate consent acquired or likely to be acquired.
In addition, all Development Plans should identify the areas within which renewable energy proposals of a particular type will be given favourable consideration or otherwise. Where adjoining Planning Authorities control a specific geographical unit jointly, the appropriateness of renewable energy developments of different types within that geographic unit should be considered jointly by the Planning Authorities. A common approach is necessary and adopted Guidelines setting out the basis on which such areas are identified should be developed in consultation with the Sustainable Energy Authority of Ireland (SEAI) and adjacent counties in other regions, as renewable energy developments may often traverse county and regional boundaries.

Requirements Emerging from SEA/HDA
Areas that contain or are designated as Natura 2000 sites are also liable to exhibit some of the technical characteristics that would permit the generation of wind energy.
No policies should be adopted or permission granted for developments liable to impact on a Natura 2000 site unless and until an Extended HDA has concluded that the proposed development would not have a negative impact on such a site or that mitigation measures which would eliminate such impacts can be identified and applied.

Tionól Réigiúnach an Deiscirt

Teach an Tionóil,
SráidUíChonaill,
PórtLáirge,
Éire.

Tionól Réigiúnach an Deiscirt
Southern Regional Assembly

Ag cur chuncinnárRéigiúin
Promoting our Region

Southern Regional Assembly

Assembly House,
O'Connell Street,
Waterford,
Ireland.

The Strategic Environmental Assessment (SEA) of the Regional Planning Guidelines listed above should also be consulted for additional baseline data.

These observations relate to regional planning policy only as expressed in the Regional Planning Guidelines and the observations of relevant national and local Agencies and Government Departments should also be sought. In this regard, the extensive list of consultees at Scoping Table 1.1 is noted.

I trust the above will be of assistance in the scoping process for the EIA Report to be prepared ion relation to the proposed development.

Please do not hesitate to contact Dominic Walsh, Regional Planning Officer, should you wish to discuss the observations set out above.

Is mise le meas,

Stephen Blair,
Director, Southern Regional Assembly.

An Roinn
Ealaíon, Oidhreachta agus Gaeltachta
Department of
Arts, Heritage and the Gaeltacht

14 May 2016 **Ref:** G Pre00048/2016

CÓILÍN Ó DRISCEOIL
Managing Director
Kilkenny Archaeology
12 Parliament street
Kilkenny City

Pre-planning notification Proposed grid connection for Upperchurch and Mountphilips, Co Tipperary

A Chara,

I refer to your correspondence in relation to the above proposed development. Outlined below are the archaeological recommendations of the National Monuments Service (NMS) of the Department of Arts, Heritage and the Gaeltacht.

The information provided was not sufficiently detailed to allow for a full assessment of the archaeological implications of this proposal, however the NMS notes that Kilkenny Archaeology Ltd has been retained to carry out the Archaeological Impact Assessment as part of the Cultural Heritage Assessment of the proposed development (as per the requirements of). In this regard the NMS awaits the results of the Cultural Heritage Assessment before commenting further.

In terms of more general archaeological advice, please note that, while the proposed development site (PDS) may or may not contain within it a number of known Recorded Monuments and/or Archaeological sites that will be assessed as part of the overall Cultural Heritage Assessment, the PDS itself is located within a wider area of known archaeological settlement and activity (NMS initial review of the Record of Monuments and Places, www.archaeology.ie and cartographic sources). All of these Recorded Monuments, both within and outside the PDS, are subject to statutory protection in the Record of Monuments and Places, established under section 12 of the National Monuments (Amendment) Act 1930-2004. In light of this, this office would have concern in relation to any piecemeal and gradual extension of wind turbine development in this area without the adequate assessment of its effect on the wider archaeological landscape. In this respect it should be noted that prehistoric monuments such as Standing Stone Alignments, Standing Stone Rows, Single Standing Stones, as well as some megalithic tombs, are often aligned with physical features in the landscape and/or solar or lunar events. As a result, the erection of any pylons/masts and or additional turbines may have a negative visual impact on such monuments and may diminish or interrupt alignment views and alter key aspects of their original function and layout. It is in this regard that the Department would strongly recommend that such visual impacts be fully assessed as part of the Cultural Heritage Assessment.

Kindly forward any further queries/information to manager.dau@ahg.gov.ie; if this is not possible, correspondence may alternatively be sent to:

The Manager, Development Applications Unit, Department of Arts, Heritage and the Gaeltacht, Newtown Road, Wexford

Is mise le meas,

Michael Murphy

Michael Murphy,
Development Applications Unit
Tel: (053) 911 7516

Environmental Health Service,
Health Service Executive,
Mid-Western Area,
Civic Offices,
Limerick Road Nenagh,
Co Tipperary, Ireland.

Tel: 00353 (0)67 46601
Fax: 00353 (0)67 46620
Website: http://www.mwhb.ie

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive
3rd July 2017

Ms Julie Brett
EIA Co-ordinator
Ecopower Developments Ltd
Zetec House
Purcellsinch IDA Business Park
Kilkenny
Ireland

EHIS Ref: 0631

Re: Planning Application for Upperchurch Windfarm Related Works

Dear Ms Brett,

Please find below the HSE consultation report in relation to the above proposal.

The following HSE departments were made aware of your Scoping document consultation request for the proposed development on 06-07-2017

- Emergency Planning – Paschal Diviney
- Estates – Helen Maher, Estates Manager – Environmental Services
- Assistant National Director for Health Protection – Kevin Kelleher / Marie Woods
- CHO Manager – Bernard Gloster

Environmental Health Report

• The report is based (solely) on an assessment of documentation/information submitted to the HSE on 06/06/2017

• This report refers only to those sections of the documentation/information which are relevant to the HSE.

The Environmental Health Service recommends that all environmental impacts shall be assessed;

In particular, we request that environmental impacts assessed include;

1. Details of Public Consultation
2. Noise
3. Ground Water and Surface Water Protection in particular during construction
4. Shadow Flicker

All correspondence or any queries with regard to this report including acknowledgement of this report should be forwarded to Anne Moriarty PEHO, HSE West, Civic Offices, Nenagh, Co. Tipperary.

Yours sincerely,

pp Alison Cleary, SEHO

Anne Moriarty
Principal Environmental Health Officer

ECOPOWER
DEVELOPMENTS

Ecopower Developments Limited
Zetec House, Purcellsinch IDA Business Park, Kilkenny, Ireland
Tel: 056 775 0140 • E-mail: office@ecopower.ie

Anne Moriarty
Principle Environmental Health Officer
HSE West
Civic Offices Nenagh
County Tipperary

10th July, 2017

Re: EHIS 0631 - Response to EIS Scoping relating to Upperchurch Windfarm Related Works

Dear Anne

I received your response to our consultation document, dated 3rd July, 2017. I note that our document has been passed on to other relevant parties within the HSE also and, thank you for that.

I confirm that regard shall be had to the Environmental Health Service recommendations for the EIA Report, namely that all environmental impacts should be assessed and in particular the assessment should include;

- Details of Public Consultation
- Noise
- Ground Water and Surface Water Protection in particular during construction
- Shadow Flicker. In relation to shadow flicker please note that the windfarm itself has already received planning permission – the Related Works will facilitate the construction and operation of the windfarm i.e. grid infrastructure, road re-alignment works, communications infrastructure, forestry replanting and internal cabling. The assessment will include cumulative impacts with the consented windfarm. However there is no potential for shadow flicker from the related works subject of this application.

Thank you for taking the time to respond,

Julie Brett
M: 086 8312 014 - T: 056 7750 140 (ext. 207)

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

Ms. Julie Brett (EIA Co-ordinator)
Ecopower Developments Limited
Zetec House
Purcellsinch
IDA Business Park
Co. Kilkenny

Dáta | Date	Ár dTag | Our Ref.	Bhur dTag | Your Ref.
15 June 2017	**TII17-97929**	

RE: EIS Scoping relating to Proposed Wind Farm at Upperchurch, Tipperary

Dear Ms. Brett,

With reference to your correspondence of 1 June 2017 regarding a wind farm at Upperchurch, Co. Tipperary, Transport Infrastructure Ireland (TII) wishes to advise that it is not in a position to engage directly with planning applicants in respect to proposed developments. TII will endeavour to consider and respond to planning applications referred to it given its status and duties as a statutory consultee under the Planning Acts. The approach to be adopted by TII in making such submissions or comments will seek to uphold official policy and guidelines as outlined in the Spatial Planning and National Roads Guidelines for Planning Authorities (DoECLG, 2012). Regard should also be had to other relevant guidance available at www.TII.ie.

The issuing of this correspondence is provided as best practice guidance only and does not prejudice TII's statutory right to make any observations, requests for further information, objections or appeals following the examination of any valid planning application referred.

With respect to EIS scoping issues, the recommendations indicated below provide only general guidance for the preparation of EIS, which may affect the National Roads Network.

The developer should have regard, inter alia, to the following;

- Consultations should be had with the relevant local authority/National Roads Design Office with regard to locations of existing and future national road schemes,
- TII would be specifically concerned as to potential significant impacts the development would have on the national roads network (and junctions with national roads) in the proximity of the proposed development.
- The developer should assess visual impacts from existing national roads,
- The developer should have regard to any Environmental Impact Statement and all conditions and/or modifications imposed by An Bord Pleanála regarding road schemes in the area. The developer should in particular have regard to any potential cumulative impacts,

- The developer, in conducting Environmental Impact Assessment, should have regard to TII Publications (formerly DMRB and the Manual of Contract Documents for Road Works),
- The developer, in conducting Environmental Impact Assessment, should have regard to TII's Environmental Assessment and Construction Guidelines, including the Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes (National Roads Authority, 2006),
- The EIS should consider the Environmental Noise Regulations 2006 (SI 140 of 2006) and, in particular, how the development will affect future action plans by the relevant competent authority. The developer may need to consider the incorporation of noise barriers to reduce noise impacts (see Guidelines for the Treatment of Noise and Vibration in National Road Schemes (1st Rev., National Roads Authority, 2004)),
- It would be important that, where appropriate, subject to meeting the appropriate thresholds and criteria and having regard to best practice, a Traffic and Transport Assessment (TTA) be carried out in accordance with relevant guidelines, noting traffic volumes attending the site and traffic routes to/from the site with reference to impacts on the national roads network and junctions of lower category roads with national roads. TII's Traffic and Transport Assessment Guidelines (2014) should be referred to in relation to proposed development with potential impacts on the national road network. The scheme promoter is also advised to have regard to Section 2.2 of the NRA/TII TTA Guidelines which addresses requirements for sub-threshold TTA,
- The designers are asked to consult TII Publications to determine whether a Road Safety Audit is required,
- In the interests of maintaining the safety and standard of the national roads network, the EIS should identify the methods/techniques proposed for any works traversing/in proximity to the national roads network,
- In relation to haul route identification, the applicant/developer should clearly identify haul routes proposed and fully assess the network to be traversed. Separate structure approvals/permits and other licences may be required in connection with the proposed haul route and all structures on the haul route should be checked by the applicant/developer to confirm their capacity to accommodate any abnormal load proposed.
- In relation to cabling and potential connection routing, the scheme promoter should note locations of existing and future national road schemes and develop proposals to safeguard proposed road schemes and in the context of existing national roads, should be aware that separate approvals may be required for works traversing the national road network. TII requests referral of any agreements between the local authority and the scheme promoter related to national roads.

Notwithstanding, any of the above, the developer should be aware that this list is non-exhaustive, thus site and development specific issues should be addressed in accordance with best practise.

I hope that the above comments are of use in your EIS preparation.

Yours sincerely,

P.P. Maeve Byrne

Elaine Edmonds
Land Use Planner

ECOPOWER DEVELOPMENTS

Ecopower Developments Limited
Zetec House, Purcellsinch IDA Business Park, Kilkenny, Ireland
Tel: 056 775 0140 • E-mail: office@ecopower.ie

Elaine Edmonds
Transport Infrastructure Ireland (TII)
Parkgate Business Centre
Parkgate Street
Dublin 8 **D08DK10**

10th July, 2017

Re: TII17-97929 - Response to EIS Scoping relating to UWF Related Works

Dear Elaine

Thank you for your comments which will be of use in our EIA Report preparation for an application for permission for Upperchurch Windfarm Related Works.

The Upperchurch Windfarm itself has already received planning permission – the related works will facilitate the construction and operation of the windfarm i.e. grid infrastructure, road re-alignment works, communications infrastructure, forestry replanting and internal cabling.

I confirm that regard shall be had to the recommendations and advice that were listed in detail in your response.

Thank you for taking the time to respond,

Julie Brett
M: 086 8312 014 - T: 056 7750 140 (ext. 207)

Phil Kenealy

From: Julie Brett
Sent: 27 June 2017 12:28
To: 'Yvonne Jackson'
Subject: RE: Scoping Document-Upperchurch Windfarm (UWF) Related Works

Dear Yvonne

Thank you for your response to our consultation document on the proposed Upperchurch Windfarm (UWF) Related Works in which you recommend that Fáilte Ireland's Guidelines for the treatment of tourism in an EIS should be taken into account when preparing the EIA Report.
I confirm that the Guidelines have will be taken into account during the preparation of the EIA Report.

Kind regards

Julie Brett
EIA Coordinator

Julie Brett - Ecopower Developments Ltd
M: 086 8312 014 - T: 056 7750 140

ECOPOWER
TOTAL WINDFARM SOLUTIONS

Zetec House. Purcellsinch Business Park
Old Dublin Road. Kilkenny. R95 WV80

Appendix 3.2.8

From: Yvonne Jackson [mailto:Yvonne.Jackson@failteireland.ie]
Sent: 22 June 2017 12:42

To: Julie Brett <jb@ecopower.ie>
Subject: Scoping Document-Upperchurch Windfarm (UWF) Related Works

Dear Julie,

I wish to acknowledge receipt of your letter in relation to the proposed **Upperchurch Windfarm (UWF) Related Works.** Please see attached a copy of Fáilte Ireland's Guidelines for the treatment of tourism in an EIS, which we recommend should be taken into account in preparing the EIS.

Yours sincerely,

Yvonne

Yvonne Jackson
Investment and Innnovation | Fáilte Ireland | Áras Fáilte | 88/95 Amiens Street | Dublin 1
T: 01 8847224
W: www.failteireland.ie

Appendix 3.2.8

Privileged, confidential andor copyright information may be contained in this E-Mail.

This E-Mail is for the use of the intended addressee. If you are not the intended addressee, or the person responsible for delivering it to the intended addressee, you may not copy, forward, disclose or otherwise use it or any part of it in any way whatsoever. To do so is prohibited and may be unlawful.

If you receive this E-Mail by mistake, please advise the sender immediately by using the REPLY facility in your E-Mail software and delete all associated material immediately.

2

Fáilte Ireland
National Tourism Development Authority

Guidelines on the treatment of tourism in an Environmental Impact Statement

1. Introduction

Tourism is a significant component of the Irish Economy – estimated to employ approximately 205,000 people – and contributing €6.6 billion in spending to the economy in 2014. The environment is one of the main resources upon which this activity depends – so it is important that the EIS evaluates whether and how the interacting impacts of a project are likely to affect tourism resources.

The purpose of this short note is to provide guidance on how these impacts can be assessed through the existing EIA process. Undertaking an EIA is governed by the EIA Advice Notes published by the EPA. These Advice Notes contain detailed guidance on how to describe and evaluate the effects arising from a range of projects, including tourism projects.

These guidelines were written with the assistance of Conor Skehan, Head of Department of Environment and Planning, Dublin Institute of Technology.

2. Tourism and the Environment

There are two interactions between tourism and the environment.

1. Impacts caused by Tourism Projects
2. Impacts affecting Tourism (e.g. the quality of a destination or a tourism activity)

Impacts caused by Tourism Projects
Tourism projects can give rise to effects on the environment. These are specifically dealt with under a number of Project Types in the Advice Notes, specifically:

12 TOURISM AND LEISURE

a. Ski-runs, ski-lifts and cable-cars where the length would exceed 500 metres and associated developments. Project Type 20

b. Sea water marinas where the number of berths would exceed 300 and fresh water marinas where the number of berths would exceed 100. Project Type 10

c. Holiday villages which would consist of more than 100 holiday homes outside built-up areas; hotel complexes outside built-up areas which would have an area of 20 hectares or more or an accommodation capacity exceeding 300 bedrooms. Project Type 28

d. Permanent camp sites and caravan sites where the number of pitches would be greater than 100. Project Type 28

e. Theme parks occupying an area greater than 5 hectares. Project Type 29

Figure 1 The Advice Notes contain detailed descriptions on how to describe and evaluate the effects arising from a range of tourism projects.

Impacts affecting Tourism

Environmental effects of other projects on tourism are not specifically addressed in the Advice Notes. Taking account of the significance of tourism to the Irish economy a specialist topic of 'Tourism' has been prepared to facilitate a systematic evaluation of effects on this sector within the format laid down for other parts of the Environmental Impact Statement.

It is not intended that the assessment of effects on tourism should become a separate section of the Impact Statement, instead it is intended to become a specialist sub-section of the topic 'Human Beings' which is currently described in Section 2 of the Advice Notes

3. Tourism in the Existing Environment

Introduction

Visitor attitude surveys reveal that the following factors – in order of priority – are the reasons that tourists visit and enjoy Ireland:

- Beautiful scenery
- Friendly & hospitable people
- Safe & Secure
- Easy, relaxed pace of life
- Unspoilt environment
- Nature, wildlife, flora
- Interesting history & culture
- Plenty of things to see and do
- Good range of natural attractions

It is noteworthy that over half of the factors listed are environmental and that all others are related to the way of life of the people. The following describes how these factors are considered within an EIS, set out under EIA topic headings, and how they interact with tourism.

Beautiful scenery
This is covered in the '*Landscape*' Section. Particular attention needs to be paid to effects on views from existing purpose-built tourism facilities, especially hotels, as well as views from touring routes and walking trails. It is important to note that there appears to be evidence that the visitor's expectations of 'beautiful' scenery does not exclude an admiration of new modern developments – such as windfarms – which appear to be seen as indicative of an modern, informed and responsible attitude to the environment.

Friendly & hospitable people
This is not an environmental factor though it is indirectly covered under the '*Human Beings*' section of the EIS. The principal factor is the ratio of visitors to residents. This is of less significance in areas with long-established patterns of tourism.

Safe & Secure
This is not an environmental issue – though some of the factors that are sometimes covered under the heading of '*Human Beings'* – such as social inclusion or poverty – can point to likely effects and interactions.

Easy, relaxed pace of life
This is not an environmental issue though it is partially covered under '*Human Beings'* – see comments above.

Unspoilt environment
This is covered under the sections dealing with '*Landscape*', '*Flora*' and '*Fauna*' and to a lesser extent under emissions to '*Water*' and '*Air*'. In some instances traffic congestion, especially in rural areas, can be an issue, this is usually covered within '*Material Assets'*.

Nature, wildlife, flora
This is principally covered under the headings of '*Flora*' and '*Fauna*' and to a lesser extent by '*Landscape*', '*Water*' and '*Air*'. The principal issues being to avoid any effects that might reduce the health or extent of the habitats. This can occur either directly, by impinging on the site, or indirectly, through emission, that can affect the natural resources, like clean water, which the habitat depends on. It also considers effect on physical access to and visibility of these sites. Occasionally there are concerns about the disturbance or wear and tear of visitor numbers to such sites.

Interesting history & culture
This is principally covered under '*Cultural Heritage*' and, to a lesser extent, under '*Human Beings*'. The principal issues being to avoid damage to sites and structures of cultural, historical, archaeological or architectural significance – and to their contexts or settings. It also considers effect on physical access to and visibility of these sites. Occasionally there are concerns about the wear and tear of visitor numbers to such sites.

Plenty of things to see and do.
This is not an environmental issue though it is partially covered by the '*Human Beings*' section, where the tourism resources of an area are described and assessed.

Good range of natural attractions
This is covered by the '*Landscape*', '*Flora*', '*Fauna*', and '*Cultural Heritage*' sections of the EIS.

4. Project factors affecting Tourism

Introduction
Tourism can be affected both by the structures or emissions of new developments as well as by interactions between new activities and tourism activities – for example the effects of high volumes of heavy goods vehicles passing through hitherto quiet, scenic, rural areas. Tourism can be affected by a number of the characteristics of the new project such as:

- New Developments
- Social Considerations
- Land-uses and Activities

– *New Developments* - will the development stimulate or suppress demand for additional tourism development in the area? If so, what type, how much and where? Marinas, golf courses, other major sporting facilities as well as theme parks and larger conference facilities can all stimulate the emergence of new accommodation, catering and leisure facilities often within an extensive area around a new primary visitor facility. Extensive urbanisation and large scale infrastructure as well as certain processing and extractive industries all have the potential to suppress demand for additional tourism – but usually only in the immediate locality of the new development. It should be noted however, that some types of new or improved large scale infrastructure – such as roads – can improve the visitor experience – by increasing safety and comfort or can convey a sense of environmental responsibility – such as wind turbines.

– *Social Consideration* - will the development change patterns and types of activity and land use? Will it affect the demographics, economy or social dynamics of the locality?

– *Land-use* - will there be severance, loss of rights of way or amenities, conflicts, or other changes likely to ultimately alter the character and use of the tourism resources in the surrounding area?

Existing Tourism
In the area likely to be affected by the proposed development, the following attributes of tourism, or the resources that sustain tourism, should be described under the following headings.

Note that the detailed description and analysis will usually be covered in the section dealing with the relevant environmental topic – such as '*Landscape*'. Only the relevant finding as to the likely significance to, or effect on, tourism needs to be summarised in this section.

Context
Indicate the location of sensitive neighbouring tourism resources that are likely to be directly affected, and other premises which although located elsewhere, may be the subject of secondary impacts such as alteration of traffic flows or increased urban development. The following should be noted in particular:

- Hotels, conference centres, holiday accommodation – including holiday villages, holiday homes, and caravan parks.
- Visitor centres, Interpretive centres and theme parks
- Golf courses, adventure sport centres and other visitor sporting facilities
- Marinas and boating facilities
- Angling facilities
- Equestrian facilities
- Tourism-related specialist retailers and visitor facilities
- Historic and Cultural Sites
- Pedestrian, cycling, equestrian, vehicular and coach touring routes

Indicate the numbers of premises and visitors likely to be directly affected directly and indirectly.
Identify and quantify, where possible, their potential receptors of impacts, noting in particular transient populations, such as drivers, walkers, seasonal and other non-resident groups.

Describe any significant trends evident in the overall growth or decline of these numbers, or of any changes in the proportion of one type of activity relative to any other.

Indicate any commercial tourism activity which likely to be directly affected, with resultant environmental impacts.

Character
Indicate the occupations, activities or interests of principal types of tourism in the area. – Where relevant, describe the specific environmental resources or attributes in the existing environment which each group uses or values; where relevant, indicate the time, duration or seasonality of any of those activities. For example describe the number of guides, boats and anglers who use a salmon fishery and the duration of the salmon season as well as the quantity and type of local accommodation that is believed to be used by the anglers.

Significance
Indicate the significance of the principal tourism assets or activities likely to be affected. Refer to any existing formal or published designation or recognition of such significance. Where possible provide an estimate of the contribution of such

tourism activities to the local economy. For instance refer to the number of annual visitors to a tourism attraction or to the grading of a hotel.

Sensitivity
Describe any significant concerns, fears or opposition to the development known to exist among tourism interests. Identify, where possible, the particular aspect of the development which is of concern, together with the part of the existing tourism resource which may be threatened. For instance describe the extent of a potential visual intrusion onto a site of historic significance which is the main local tourist attraction.

5. Impacts on Tourism

"Do Nothing" Impact;
Describe how trends evident in the existing environment will continue and how these trends will affect tourism.

Predicted impact;

- Describe the location, type, significance, magnitude/extent of the tourism activities or assets that are likely to be affected.

- Describe how the new development will affect the balance between long-established and new dwellers in an area and it's affect on the cultural or linguistic distinctiveness of an area. For example describe the effect of a new multi-national population required for an international call-centre located in a Gaeltacht area.

- Describe how changes in patterns of employment, land use and economic activity arising from the proposed development will affect tourism, for example, illustrating how a new industrial development will diversify local employment opportunities thereby reducing the area's unsustainable over-reliance on seasonal tourism.

- Describe the consequences of change, referring to indirect, secondary and cumulative impacts on tourism; Examples can include describing how the new development may lead to a reduced assimilative capacity for traffic or water during the peak of the tourism season or how new urbanism combined with existing patterns of tourism may lead to unsustainable levels of pedestrian traffic through a sensitive habitat.

- Describe the potential for interaction between changes induced in tourism and other uses that may affect the environment – for instance increasing new tourism-related housing affecting water resources or structures

- Describe the worst case for tourism if all mitigation measures fail.

6. Mitigating adverse impact on Tourism

Describe the mitigation measures proposed to:

- *avoid* sensitive tourism resources – such as views, access, and amenity areas including habitats as well as historical or cultural sites and structures.

- *reduce* the exposure of sensitive resources to excessive environmental burdens arising from the development's emissions or volumes of traffic [pedestrian and vehicular], and/or losses of amenity arising from visually conspicuous elements of the development – for example by prioritizing visual screening of views from a hotel towards a quarry.

- *reduce* the adverse effects to tourism land uses and patterns of activities – especially through interactions arising from significant changes in the intensity of use or contrasts of character or appearance – for example by separating traffic routes for industrial and tourism traffic.

- *remedy* any unavoidable significant residual adverse effects on tourism resources or activities, for example by providing alternative access to tourism amenities – such as waterways or monuments.

Phil Kenealy

From: Irish Peatland Conservation Council <bogs@ipcc.ie>
Sent: 06 July 2017 09:15
To: Julie Brett
Subject: Re: Upper church related works IPCC

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Consultation Response

Dear Ms Julie Brett,
Thank you for replying and taking note of our recommendations.

All the best

Tris

Tristram Whyte BSc (Hons) Applied Freshwater & Marine Biology
Conservation, Policy & Fundraising Officer
Irish Peatland Conservation Council
Lullymore
Rathangan
Co. Kildare
R51 V293

045 860133
bogs@ipcc.ie

Visit the Bog of Allen Nature Centre this year and take a step back in time and enjoy a guided tour of the peatland exhibitions, explore the wildlife gardens and discover insect eating plants, get hands on and pond dip for freshwater mini-beasts or search for newts and frogs and visit Lodge Bog to make new bog memories as you watch for darting dragonflies or listen for the cry of the curlew. Open Monday- Friday 10am-4pm. Admission €5 per adult, families €15. Further information visit www.ipcc.ie

Appendix 3.2.9

On 5 Jul 2017, at 10:19, Julie Brett <jb@ecopower.ie> wrote:

Dear Tristram

Thank you for your comments on our consultation document for Upperchurch Windfarm Related Works.

I confirm that Ecopower will

- have regard to the National Peatlands Strategy (NPWS 2015) and Bogland: Sustainable Management of Peatlands in Ireland (EPA 2011) for development planned in or around peatland soils.
- re-examine the planned route for the windfarm related works close to Bleanbeg Bog (Site code: 02450)
- appraise IPCC on the mitigation measures planned for the loss of peatland habitats on the Killeenan to Kilcommon Route
- appraise IPCC on possibilities of re-routing the planned route which passes close to the southern margin of Knocknamena Commons area of blanket bog

We will revert when this re-examination is completed.

Regards

Julie

Julie Brett - Ecopower Developments Ltd
M: 086 8312 014 - T: 056 7750 140

<image003.jpg>
Zetec House. Purcellsinch Business Park
Old Dublin Road. Kilkenny. R95 WV80

From: Irish Peatland Conservation Council [mailto:bogs@ipcc.ie]
Sent: 23 June 2017 14:04
To: Julie Brett <jb@ecopower.ie>
Subject: Upper church related works IPCC

Dear Ms Brett,
Please find attached The Irish Peatland Conservation Councils recommendations on the Upperchurch related wind farm works.
Please could you acknowledge receipt of this document.
Thank you for taking the time to listen to our concerns.

Appendix 3.2.9

2

Tristram Whyte BSc (Hons) Applied Freshwater & Marine Biology
Conservation, Policy & Fundraising Officer
Irish Peatland Conservation Council
Lullymore
Rathangan
Co. Kildare
R51 V293

045 860133
bogs@ipcc.ie

Visit the Bog of Allen Nature Centre this year and take a step back in time and enjoy a guided tour of the peatland exhibitions, explore the wildlife gardens and discover insect eating plants, get hands on and pond dip for freshwater mini-beasts or search for newts and frogs and visit Lodge Bog to make new bog memories as you watch for darting dragonflies or listen for the cry of the curlew. Open Monday- Friday 10am-4pm. Admission €5 per adult, families €15. Further information visit www.ipcc.ie

Appendix 3.2.9

3

IRISH PEATLAND CONSERVATION COUNCIL

COMHAIRLE CHAOMHNAITHE PHORTAIGH NA hÉIREANN

Lullymore, Rathangan, Co. Kildare, Ireland R51 V293 Tel/*Teil*: +353-(0)45-860133
Liolach Mór, Rath Iomgáin, Co. Chill Dara, Éire, R51 V293 e-mail/*ríomhphost*: bogs@ipcc.ie web/*idirlíon*: www.ipcc.ie

Julie Brett
Ecopower Developments Limited
Zetec House, Purcellsinch IDA Business Park
Killkenny
Ireland
jb@ecopower.ie

20th June 2017

Re: Planning Application for Upperchurch Windfarm Related Works

Dear Ms Brett,

Thank you for consulting the Irish Peatland Conservation Council on the proposed Upperchurch Windfarm Related Works. The Irish Peatland Conservation Council (IPCC) was established in 1982 and has 35 years of experience in peatland conservation. Our aim is to conserve a representative sample of intact peatlands. Only 18% of Ireland's original range of peatland habitats are deemed worthy of conservation. 82% have become degraded from multiple pressures such as peat extraction, forestry, construction of windfarms and habitat fragmentation.

Our work is guided by our 6th Action Plan, *Ireland's Peatland Conservation Action Plan 2020,* which was published in 2009. A copy of this document is available for download on our website at www.ipcc.ie. Many of the actions in our plan have been included within the *National Peatlands Strategy* which has been adopted by every Government Department and Local Authority. We would also draw your attention to this document to ensure its requirements are met within developments planned on or near peat soils. The National Peatlands Strategy can be downloaded from www.npws.ie.

Specifically in relation to your plan,

Bleanbeg Bog (Sitecode: 02450)
Bleanbeg Bog is an upland blanket bog habitat (136 ha) that has been recorded to have many Red Data Book species such as Irish Hare and Red Grouse. Hen Harrier has also been recorded utilising the site. The planned route of the windfarm related works is very close to this designated habitat and construction works relating to the underground cabling may damage the habitat and/or disrupt the behaviour of birds and other wildlife. Aerial photos of the area have shown that there are other routes available through the forestry south of the site and that they may be more suitable and will avoid possible damage to a internationally important habitat.

Killeenan to Kilcommon Planned Route
Between the two locations Killeenan to Kilcommon on the planned route of the underground cabling there is a mosaic of peatland habitats that are possibly used by Hen Harriers as the area is within the designated Slievefelm to Silvermines Mount SPA (sitecode:004165). The IPCC would like to know what mitigation measures beside planting a forest in Kilkenny that you would propose for the loss of these peatland habitats.

Knocknamena Commons
The planned route for the related works is very close to Knocknamena Commons which is blanket bog habitat. Blanket bog is an ANNEX I habitat protected under the Habitats Directive which was transposed into Irish Law in 1997. The route of the internal windfarm cabling passes close to the southern margin of this habitat. Looking at the aerial photographs the IPCC would request that you reroute the cable further south via a series of minor roads through agricultural land in preference. We

Charity No/*Uimhir Carthanacht*: CHY6829 Registered in Ireland No/*Uimhir Cláraithe in Éirinn*: 116156 Registered Office/*Oifig Cláraithe*: Lullymore, Rathangan, Co. Kildare, Ireland
Company Secretary/*Rúnaí Comhlacht*: Rachel Kavanagh
Directors/*Stiúrthóirí*: Martin Kelly, Catherine O'Connell, Rachel Kavanagh, Kate Macnamara, Jennifer Roche, Seán Ó Fearghail, Stephen Bray
Patrons/*Pátrúnaí*: Pauline Bewick, Don Conroy, HRH Princess Irene of the Netherlands,
Eanna Ní Lamhna, Matthijs Schouten, His Excellency Mr Paul Schellekens Netherlands Ambassador to Ireland

would regard this as better practice as the site is close to the Slievefelm to Silvermines Mount SPA (sitecode:004165) and may be utilised by many protected species.

BOGLAND
There has been valuable research conducted by the Environmental Protection Agency on the issues of wise and sustainable use of peatlands in Ireland. The document is available at www.ucd.ie/bogland and makes many recomendations on best practices and takes all aspects of peatland use in Ireland into account.The IPCC would recommend that this document be refered to in any construction works planned in or around peatland soils.

Please advise the IPCC as to whether you intend to follow our recomendations on this project.

Tristram Whyte B.Sc (hons)
Conservation Policy & Fundraising Officer

Appendix 3.3: Public Consultation Information Day Documentation

Appendix 3.3 Document	Order of Documents	Relevant EIA Report
A3.3.1	Copy of Newspaper Adverts for the Public Consultation Information Day in Newport, Rearcross and Kilcommon	UWF Grid Connection UWF Related Works UWF Replacement Forestry
A3.3.2	Posters for the Public Consultation Information Day Event	

Tipperary Star CLASSIFIED

Mitchel Street Lower, Thurles, Co. Tipperary. Application Ref No. 17/600654 on the register. The development will consist of the demolition of existing 2 storey extension to rear of derelict building. Re-construct 2 storey extension and existing building to 4no. one bedroom apartments with 4no. car parking spaces to rear of building. Proposed extension to be of flat roof construction. Existing front entrance to west side of building to be closed and made good to match that of existing building. revised proposals include the reduction of on-site car parking , widening of the entrance archway, the inclusion of private open spaces for all apartments and the inclusion of storage space in all apartments. Significant Further Information has been submitted and is available for inspection or purchase at a fee not exceeding the reasonable cost of making a copy at the office of the Planning Authority during its public opening hours. Submissions or observations in relation to the Further Information may be made in writing to the Planning Authority on payment of the prescribed fee within a period of TWO WEEKS from the date of receipt of the Further Information by the Planning Authority.

i Significant Further Information; Kenrae Investments Limited with site at Ordmond Apartment, Mitchel Street Lower, Thurles, Co. Tipperary. Application Ref No. 17/600654 on the register. The development will consist of the demolition of existing 2 storey extension to rear of derelict building. Re-construct 2 storey extension and existing building to 4no. one bedroom apartments with 4no. car parking spaces to rear of building. Proposed extension to be of flat roof construction. Existing front entrance to west side of building to be closed and made good to match that of existing building. revised proposals include the reduction of on-site car parking , widening of the entrance archway, the inclusion of private open spaces for all apartments and the inclusion of storage space in all apartments. Significant Further Information has been submitted and is available for inspection or purchase at a fee not exceeding the reasonable cost of making a copy at the office of the Planning Authority during its public opening hours. Submissions or observations in relation to the Further Information may be made in writing to the Planning Authority on payment of the prescribed fee within a period of TWO WEEKS from the date of receipt of the Further Information by the Planning Authority.

application may be made in writing to the Planning Authority on payment of the prescribed fee, 20, within the period of 5 weeks beginning on the date of receipt by the Authority of the application and such submissions or observations will be considered by the Planning Authority in making a decision on the application The Planning Authority may grant permission subject to or without conditions, or may refuse to grant permission

Take notice It could affect YOU !

You should always take note of a public notice. It is a legal notice to inform the public of a change that could affect them short term or on a permanent basis. It could be anything from a change to a building to the erection of a building. It could be notice of insolvency of a company you have dealings with or the closure of a footpath that you regularly use.

TAKE NOTE OF PUBLIC NOTICES

ECOPOWER DEVELOPMENTS LIMITED
PUBLIC CONSULTATION AND INFORMATION DAY

Ecopower Developments will hold a public consultation and information day about a proposed Planning Application for an 110kV electrical substation and compound, circa. 28km of 110kV underground cabling from this proposed substation to the permitted Upperchurch Windfarm substation and ancillary works required to facilitate the construction and operation of Upperchurch Windfarm.

The proposed electrical substation is for a location in Mountphillips townland, 2km north of Newport. The proposed underground grid connection cabling will connect Mountphillips electrical substation to Upperchurch Windfarm electrical substation by a route c.28km in length, following a generally west/east course through a mix of farmland, commercial forestry, private roads and public roads through the townlands of Mountphillips, Coole, Freagh, Oakhampton, Newross, Castlewaller, Killeen, Knockacullin, Bealaclave, Baurnadomeeny, Goulmore, Laghile, Churchquarter, Knocknabansha, Knockmaroe, Knockcurraghbola Crownlands and Knockcurraghbola Commons. The proposed substation and grid connection line will facilitate the connection of Upperchurch Windfarm to the National Grid. The proposed ancillary works include internal windfarm underground cabling; some realigned windfarm roads; windfarm haul route works; a telecoms mast; forestry replanting and all associated works. The whole proposal is located in County Tipperary.

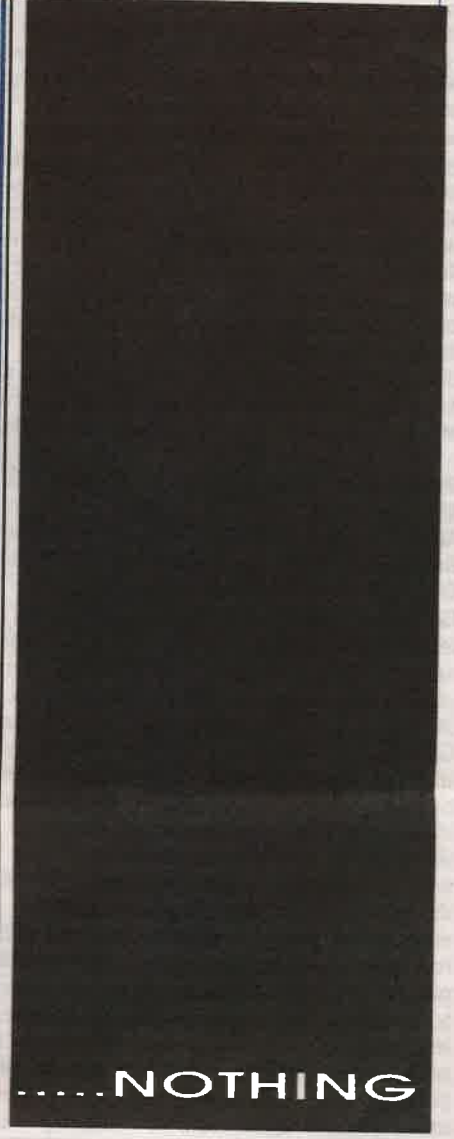
An Environmental Impact Statement and Appropriate Assessment is being prepared for this proposal and these will be submitted to the Planning Authority as part of the planning application.

The Public Consultation and Information Day will be held at three venues in the vicinity of the proposed developments

Kilcommon Community Centre
Rearcross Community Centre
Lee's Bar, Newport
on
Tuesday 10th October, 2017
2pm to 8pm

All interested members of the local community and general public are invited to attend. Representatives from Ecopower Developments will be present to provide information, answer any questions and engage in consultation on the details and timing of the proposal. Sections of the proposed grid route include areas of Coillte property. Please forward any Coillte specific queries in relation to the proposal to **lsinfo@coillte.ie**

If you wish to speak to an Ecopower Developments representative before or after the Consultation and Information Day please contact Philomena Kenealy on 056-7750140 or pk@ecopower.ie



Appendix 3.3.1

Guardian PUBLIC NOTICES/ APPOINTMENTS

Fax. 067 33401 Tel. 067 31214 or Email advertising@nenaghguardian.ie

gramme.

In a further demonstration of its public commitment, we have completed one third of our rural 300k fibre rollout programme and we are on track to complete the roll-out of this programme by the end of next year. There are very clear and ambitious targets set out in our commitment agreement with the Government and we are 100% focussed on meeting those targets. We remain focussed on delivering high speed broadband to as many communities across Ireland as possible."

NOW HIRING

CHEFS

(ALL LEVELS)

for full time positions

at

Brian Boru on the Hill Pub and Restaurant

in Ballina Killaloe.

Successful candidates will possess an enthusiastic and professional attitude towards their work, and have at least 1-2 years experience in similar roles.

Please forward your CV to odonovansbar@yahoo.co.uk

Shanahan's Centra

Due to our continued growth and expansion, Shanahan's Centra now require the following:

Full and Part-time

DELI ASSISTANTS

(experience essential)

FRESH FOOD MANAGER

(min 2 yrs experience)

Please send replies by email to info@cappanillyservices.ie or contact Marie or Séan on 0504 51068

Borrisoleigh, Co. Tipperary • 0504 51068

Comhairle Contae Thiobraid Arann
Tipperary County Council

TEMPORARY CLOSING OF ROAD ROADS ACT 1993 – 2007

(SECTION 75 OF THE ROADS ACT 1993) ROADS REGULATIONS 1994.

NOTICE is hereby given that Tipperary County Council proposes to make an Order closing:

ROADS TO BE CLOSED:	Market Cross Junction (Kenyon/Pearse/Mitchell & Silver Streets Junction).
PERIOD OF CLOSURE:	2 Weeks (24/7 from 6th November 2017 to 17th November 2017).
ALTERNATIVE ROUTES:	**Limerick Road Diversion** – Ashe Road – Pearse Street – Thomas McDonagh Street – Martyr's Road. **Thurles Road Diversion** – Martyr's Road – Thomas McDonagh Street – Pearse Street – Ashe Road. Emergency access will be provided at all times. Diversion routes will be clearly sign-posted and marshalled at all junctions. The purpose of this closure is to facilitate road reconstruction works.

Objections to the proposed temporary closure may be submitted in writing to the Director of Services, Roads, Transportation & Health and Safety, Tipperary County Council, Civic Offices, Limerick Road, Nenagh not later than 12 noon 12th October 2017.

ECOPOWER DEVELOPMENTS LIMITED PUBLIC CONSULTATION AND INFORMATION DAY

Ecopower Developments will hold a public consultation and information day about a proposed Planning Application for an 110kV electrical substation and compound, circa. 28km of 110kV underground cabling from this proposed substation to the permitted Upperchurch Windfarm substation and ancillary works required to facilitate the construction and operation of Upperchurch Windfarm.

The proposed electrical substation is for a location in Mountphillips townland, 2km north of Newport. The proposed underground grid connection cabling will connect Mountphillips electrical substation to Upperchurch Windfarm electrical substation by a route c.28km in length, following a generally west/east course through a mix of farmland, commercial forestry, private roads and public roads through the townlands of Mountphilips, Coole, Freagh, Oakhampton, Newross, Castlewaller, Killeen, Knockacullin, Bealaclave, Baurnadomeeny, Goulmore, Laghile, Churchquarter, Knocknabansha, Knockmaroe, Knockcurraghbola Crownlands and Knockcurraghbola Commons. The proposed substation and grid connection line will facilitate the connection of Upperchurch Windfarm to the National Grid. The proposed ancillary works include internal windfarm underground cabling; some realigned windfarm roads; windfarm haul route works; a telecoms mast; forestry replanting and all associated works. The whole proposal is located in County Tipperary.

An Environmental Impact Statement and Appropriate Assessment is being prepared for this proposal and these will be submitted to the Planning Authority as part of the planning application.

The Public Consultation and Information Day will be held at three venues in the vicinity of the proposed developments

KILCOMMON COMMUNITY CENTRE
REARCROSS COMMUNITY CENTRE
LEE'S BAR, NEWPORT
on
TUESDAY 10th OCTOBER, 2017
2pm to 8pm

All interested members of the local community and general public are invited to attend. Representatives from Ecopower Developments will be present to provide information, answer any questions and engage in consultation on the details and timing of the proposal.

Sections of the proposed grid route include areas of Coillte property. Please forward any Coillte specific queries in relation to the proposal to lsinfo@coillte.ie

If you wish to speak to an Ecopower Developments representative before or after the Consultation and Information Day please contact Philomena Kenealy on 056-7750140 or pk@ecopower.ie

Appendix 3.3.1

PUBLIC CONSULTATION AND INFORMATION DAY

ECOPOWER DEVELOPMENTS

ARE HOLDING A PUBLIC INFORMATION DAY ON THE

PLANNING APPLICATION ELEMENTS TO FACILITATE THE CONSTRUCTION AND

OPERATION OF THE ALREADY CONSENTED UPPERCHURCH WINDFARM.

THE ELELEMENTS ARE THE UNDERGROUND GRID CONECTION FROM

NEWPORT TO UPPERCHURCH AND THE WINDFARM RELATED WORKS.

ON

TUESDAY 10TH OCTOBER, 2017

2pm to 8pm

AT

KILCOMMON COMMUNITY CENTRE, REARCROSS COMMUNITY CENTRE AND LEE'S BAR, NEWPORT.

MEMBERS OF THE PUBLIC ARE INVITED TO ATTEND.

REPRESENTATIVES FROM ECOPOWER DEVELOPMENTS WILL BE

PRESENT TO PROVIDE INFORMATION AND ANSWER ANY QUERIES

THAT YOU MAY HAVE REGARDING THE PROPOSAL.

CONTACT PHIL KENEALY 056 77 50140

Appendix 3.4: Community Liaison and Consultation Strategy

Appendix 3.4 Section	Description	Relevant EIA Report
A3.4.1	Community Liaison and Consultation Strategy	UWF Grid Connection UWF Related Works UWF Replacement Forestry
A3.4.2	Consultation Strategy	
A3.4.3	Provision of information during planning	
A3.4.4	Community Consultation Post-planning	

A3.4 Community Liaison & Consultation Strategy

A3.4 .1 Community Liaison Strategy (CLS)

A3.4 .1.1 Introduction to CLS

The aim of community consultation is to engage in active consultation and dialogue with the local communities throughout each stage of the project from EIAR scoping, final project design, EIAR preparation and planning, to the construction and operational stage. This is done through making publically available full, clear and comprehensive information about the project during these key stages. Resources are allocated to receive, record, investigate, respond to and address queries and complaints arising.

During this liaison, all the elements of the project and the possible implications/outcomes are presented. As well as providing information, the promotor will work to understand the requirements of the local community at an early stage, to enable these needs to be considered in the final design of the project (to the greatest extent possible). Also, feedback as to how the promotor can mitigate adverse impacts and accentuate positive impacts, on the local community, is also welcomed and facilitated. Changes can be implemented through environmental management plans, implementation of best practices measures, compensation and making adjustments to the project.

A Community Liaison Officer (CLO) is appointed by the promotor who can be contacted by phone or email. This contact person responds quickly and openly to requests for information and clarifications, as well as making themselves available (or the promotor) for one to one meetings to discuss specific details.

Guidance

The following guidance documents are used;

1) Code of Practice for Wind Energy Development in Ireland - Guidelines for Community Engagement: Department of Communications, Climate Action and Environment (December 2016)
2) Good Neighbour IWEA Best Practice Principles in Community Engagement & Community Commitment: Irish Wind Energy Association (March 2013).
3) Wind Energy Guidelines: Department of the Environment, Heritage and Local Government (2006). (Appendix 2)
4) The Monaghan Model - Best Practice Community Consultations Monaghan Community Forum (2005).

A3.4 .2 Consultation Strategy

During EIAR scoping certain prescribed bodies, the local authorities, relevant public bodies and NGOs, with expertise in protecting the environment, are contacted. The contact list includes bodies with interest/expertise in the protection of human health, public safety, roads, animals, birds, ecology, water, soils, built heritage, air and climate. These bodies are furnished with a detailed Scoping Document wherein all the elements of the project and the possible implications/outcomes are presented. Responses and views are required within 6 weeks. The final design and mitigation measures are not decided, until these consultations are completed.

During the same period, consultation with the local communities also takes place and, similar to the public bodies, any changes that are suggested and that can reasonably be made to the proposed design, mitigation measures and environmental management, will be incorporated into the final proposal.

A3.4 2.1 Identification of Local Community

The local communities that are consulted include;

1) Landowners on whose lands all built elements and wayleaves are located
2) Landowners whose lands are adjacent to the works areas
3) Residents in the hinterland of the project

A3.4 2.2 Consultation Tools and Events

Timing

Communication started at the initial design stage with the project landowners and extended to the surrounding community at the EIAR scoping stage. Communication with these groups, through the promotor's staff working on the ground and through the designated CLO, will continue throughout the project.

Resources

The resources that are used to make contact with the local communities are;

1) Personal contact from the promotor's staff with landowners of the project lands and landowners of adjoining lands.
2) Project leaflet containing a brief description and location of the proposal along with the promotor's contact details which will be distributed at the public meetings. This leaflet is written in non-technical language and without jargon.
3) Website which will be actively managed. The website will be maintained during the lifetime of the project. During the scoping consultation stage this website will be a single internet gateway for the local communities to interface with the designated CLO for the project. The website will host a detailed description of the project, the project promotors and contact details and invitation to Contact Us. Responses to all contact are made within 48 hours.
4) The written scoping document which was supplied to all public and NGO bodies inviting submissions, will also be distributed at the local library and in the local authority planning offices.
5) An education outreach programme for schools, active retirement groups and other interested bodies will be offered on the website.

Public Exhibitions

Public exhibitions are held in the nearest population center that has a suitable public space that is large enough and accessible. The public exhibition is prominently advertised in the local community, in shops,

community centers, public houses, church bulletins and church announcements, local paper and radio and by invitation to community groups.

At the event maps, plans and illustrations are plentifully used and prominently displayed and project information leaflets, in an understandable format, are available. The event is adequately staffed from the promoter's organisation and environmental report's team, who know all the details of the project and will know what changes are possible.

A3.4 .1.4 Feedback

The promotor is committed to providing feedback and solutions (if possible) to all those who engaged with the consultation process in the local community. A line of communication is kept open with the promoter through the CLO.

A3.4 .3 Provision of information during planning

There will be up to date information provided on the dedicated projected website including;

1) the progress of the application through the planning process,
2) the planning authority submission process and deadlines,
3) any request for further information from the planning authority and responses to same,
4) planning decisions,
5) appeals process.

The website can also be used as a point of contact to discuss matters arising during the planning process with a view to addressing the issues that are of concern to local communities.

A3.4 .4 Community Consultation Post-planning

Web Portal

The web portal continues to provide up to date information on progress towards construction, the construction stage and the operational stage.
During these stages there is an acknowledgment of all communications, made through the website, within 48 hours.

Construction Stage

All instances of planned disruption through construction e.g. particular high volume of traffic on a given day, are announced in advance on the website.
All queries and complaints about construction works are followed up and resolved as appropriate.

Operational Stage

The website will be continued throughout the operational lifetime of the project on the dedicated Upperchurch Windfarm website. Contact details will be kept up to date and all communications will be acknowledged in a timely manner. All queries and complaints will be followed up and resolved as appropriate. All instances of planned disruption through operation & maintenance works e.g. traffic restrictions will be announced on the project website, in advance.

Appendix 3.5: EDL Comment on 3rd Party Submissions on UWF Related Works Ref: 18/600913

Appendix 3.5 Section	Description	Relevant EIA Report
A3.5	EDL Comment on 3rd Party Submissions on UWF Related Works Ref: 18/600913	UWF Related Works

Gerard & Mary Ryan (Cooney) Submission

20-8-2018

18/60/0913

TIPPERARY CO. COUNCIL
RECEIVED
20 AUG 2018
PLANNING SECTION
FILE NO.

Dear Sir/Madam

We wish to object to the Whole UPPerchurch Wind Farm Project. Our objections relate to the amount of turbines proposed near our home, tubines nos 22, 8, 9, 10, 11, 12. In particular Turbine no 22 is within 463.44 Metres of our house We also object to having the substation 276.3 Metres From our home. Turbine 8 is directly south of our home we will be subjected to hours of Shadow Flicker. Given the size and scale of the development we do not know if it will be possible to live in our house once this development is built. We ar worried about the noise from all the turbines and the substation, and the effect on our health and sleep. We believe that we would be unable to sell if forced to Leave, Leaving our home is a very precarious position as we are also a farming family and need to be where our Livestock are. We also still have major concerns about the original paperwork concerning badgers. We felt at the time ,5 years ago, that the information supplied by the developer was wrong. We are justifiably concerned with the issue of TB as Dairy farmers. The displacement of badgers and deers and indeed the vast amount of digging required for this development could seriously increase the spread of TB and endanger our livelihood.

We notice that the bird, bat and other wildlife surveys for the Windfarm are resubmitted here, taking no account of the 5+ years since they were

EDL Comment on Ryan (Cooney) Submission:

Turbines in proximity to house

This point relates to Upperchurch Windfarm, for which planning permission has already been granted, and not to the subject application UWF Related Works.

To clarify, the correct distances from the Ryan (Cooney) residence are:

- Upperchurch Windfarm Turbine No. 22: 620m
- Upperchurch Windfarm Substation: 360m
- Turbine No.s 8, 9 10, 11, 12: 681m; 1.3km; 1.6km; 1.7km; 1.8km respectively.

Shadow Flicker, Noise, Devaluation of Property

This point relates to Upperchurch Windfarm, for which planning permission has already been granted, and not to the subject application UWF Related Works. In addition cumulative impacts with UWF Related Works are not relevant.

Bovine TB

Bovine TB is an infectious disease of cattle, which is spread by breathing air contaminated by already infected animals, contact with other infected animals (including wildlife), or contact with the disease through the use of machinery or facilities which may have been previously used for infected animals (Irelands Bovine TB Eradication Programme, Department of Agriculture, Food and the Marine (DAFM 2018).

Displacement of badger or deer is evaluated in Chapter 8: Biodiversity of the EIA Report. Displacement effects due to construction works are not likely to be significant, primarily due to the carrying out of works during daylight hours, the short duration of works and, in relation to badger the distance of setts to construction works areas - no active Badger setts were identified in baseline studies of UWF Related Works. See Chapter 8, Section 8.9.4.2 and Section 8.9.4.5.

The spread of TB was not included as a potential impact in the EIA Report, as information from local consultation with landowners was that Bovine TB outbreaks have not been a significant issue in recent years at the windfarm location. Additionally, the spread of TB through soils, is not identified as a spread risk in the DAFM report.

Gerard & Mary Ryan (Cooney) Submission

carried out. This area has seen alot of changes since that survey work was done, not least the building of six tubines very near our farm. We do not think that it is right that a decision now would be based on old information. THe developer does not care about the wildlife in the area, he had to be told by the department to make up for destroying Land for the hen harrier by setting aside other Land for the birds. The plan he came up with would only bring an endangered bird right into the middle of the wind farm, There are also wind farm now on 3 of the Four approaches to this set aside area, How is the bird supposed to get in and out? Anyway as we understand it, the recent Keeper Hill case no longer allows developers to make up this Kind of plan.

We also have a concern about Japanese Knotweed in the area and do not see how, with all the digging and with the construction site stretching from here nearly all the way to County Limerick, the developer can give any assurance that this development won't spread it all over the place. It is not credible.

As we understand from our neighbour and friend, Mr Ned Buckley he has withdrawn his permission for his Land to be used in this development. as this whole project is being Looked at again I don't understand how the developer can just rub the road off his plans and even tell the council that he is doing that. The developer must surely have to inform you of any changes he is making which should include the things he is leaving out as well as

EDL Comment on Ryan (Cooney) Submission:

Wildlife survey work done for Upperchurch Windfarm in 2013 & changes in the area since

See EDL Comment on Grace Point 4: Use of the 2013 EIS and 2014 EIA to inform the cumulative assessment

Keeper Hill case:

See EDL Comment on Grace Point 2: Alleged Compensatory Measures.

Japanese Knotweed:

An Invasive Species Management Plan has been prepared by Inis Environmental Consultants in consultation with an invasive plant specialist. The implementation of the Plan will be overseen by the Environmental Clerk of Works along with an invasive species specialist. While there are no Japanese Knotweed infestations within the construction works area boundaries, the purpose of the plan is to ensure that infestations, close to the boundaries, are contained. The Invasive Species Management Plan can be found at Volume D: Environmental Management Plan for UWF Related Works, Tab 5.

Omission of Ned Buckley's road:

See EDL Comment on Buckley Submission and on Grace Point 8: Mr Buckley's Lands

Gerard & Mary Ryan (Cooney) Submission

new things he is adding, as Farmers we are well aware of the impact digging can have on water in the area, especially run off. The plans submitted show this development crossing lots of streams and rivers and outlines plans on how they will deal with the issues that arise. It makes no mention of hidden springs or what they will do if they happen to dig one out. We don't believe that with the amount of digging ant the amount of streams to be crossed that they can really protect the rivers and wells. We have opposed this development from the beginning and hope you will take into consideration our objection.

Yours Sincerely

Gerard Ryan (Cooney)

MARY Ryan (Cooney)

20-8-2018

Planning Application Documents On Display for Viewing Purposes Only

EDL Comment on Ryan (Cooney) Submission:

Effects on Water:

The effects on Water are comprehensively evaluated in Chapter 11: Water, where the effects on local surface water bodies (including morphological effects from in-stream works), groundwater and local wells and springs are specifically evaluated at Sections 11.2, 11.3 and 11.4.

The authors of the Water evaluation, David Broderick and Michael Gill of Hydro-Environmental Services, concluded that no significant adverse effects to Water are likely to occur as a result of the development of UWF Related Works, either alone or in combination with Other Elements of the Whole UWF Project or Other Projects or Activities.

Ned & Carmel Buckley Submission

Planning Department,
North Tipperary County Council,
Nenagh,
Co. Tipperary.

Mr. Ned & Carmel Buckley
Gurtnara,
Upperchurch,
Co. Tipperary.

TIPPERARY CO. COUNCIL
RECEIVED
17 AUG 2018
PLANNING SECTION
FILE NO. .....

16/08/2018

Planning Application: 18600913 Tipperary County Council

UWF related works. The development will facilitate the construction and operation of the already consented (but not built) Upperchurch Windfarm (UWF) Planning Ref 13/510003. Which will consist of a) 17.9km of Internal Windfarm Cabling; b) 13 no. Haul Route Works, to facilitate the haulage of turbine components to the Upperchurch Windfarm site; c) 1 no Telecom Relay Pole, measuring 18m in height, with telecoms relay equipment attached; d) 3 no Realigned Windfarm Roads, to realign two lengths of consented Upperchurch Windfarm (UWF) Roads and to provide access to the telecoms Relay Pole; e) 1 no Change of use of an existing 'Agricultural' entrance to ' Agricultural and Forestry' entrance; and f) Ancillary Works. This application is for a 10 year permission, under Section 41 of the Planning and Development Act, 2000, as amended. An Environmental Impact Assessment Report and Natura Impact Statement (Stage 2 Appropriate Assessment) have been prepared in respect of this application.

Planning Application Document for Viewing Purposes Only

Dear Sir/Madam,

In reference to the above proposed development application no: 18600913 we wish to make an objection to the proposal and herewith enclose €20.00 in payment of the required fee.

As stated in pervious correspondence with Tipperary County Council and An Bord Pleanala, I withdrew my permission for planning permission for this development (see attached pervious letters stating this) However in the interest of clarity and to make sure there is no further confusion in this matter please note the following:

When I say I withdraw my permission, I mean my permission for even an application to be made which concerns my land. Since the O'Grianna judgement, this application cannot be viewed in any light other than that of an application for the full development and must be treated by the planning authority as such.

The grant of planning permission by An Bord Pleanala states as Condition No. 1:'
The development shall be carried out and completed in accordance with the plans and particulars lodged with the application, as amended by the further plans and particulars submitted to the planning authority on the 27th day of November, 2013, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

EDL Comment on Buckley Submission:

Withdrawing permission:

This point relates to Upperchurch Windfarm, for which planning permission has already been granted, and not to the current application Related Works.

To clarify, Mr Buckley was in dispute with the Upperchurch Windfarm project whereby he withdrew consent to apply for development on his lands (which comprised the windfarm access road in question), during the planning process. This dispute was part of a Judicial Review of the planning consent for Upperchurch Windfarm (2014 No. 579 JR). Mr Buckley failed in his challenge to the planning consent. Part of the reason for this is because, as Mr Justice Cregan adds in the paragraph quoted in the submission, "*I am satisfied that the Applicant did give a valid and informed consent to the developer to make the application.*"

In relation to the UWF Related Works, Mr. Buckley's land is not located within the boundary of the application site.

Ned & Carmel Buckley Submission

As I have withdrawn all and any permission and the high court recognised that the road planned for my land cannot be built , condition 1. above cannot be met.

I do note, that Mr. Pat Brett, the developer has left the proposed road out of the current plan. He has made no application to modify his plans. He also has not addressed the issue of the turbine right next to my property boundary. Ecopower have no permission to even apply for a turbine near this boundary. This application is null and void.

The issue of TB in the land and the effect all of this digging will have on the spread of disease has not been mentioned. As a dairy farmer this is a major concern for me.

The hen harrier plan submitted with this application is the same plan proposed in 2013, it wasn't right then and it isn't good enough to submit out of date paperwork as a new submission. Also to the best of my knowledge this idea of setting aside land to make up for ruining the bird's habitat is not allowed since the Keeper Hill case in Europe.

This development was a bad idea in 2013, increasing information available to the general public make me think that in 2018 it is a terrible idea!

Yours sincerely,

Ned Buckley Carmel Buckley

Ned & Carmel Buckley

Planning Application Document -for Viewing Purposes Only!

EDL Comment on Buckley Submission:

O'Grianna/Alleged Project Splitting:

See EDL Comment on Grace Point 1 Environmental Impact Assessment (EIA)/Alleged Project Splitting.

See EDL Comment on Ryan (Cooney) Spread of TB:

Use of Upperchurch Windfarm paperwork

See EDL Comment on Grace Point 4: Use of the 2013 EIS and 2014 EIA to inform the cumulative assessment.

Land set aside for Hen Harrier:

See EDL Comment on Grace Point 2: Alleged Compensatory Measures.

O'Siochrú/O'Muiré Submission

Emer Ó Siochrú & Toal Ó Muiré
Coumnageeha
Upperchurch, Thurles, Co Tipperary
Phone: 0868267555
E-Mail: emerosiochru@gmail.com

19 August 2018

Planning Department,
North Tipperary County Council
Nenagh
County Tipperary

TIPPERARY CO. COUNCIL
RECEIVED
20 AUG 2018
PLANNING SECTION
FILE NO. 18600913

Re: 22 Turbines, Upperchurch
Planning Ref.18/600913

Dear Sir/ Madam,

I am writing on behalf of myself and my husband to make a strong objection to the proposed development by Ecopower of 22 wind turbines and associates masts, substations roads etc. as described in the application no. 18/600913 submitted on the 17/07/2018. I enclose €20 in payment of the required fee.

The following are the grounds of my family's objection to the Ecopower proposal which are broadly listed in order of personal to local to national impacts, but are not to be taken as an order of priority.

1. The impact of this proposal has been to **destroy the commercial viability our the Eco Farm Visitor Centre and Accommodation** that we developed with the support of North Tipperary Leader and for which we have full Planning Permission Ref. 12510078 in 2012. My cottage and organic farm is located in the townland of Coumnageeha which will be surrounded on three sides by 4 existing turbines and the proposed 22 turbines. We have abandoned plans for the eco tourism centre as our consultants CHL ltd advised that it will not attract sufficient visitors because of the proximity of the 22 wind turbines to the buildings, yurts and external recreational areas of the property.

2. We had to abandon the refurbishment the cottage because of the potential effects of the proposed turbines, the nearest just 500m distant from the cottage, on my pre-existing health condition of heart arrhythmia. This fact has **impacted negatively on the viability of our farm** because I have to travel frequently to and from Dublin, paying the associated costs of accommodation, to manage contractors and other farm operatives to undertake work I could do if I were living there on a permanent basis.

3. The over-development of the area by this proposed large windfarm, in addition to the others existing and planned, will **destroy the potential of the Slieve Felim foothills as an tourism destination** for rural pursuits such as walking, cycling, horse riding etc. as well as for visitor accommodation forever while bringing no benefit to the community excepting the few participating landowners. My abandoned Eco Centre represents a loss of two full time jobs and two part time jobs in an area that has suffered economic decline.

4. The proposed development **has, and will create further economic and social inequality** in the local community because under the current arrangements some landowners (mostly non resident) will benefit from rents for a national commons resource i.e. wind energy that is captured by turbines situated on their land; while others including us living nearby receive no rents nor other economic benefit. Furthermore the proximity of the proposed turbines will prevent us from getting Planning Permission for wind turbines (even for personal use) on our land, thereby devaluing it further. This is an issue that Tipperary County Council has not addressed in its current Development Plan nor in its

EDL Comment on Ó Siochrú/Ó Muiré Submission:

Points 1 to 4 and 6: Comments on the effect of Upperchurch Windfarm

This submission appears to be an attempt to question the basis on which planning permission was granted in 2014 for the Upperchurch Windfarm (and is therefore an impermissible collateral attack on that planning permission), rather than a submission on the subject application UWF Related Works.

However, EDL would like to point out that there is a contradiction between Point 2 where it states that Ó Siochrú/Ó Muiré do not live in Coumnageeha on a permanent basis and Point 4 where it states that they do live nearby.

Also at Point 4 it is wholly untrue to state that the landowners of the Upperchurch Windfarm development are mostly non-resident. In fact Upperchurch Windfarm and associated works is planned for lands belonging to 37 landowners, 35 of whom live and farm their own land locally. The Hen Harrier Scheme involves 4 additional landowners, all of whom live and farm locally. The only non-resident is one landowner (5% or one turbine site) and Coillte Teo (10% or two turbine sites). Therefore 85% of the turbine sites and the associated works sites which are subject of UWF Related Works application, are on lands where the landowner is resident and farming their own land.

O'Siochrú/O'Muiré Submission

guidance to wind and solar energy developers. I attach a document by the PPN TEA Liaison Group that outlines what is needed for fair community participation in the exploitation of renewable energy resources at national, county and local level.

5. The proposed development will have **severe environmental and biodiversity impacts**. We wish to put on record our support for our neighbours Edel and Paul Grace's submission in all its extensive detailed points in this regard. In particular we wish to emphasise that the Ecopower submission is **deliberately misleading Tipperary County Council by not including ALL the existing and planned wind turbines** in the local area in its environmental impact studies. We also call your attention to the fact that Ecopower's **environmental impact studies were not reviewed or brought up to date** in the 5 years since its first application in 2013 despite obvious changes in wildlife patterns due to recently constructed turbines. We remind you that the local authority relies on the bone fides of private windfarm developers to honestly monitor and report on human health and wildlife impact as it has inadequate resources to do so itself.

6. Please also **review again in detail our submissions re the earlier Ecopower application no. 13510003** submitted on the 07/01/2013 and our submission and that of Kicommon & Upperchurch Wind Awareness Group of which we were members, to An Bord Pleanala re the above Application by Ecopower all of which still stand as nothing material has been changed in the current proposal except for the worse.

Sincerely,

Emer Ó Siochrú & Toal Ó Muiré

Planning Application Document for Viewing Purposes Only!

Appendixes

A: Previous submission to Tipperary CoCo re Ecopower Windfarm 2013

B: Previous submission to An Bord Pleanala re Ecopower Windfarm 2014

C: Previous submission to An Bord Pleanala from Kilcommon and Upperchurch Wind Awareness Group

D: TEA PPN Liaison Group Community Ownership in Developer-led RE

EDL Comment on Ó Siochrú/Ó Muire Submission:

Point 5: Support of Grace Submission

In particular see EDL comments on Page 6 and 7 of Grace submission;

Comment on Grace Point 4: Evaluation of Cumulative Impacts of Other Windfarms

Comment on Grace Point 4: Use of the 2013 EIS and 2014 EIA to inform the cumulative assessment

Grace Submission

Planning Department,
North Tipperary County Council,
Nenagh,
Co. Tipperary.

Mr.& Mrs. Paul & Edel Grace,
Grousehall,
Milestone,
Thurles,
Co. Tipperary

17th August 2018

Planning Application: 18600913 Tipperary County Council

UWF related works. The development will facilitate the construction and operation of the already **PART** consented (but not built) Upperchurch Windfarm (UWF) Planning Ref 13/510003. Which will consist of a) 17.9km of Internal Windfarm Cabling; b) 13 no. Haul Route Works, to facilitate the haulage of turbine components to the Upperchurch Windfarm site; c) 1 no Telecom Relay Pole, measuring 18m in height, with telecoms relay equipment attached; d) 3 no Realigned Windfarm Roads, to realign two lengths of consented Upperchurch Windfarm (UWF) Roads and to provide access to the telecoms Relay Pole; e) 1 no Change of use of an existing 'Agricultural' entrance to ' Agricultural and Forestry' entrance; and f) Ancillary Works. This application is for a 10 year permission, under Section 41 of the Planning and Development Act, 2000, as amended. An Environmental Impact Assessment Report and Natura Impact Statement (Stage 2 Appropriate Assessment) have been prepared in respect of this application.

Dear Sir/Madam,

In reference to the above proposed development application no: 18600913 we wish to make a strong objection to the proposal and herewith enclose €20.00 in payment of the required fee.

I am paying the €20.00 fee but I do not believe that I should be required to do so as I already paid a fee to comment on this development under reference number 12/510003 and expect that this additional fee will be refunded to me.

Planning Application under Assessment
Not Viewing Purposes Only

TIPPERARY CO
RECEI
17 AUG 2018
PLANNING
FILE NO.

Grace Submission

1.

In **O'Grianna and others v. An Bord Pleanala [2014] IEHC 632** it was judged that the connection to the national grid was an integral part of the overall development of which the construction of the turbines was the first part. The wind farm on its own serves no function if it cannot be connected to the national grid. In that way, the connection to the national grid is fundamental to the entire project, and therefore the cumulative effect of both phases must be assessed by the accompanying EIS in order to comply with the Directive. In the same way the Grid connection and all related works serve no purpose without the turbines. The O'Grianna judgement means that a project cannot be split into various parts but must be assessed as a whole project.

In this case the project is not only split into two parts but into three with the Grid connection going directly to An Bord Pleanala under SID and the related works going to you in Tipperary county council. This in fact means that two different planning authorities will be deciding on different parts of the same project. Meanwhile the old paperwork for the already consented wind farm is being resubmitted to both parties but only in context of cumulative assessment therefore at no stage will this entire project be assessed, as it should, according to correct planning law, as one entire project.

See Appendix 1

Furthermore in the Departments own policy document **Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities** it clearly states:

'Plan' and 'project' are not defined in the Habitats Directive but European Commission guidance and ECJ case law indicate that both should be given a very broad interpretation. The Waddenzee judgement has been critical in defining the concept of plan or project so that, in addition to new plans and projects, **existing plans and projects that are modified or undergo new or periodic consents or authorisations, are captured by AA requirements.** For example, an existing operational wastewater treatment plant requires AA when applying for a wastewater discharge licence under the Waste Water Discharge (Authorisation) Regulations, 200710. In addition, where projects require more than one authorisation (e.g. planning permission, waste permit and foreshore lease/licence), each consent authority must treat the separate applications as projects. It should be noted also that an assessment made at plan level does not exempt specific projects from AA requirements. It is therefore totally against planning law for this project to be parcelled out to different people at different times for judgement, especially as this submission by the developer contains modifications of the original grant of permission. The entire project, complete with all drawings and further information must be completely assessed again. **It is not correct that within the AA scoping assessment submitted the windfarm itself is screened out as it has already been assessed.**

See Appendix 2

Planning Application Document
For Viewing Purposes Only!

3rd Party Submission

Ecopower Developments Limited (EDL) Comment

EDL Comment on Grace Submission:

Point 1: Environmental Impact Assessment (EIA)/ Alleged Project Splitting

A number of Court decisions since **O'Grianna and others v An Bord Pleanála [2014] IEHC 632** have confirmed that the law does not require that planning permission for all integral parts of large projects must be sought or obtained at the same time, or as part of a single application to one consenting authority. Rather, the requirement is that the cumulative effects of all integral parts of a project must be assessed in any EIA in relation to the project.

We refer, for example, to **O'Grianna and others v An Bord Pleanála [2017] IEHC 7** and also to **North Kerry Wind Turbine Awareness Group v An Bord Pleanála [2017] IEHC 126**, which held: "*there is no necessity that a grid connection must be included in the planning application for the purpose of seeking consent in order for an E.I.A. to be carried out; rather, the E.I.A. requires information on the grid connection to enable a full E.I.A. to be carried out and for the Board to assess the likely significant impact of the wind farm and grid connection as a whole.*" In addition, in **Alen-Buckley v An Bord Pleanála [2017] IEHC 541**, the High Court stated: "*Insofar as the argument is advanced that the Developer was not entitled to lodge separate planning applications for the main development and the grid connection, it is clear that such an argument is unsustainable in the light of the dictum of Peart J. in O'Grianna and the stream of case law which has been generated since that decision. It will be recalled that in O'Grianna, Peart J. stated at para 27: "In that way, the connection to the national grid is fundamental to the entire project, and in principle at least, the cumulative effect of both must be assessed in order to comply with the Directive.*"

The Upperchurch Wind Farm (**UWF**) Related Works, which is the subject of the current application to Tipperary County Council, is one of five elements of the whole UWF project, which also includes UWF Grid Connection, UWF Replacement Forestry, the already consented Upperchurch Windfarm and UWF Other Activities**.** As set out in Table 1-3 of Chapter 1 Introduction, of the EIA Report, the UWF Grid Connection is subject of a current SID application to An Bord Pleanála, the UWF Replacement Forestry is subject of a current afforestation licence application to the Minister for Agriculture, the Upperchurch Windfarm is already consented, and the UWF Other Activities are activities that do not require planning permission. In the UWF Related Works EIA Report, both the effects of the UWF Related Works and the cumulative effects of all five elements of the whole Upperchurch Windfarm project are evaluated in each of the Impact Evaluation Tables in the environmental factor topic chapters, Chapters 6 to 17 of the EIA Report.

Ecopower Developments have provided sufficient information to enable Tipperary County Council to assess any likely significant effects of the Upperchurch Windfarm project as a whole.

Grace Submission

2.

The Department of Arts Heritage and the Gaeltacht advised the developer that the development would result in the loss of foraging habitat for pairs breeding within the SPA and instructed that the development should be treated as if within the SPA.

Item 1(a) of the RFI requested, "The creation of an equivalent area of new and equivalent alternative habitat suitable for foraging should then be considered as mitigation for that lost through potential displacement." In response the project has developed a plan that provides suitable mitigatory habitat for foraging hen harrier to offset any loss of potential foraging habitat within a 250m displacement zone of the Upperchurch turbines.

"hen harrier are known to use the site though infrequently and the loss of approximately 95ha of potentially suitable hen harrier habitat may result in a cumulative effect. The potential losses of foraging habitat for the hen harrier associated with the Upperchurch Wind Farm will be fully mitigated by the creation of areas of suitable foraging habitat"

To this end Ecopower submitted a plan for mitigatory land to be set aside for the hen harrier to compensate as follows

In order to mitigate the loss of potential foraging habitat for hen harrier, due to the construction of the wind farm at Upperchurch, it is proposed to provide alternative habitat, adjacent to the area of development. When deciding upon suitable mitigatory habitat, two factors have been considered;
• The alternative (mitigatory) habitat must benefit from management to improve its value as suitable foraging habitat for hen harrier;
• The land must not be within the 250m buffer from turbines or within the footprint of the development;
• The proximity of the SPA to the mitigatory habitat must be considered, so that the mitigatory habitat chosen, acts as a continuation of the SPA
Bearing in mind these factors, a total of 128 Hectares of land has been put forward as alternative habitat. The habitat types are a mixture of wet grassland and improved grassland.

See Appendix 3

However it appears from the submitted paperwork a portion of this land which should be a mixture of wet grassland and improved grassland is to be planted as replacement forestry. The replacement forestry is a separate condition imposed on the developer in order to fulfil the replanting obligation which will arise from the felling of forestry for the development of the whole Upperchurch Windfarm project. Please see attached Appendix 4 which should the set aside land for hen harrier complete with description for its planned use to create habitat for hen harrier. These same fields form part of the UWF replacement forestry. The same pieces of land cannot have both 30 - 70% rush coverage and be replanted as forestry.

See Appendix 4

Planning Application Document -for Viewing Purposes Only!!

EDL Comment on Grace Submission:

Point 1: Appropriate Assessment

The already consented Upperchurch Windfarm was subject to AA by An Bord Pleanála in 2014 and it was concluded in the Board Order (PL22.243040) that "*on the basis of the information available, the proposed development, either individually or in combination with other plans or projects, would not adversely affect the integrity of the any European site in view of the site's conservation objectives.*"

The Natura Impact Statement (**NIS**) submitted with the UWF Related Works application comprises a detailed evaluation of the potential impacts on European Sites of the UWF Related Works and the other elements of the UWF project individually, as a whole project and in-combination with other plans and projects. For an example see: *Slievefelim to Silvermines SPA/Reduction in or Loss of suitable or potentially suitable Hen Harrier Foraging Habitat* (Table 5-10 on pages 186 to 192 of the NIS). This table demonstrates how all of the project elements are included for the evaluation of cumulative / in-combination effects.

The NIS concludes: "*that neither the Whole Upperchurch Windfarm Project, nor any other Element of the Whole UWF Project, alone or in combination, will result in any effects that will adversely affect the integrity of the European Sites under consideration, having regard to their respective conservation objectives, in circumstances where "no reasonable scientific doubt" remains as to the absence of such adverse effects*."

Please note also that the assertion that "*this submission by the developer contains modifications of the original grant of permission*" is not correct.

EDL Comment on Grace Submission:

Point 2: Upperchurch Windfarm to be treated as 'being within the SPA' (as requested by DAU)

This point relates to Upperchurch Windfarm, for which planning permission has already been granted, and not to the subject application - UWF Related Works.

For clarity, during the submission period on the planning application for Upperchurch Windfarm (2013), the DAU (NPWS) made a submission to Tipperary County Council stating that, because the windfarm is located close to the boundary of the Slievefelim to Silvermines Mountain SPA for Hen Harrier, it should be treated as being within the SPA for the purposes of evaluating the ex-situ effects on Hen Harriers which breed within the SPA but forage outside of the SPA. It should be noted that the nearest turbine to the SPA is in fact 490m from the boundary, and this fact was stated in the Revised NIS submitted to Tipperary County Council in 2013, in the response to the Request for Further Information. Upperchurch Hen Harrier Scheme, which is a management plan to enhance and protect foraging areas for the hen harrier bird outside of the SPA, was proposed by the developer in response to the submission by DAU. The implementation of this Scheme is conditioned in planning condition No. 18 of the planning consent for Upperchurch Windfarm.

In addition, at appeal stage to An Bord Pleanala, the DAU made a submission on the 4th June 2014 on the Revised NIS, where DAU noted that "*Where suitable habitat foraging within the SPA occurs within a radius of 250m around operational wind turbines, this is currently considered by this Department to require mitigation habitat. However, it is noted that all turbines within the proposed development are more than 250m from the SPA boundary.*"

Grace Submission

In that regard, the Court has previously ruled that the measures provided for in a project which are aimed at compensating for the negative effects of the project cannot be taken into account in the assessment of the implications of the project provided for in Article 6(3) of the Habitats Directive (judgments of 15 May 2014, **Briels and Others, C-521/12, EU:C:2014:330**, paragraph 29, and of 21 July 2016, **Orleans and Others, C-387/15 and C-388/15, EU:C:2016:583**, paragraph 48)

It is only when it is sufficiently certain that a measure will make an effective contribution to avoiding harm, guaranteeing beyond all reasonable doubt that the project will not adversely affect the integrity of the area, that such a measure may be taken into consideration when the appropriate assessment is carried out (see, to that effect, judgment of 26 April 2017**, Commission v Germany, C-142/16, EU:C:2017:301**, paragraph 38).

As a general rule, any positive effects of the future creation of a new habitat, which is aimed at compensating for the loss of area and quality of that habitat type in a protected area, are highly difficult to forecast with any degree of certainty or will be visible only in the future (see, to that effect, judgment of 21 July 2016, **Orleans and Others, C-387/15 and C-388/15**, EU:C:2016:583, paragraphs 52 and 56 and the case-law cited).

Case C-164/17 Grace & Sweetman v. An Bord Pleanala the judgement states "It is not the fact that the habitat concerned in the main proceedings is in constant flux and that that area requires 'dynamic' management that is the cause of uncertainty. In fact, such uncertainty is the result of the identification of adverse effects, certain or potential, on the integrity of the area concerned as a habitat and foraging area and, therefore, on one of the constitutive characteristics of that area, and of the inclusion in the assessment of the implications of future benefits to be derived from the adoption of measures which, at the time that assessment is made, are only potential, as the measures have not yet been implemented. Accordingly, and subject to verifications to be carried out by the referring court, it was not possible for those benefits to be foreseen with the requisite degree of certainty when the authorities approved the contested development."

This same issue arises from the grant of permission for the 22 Upperchurch wind turbines, which include the compensatory land for the hen harrier. As this application is now to be examined in total it is clear that granting permission for this development would be ultra vires of both the EU directive and Irish planning law.

See Appendix 5

3.

The developer has been told to treat this development as being within the SPA and indeed most of the Grid infrastructure is within the SPA and as such the effects of all works including the turbines must be viewed in this light.

Case C 404/09 Commission v Spain, paragraph 100 (and the case law cited) states
An assessment made under Article 6(3) of the Habitats Directive cannot be regarded as appropriate if it contains gaps and lacks complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the SPA concerned (see, to that effect, **Case C-304/05 Commission v Italy [2007] ECR I-7495**, paragraph 69)

Planning Application Document for Viewing Purposes Only

EDL Comment on Grace Submission:

Point 2: UWF Replacement Forestry

The claim made there is incorrect. While UWF Replacement Forestry is located adjacent to Upperchurch Hen Harrier Scheme lands, the new forestry is located on entirely separate lands. There is no overlap. In fact, one of the reasons that the site location for UWF Replacement Forestry was selected, during an examination of alternative locations, was that it was proximate to the lands involved in the Upperchurch Hen Harrier Scheme, and the new native woodland would enhance this scheme – see Reference Documents: UWF Replacement Forestry Section 4.2.1.1: Description & Comparison of Alternative Locations; Volume F6 (Part 1) of the EIAR Report.

EDL Comment on Grace Submission:

Point 2: Alleged Compensatory Measures

This submission appears to be an attempt to question the basis on which planning permission was granted in 2014 for the Upperchurch Windfarm (and is therefore an impermissible collateral attack on that planning permission), rather than a submission on the subject application UWF Related Works. However, for the avoidance of doubt, the Upperchurch Hen Harrier Scheme is a mitigation measure and not a compensatory measure. As has been confirmed by the Court of Justice of the European Union (including in **Case C-164/17 Grace & Sweetman v An Bórd Pleanála**) a compensatory measure is one aimed at compensating for the adverse effects of a project on a protected site. As noted in the EDL Comment on *Point 1: Appropriate Assessment* above, no element of the Upperchurch Windfarm project will adversely affect the integrity of a European Site.

In the NIS submitted with UWF Related Works, the effects on the Slievefelim to Silvermines Mountain SPA are evaluated for a reduction in or loss of, suitable or potentially suitable Hen Harrier foraging habitat (Table 5-10: Reduction in of Loss of Suitable of potentially suitable Hen Harrier Foraging Habitat (alone) on pages 186 to 190 of the 2018 NIS) – the evaluation is that there will be no permanent exclusion of Hen Harrier from foraging habitat within the SPA due to the UWF Related Works and therefore no adverse effects. The positive effects of the Upperchurch Hen Harrier Scheme are not taken into account in this table. (*Note: there is some repetition of Table Numbers in the NIS, in which case the page number indicates the correct table*)

Indeed, in relation to the Upperchurch Windfarm, on carrying out the 2014 AA, the An Bórd Pleanála Inspector noted that "*the documentation submitted provides for a series of mitigation measures including the provision of alternative foraging areas to replace potential/possible foraging areas displaced as a result of the siting of turbines on the (windfarm) site. It is however important to state that irrespective of whether these alternative foraging areas offered by way of mitigation, are or are not provided, I am satisfied that no adverse effects arise from the development in relation to the Natura Site and any qualifying interest or objectives*."

EDL Comment on Grace Submission:

Point 3: Upperchurch Windfarm to be treated as 'being within the SPA' (as requested by DAU)

- see EDL Comment on Grace Point 2 (page above).

Grace Submission

This proposed development will also destroy the habitat of other protected species. In the case of the **Marsh Fritillary Butterfly Habitat Loss: habitat extent to be lost -5 - 20%** of total suitable habitat present.
The amount of habitat loss is not precise and leaves rather a large amount of doubt.

There should be no loss of habitat for listed species; however within the submission it is stated that:
Marsh Fritillary Butterfly Habitat Loss: habitat extent to be lost -5 - 20% of total suitable habitat present.
Golden Plover: Habitat Loss and Disturbance: amount of suitable roosting or foraging habitat (less than 1% of available habitat) lost
Meadow Pipit: Habitat Loss: less than 1% of available habitat lost
The developer claims that these losses are slight or not significant. Hen Harriers mostly prey on small birds and mammals. Open habitats support greater numbers of the Hen Harriers' preferred prey species, such as Meadow Pipit and Skylark therefore a threat to the meadow pipit could have significant impacts on the hen harrier.

No mitigation is proposed and the habitat loss is disregarded.
No mitigation is proposed because there is no mitigation possible, the only answer would be to go to 6.4, but it cannot pass the test "If, in spite of a negative assessment of the implications for the site and in the absence of alternative solutions a plan or project must nevertheless be carried out for imperative reasons of overriding public interest," There is no necessity to build this windfarm on this site which will have a negative effect on the Natura Site and Species

See Appendix 5

Case C-164/17 Grace & Sweetman v. An Bord Pleanala the judgement states: It follows that the answer to the question referred is that Article 6 of the Habitats Directive must be interpreted as meaning that, where it is intended to carry out a project on a site designated for the protection and conservation of certain species, of which the area suitable for providing for the needs of a protected species fluctuates over time, and the temporary or permanent effect of that project will be that some parts of the site will no longer be able to provide a suitable habitat for the species in question, the fact that the project includes measures to ensure that, after an appropriate assessment of the implications of the project has been carried out and throughout the lifetime of the project, the part of the site that is in fact likely to provide a suitable habitat will not be reduced and indeed may be enhanced may not be taken into account for the purpose of the assessment that must be carried out in accordance with Article 6(3) of the directive to ensure that the project in question will not adversely affect the integrity of the site concerned; that fact falls to be considered, if need be, under Article 6(4) of the directive.

For Consultation Purposes Only

EDL Comment on Grace Submission:

Point 3: Loss of Habitat in relation Marsh Fritillary, Golden Plover, and Meadow Pipit

Marsh Fritillary, Golden Plover and Meadow Pipit are not listed as Special Conservation Interests of the Slievefelim to Silvermines Mountain SPA. The Hen harrier is the only listed species for the SPA, and there will be no permanent exclusion from foraging or nesting habitat for the hen harrier within this SPA.

The Marsh Fritillary is listed on Annex II of the Habitats Directive, the Golden Plover is listed on Annex I of the Birds Directive, while the Meadow Pipit is not a listed species. The effects on Marsh Fritillary, Golden Plover and Meadow Pipit were evaluated in Chapter 8: Biodiversity of the EIA Report, and the conclusion was that the effects of habitat loss or disturbance/displacement will not be significant (see Sections 8.11.4 and 8.7.4 of Chapter 8 Biodiversity of the EIA Report).

Grace Submission

4.

The information to be contained in the EIS must include:
(c) a description of the likely significant effects (including direct, indirect, secondary, **cumulative,** short, medium and long-term, permanent and temporary, positive and negative) of the proposed development on the environment resulting from:

- the existence of the proposed development,
- the use of natural resources,
- the emission of pollutants, the creation of nuisances and the elimination of waste,

and a description of the forecasting methods used to assess the effects on the environment;

The further criteria for determining whether a development would or would not be likely to have significant effects on the environment of which

1. Characteristics of proposed development

The characteristics of proposed development, in particular:

- **the cumulation with other proposed development**

However in this submission all of the wind farms built or proposed within the 15km study zone of the development that should be assessed for cumulative impact are as follows:

Garracummer	Bord Gais	Operating	17
Knockstanna	Airtricity	Operating	5
Cappawhite	ESB	Operating	18
Glencarbry	Ecopower	Operating	9
Glenough	ABO Wind	Operating	14
Hollyford	Viridian	Operating	3
Turraheen	Ecopower	Operating	3
Milestone	ABO Wind	Operating	5
Knockmeale	Templederry	Operating	2
Ballinlough	Jaroma	Operating	3
Curraghgraigue	Aeolus	Operating	6
Ballinveny	North Tipp	Operating	3

This is a **total of 88 Turbines built and operating in close proximity to both the proposed development and the SPA**. In many instances these windfarms are required to monitor the impact of their development on the hen harrier and other birds. For example Glenough Windfarm has the following condition attached:

26. Prior to the commencement of development, the developer shall agree with the planning authority a protocol for annual reports on the impact of the windfarm on wild birds in the vicinity, with particular reference to the hen harrier. These reports shall be submitted on an agreed date **annually for as long as the windfarm is operational**, or, in default of agreement shall be as agreed with An Bord Pleanála.
Reason: To allow full monitoring of the ecological impact of the proposed development, with particular reference to species scheduled under the Wildlife Act and the EU Habitats and Wild birds Directives.
Nowhere in this current submission evidence to show where the cumulative impacts of these turbines has been described, reported, analysed or in any way taken into consideration. In this particular instance only one post construction survey has been submitted.

The developer explains this as follows:

Planning Application Document - for Viewing Purposes Only!

EDL Comment on Grace Submission:

Point 4: Evaluation of Cumulative Impacts of Other Windfarms

As outlined in Chapter 2 (The EIAR Process including Scoping) of the EIA Report, an area of 15km around the footprint of the subject development UWF Related Works, and around the other elements of the whole Upperchurch Windfarm project was used to scope other large projects and relevant activities with potential to cause cumulative effects with the various elements of the whole Upperchurch Windfarm project.

In total, 32 projects and 3 activities were scoped for potential to cause cumulative effects, the scoping of these projects is included as Appendix 2.3. This included the large windfarms noted in the submission, but excluding Knockmeale, Ballinlough, Curraghgraigue and Ballinveny because these projects are too small and too far away to cause cumulative effects. It should be noted that all of the turbines in the Hollyford area to the south are included due to the large number of turbines in this area and its proximity to the Upperchurch area.

See also EDL Comment on Embleton Submission Point 18: Landscape for note on the EIA Report evaluation on cumulative visual impact.

Grace Submission

Note: The topic specific competent experts did not carry out a new evaluation of the Consented Windfarm, rather they relied on the effects of the Consented Windfarm (with all mitigation measures) as have been already established and deemed acceptable, by An Bord Pleanála. **Impact information and impact significance is drawn from the Board's assessment, from the reasons and considerations and planning conditions as set out in the Board's Order and from the EIS, Reply to Further Information and additional information submitted during the planning process in 2013/2014**. A compiled chapter has been prepared in the same format as the Description of the Development chapters for the UWF Grid Connection, the UWF Related Works and the UWF Replacement Forestry EIAR. This compiled chapter is provided in this EIAR Chapter 5: Description of the Development: Section 5.6.1 and Appendix 5.5.

5.

Climate

According to the developer when the effects of UWF Related Works on Climate are considered cumulatively with the effects of Upperchurch Windfarm and other operating windfarms in the Republic of Ireland - the summary result is that the cumulative effects will be significant and positive. However this takes no account of the cost of Wind energy in Ireland or the lack of significant reductions in our emissions. Attached please find a copy of the COST OF WIND ENERGY IN IRELAND and also a peer reviewed study of 10 European countries showing that an increase in wind in a country actually increases our use and dependence on fossil fuels. In this context the cumulative effect of adding more wind turbines to the gird is significant and negative.

See Appendix 6 & Appendix 7

6.

Material Assets

Built Services relates to the pipes, electricity system, lines and cables, telecoms cables and wireless signals which supply the drinking water, electricity, telephone and broadband services to local residents, businesses and community facilities. Our local area has no access to broadband and I rely on a Fixed Wireless broadband provider, providing broadband without the need for a phone line, the company is ECHO IT and they have a mast located at Seskin . There has been no study conducted on the potential effect on this and Echo IT confirmed that they had not been contacted. This is the only access I have to internet and the loss of this service would have a significant and negative effect on my business. I am sure I am not the only local person who relies on this service.

SCHEDULE 6 of the Planning and Development Act outlines the information to be contained in an EIS

Article 94

(c) a description of the likely significant effects (including direct, indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative) of the proposed development on the environment resulting from:

- The existence of the proposed development,
- The use of natural resources,
- The emission of pollutants, the creation of nuisances and the elimination of waste, and a description of the forecasting methods used to assess the effects on the environment.

As the effect of this windfarm and works on the provision of fixed wireless broadband has not been considered the EIA is incomplete.

Planning Application Document
Not for Publication for purposes Only!

Point 4: Use of the 2013 EIS and 2014 EIA to inform the cumulative assessment (*continued from previous page)*

The impact of time since the 2013 EIS and 2014 EIA for Upperchurch Windfarm was considered by these experts for each environmental factor topic, and they took into account any changes in the existing environment, along with any new impact pathways or environmental topics that ought to be considered. Examples of additional matters included in the 2018 EIA Reports are: the newly prescribed EIA environmental factor topics of Human Health and Land; new sensitive environmental receptors - Marsh Fritillary and associated Local Water Dependent Habitats; and electromagnetic fields as a source of effects. Upperchurch Windfarm was specifically evaluated for these additional matters in the 2018 EIA Reports in order to provide information for the cumulative assessments within the 2018 EIA Reports.

EDL Comment on Grace Submission:

Point 5: Climate

It is established EU (Renewable Energy Directive 2009/28/EC) and national policy (National Renewable Energy Action Plan) to develop renewable energy resources with the generation of electricity from wind as one of the main technologies to be deployed.

Point 5: The Cost of Wind

Appendix 6 of the Grace submission comprises *The Cost of Wind Energy in Ireland* publication by Wind Aware Ireland (WAI November 2017). This publication was reviewed by the Commission for Regulation of Utilities (CRU) in response to a request in July 2018 from the Public Accounts Committee (PAC), for CRU to provide detailed observations on the WAI publication and other matters. In response, CRU provided the PAC with a detailed information note (dated 19th September, 2018). The full information note can be found at https://data.oireachtas.ie/ie/oireachtas/committee/dail/32/committee_of_public_accounts/submissions/2018/2018-09-28_correspondence-paul-mcgowan-chairperson-commission-for-regulation-of-utilities-32r001584-pac_en.pdf
CRU's conclusion on the WAI Report is set out in Section 5 (Page 14) where it states;
The central argument of the WAI report is supported by a number of inaccuracies and misunderstandings of the regulatory framework. In addition, the authors of the WAI report have been selective in their reading of the various material used in order to construct their argument and have not accurately represented the material. Furthermore, although the report is calling for a pause on climate policy actions, the report does not set out an alternative view of how Ireland might meet its renewable commitments by 2020. In conclusion, having reviewed and considered the WAI report, it is the CRU's view that WAI report should not be used by the Committee as a basis on which to evaluate energy policy. We hope that this information note assists the Committee on this matter and we are available to respond to any further queries in relation to these reports.

Appendix 7 of the Grace submission comprises a study called 'Have fossil fuels been substituted by renewables? An empirical assessment for 10 European Countries' which was published by Elsevier. Ecopower Developments Limited does not accept the conclusions of the report and further notes that the analysis is for: Belgium, the Czech Republic, Denmark, Finland, France, Greece, Portugal, Spain, Sweden and the United Kingdom. Ireland is not part of the study and therefore in any case, no conclusions can be drawn for Ireland.

Point 6: Material Assets

This point relates to Upperchurch Windfarm, for which planning permission has already been granted, and not to the subject application - UWF Related Works. To clarify, it is a condition of planning (Condition No. 13) for Upperchurch Windfarm, that in the event that the turbines cause interference to telecommunication signals, that effective measures shall be introduced to minimise interference with telecommunication signals in the area.

Grace Submission

7.

Material Contravention of the County Development Plan

The County Development plan outlines the amount of turbines concentrated in this area:
The South County area in and around the Hollyford Hills and Mountain Mosaic **holds the highest concentration of both operational, granted and submitted applications for wind farms.** The majority of the applications in the North County Area have been in the **Silvermines – Rearcross area and the Upperchurch– Kilcommon area in the west of Tipperary.** These two development clusters are in reality all located in the same area, the old North/South county divide is only a paper divide.
The applications in "Areas open for Consideration" were generally granted while conversely around 70% of the applications in "areas unsuitable for wind energy development" were refused.
The extent of the development over the last few years is reflected in the County Development plan. This is particularly evident in and around the Slieve Felim-Silvermines and the Hollyford Hills uplands. Significant parts of these uplands are also subject to Natura 2000 Designations and are designated as Secondary Amenity Areas in the County Development Plan (as varied). The combined area at this location has seen the **greatest intensity of wind energy development** in recent years and there remains (or did so at the time the plan was written in 2016) approximately 80 permitted turbines yet to be constructed in this area. It is recommended, in view of the significant numbers of turbines yet to be constructed, and in view of the environmental designations of the area, that over the lifetime of this Strategy that a precautionary approach to wind energy development in these areas be undertaken and that they be **designated as unsuitable for new wind energy development.**

In relation to the Slievefelim to Silvermines Mountains SPA, in view of the extent of existing and consented wind energy projects within the SPA and the **as yet unknown cumulative impact of these,** it advocates taking the precautionary approach and recommending avoidance of these areas for wind energy development. **Therefore, both cSAC, SAC and SPA areas are considered unsuitable for further wind energy development over the lifetime of this Strategy.** These standards are based on the mitigation measures recommended in the SEA.

The County Council in its development plan admit that with regard to the already built and consented turbines in this area they do not yet know the cumulative impact on either people or habitats.

A recent application for 2 wind turbines in the area Ref: 15/601088 for Glenpaudeen in Hollyford was refused by both Tipperary County Council and An Bord Pleanala PL 92.248010 with the following reason given:

TWIND 4.6
All proposals for wind energy development will have regard to the cumulative effect of the development on the environment when considered in conjunction with other existing and permitted wind energy developments in the area.

It is a policy TWIND 4 (Policy Areas for Wind Energy Development) of the South Tipperary County Development Plan 2009, as varied, to assess proposals for new wind energy development in accordance with the associated Wind Energy Strategy Map and with certain parameters depending on whether such development is located in areas "Open for Consideration" or in areas "Unsuitable for New Development". With respect to areas 'Unsuitable for New Development" it is stated that

Planning Application Document for Viewing Purposes Only!

EDL Comment on Grace Submission:

Point 7: County Development Plan

This point relates to Upperchurch Windfarm, for which planning permission has already been granted, and not to the subject application - UWF Related Works. The purpose of the UWF Related Works application is as enabling works to the already permitted development, namely Upperchurch Windfarm.

It should also be noted that UWF Related Works and Upperchurch Windfarm are not in the Slieve Felim to Silvermines Mountain SPA and are within a policy area 'Open for consideration for New Wind Energy Development' in the Tipperary Wind Energy Strategy 2016.

See also Comments on Embleton Point 2: Windfarms in the Landscape

Grace Submission

"new wind energy development in these areas will not normally be considered, except as specified in policy TWIND 4.14."
The proposed development is located on lands identified as an area unsuitable for new wind energy development within the Development Plan, and, while it adjoins another wind development, it does not constitute an extension of that development, and it has not been demonstrated that the proposed development would be served by the infrastructure serving that existing development, but would have its own on-site infrastructure, including roadways, cable routes, borrow pit and electrical control building. The proposed development would not, therefore, come within the limited circumstances provided for in policy TWIND 4.14. Accordingly, it is considered that the proposed development would contravene materially the policies and objectives of the South Tipperary County Development Plan 2009, as varied, specifically Appendix 6, Tipperary Renewable Energy Strategy, Wind Energy Strategy, Policy TWIND4. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

The developer will no doubt argue that the turbines consented are not in the area zoned unsuitable for wind development, the fact remains that the majority of the grid route is in the area deemed Not suitable for wind development. As the O'Grianna judgement makes clear the grid connection is part of the wind turbine project and is development, it is not exempted development and therefore to grant permission would contravene the county development plan. Furthermore, the original grant of consent was granted with the instruction from the Department of Arts Heritage and the Gaeltacht that the development should be treated as if within the SPA. The county development plan makes clear both **cSAC, SAC and SPA areas are considered unsuitable for further wind energy development over the lifetime of this Strategy. These standards are based on the mitigation measures recommended in the SEA.**

See Appendix 8

8.
The grant of planning permission by An Bord Pleanala states as Condition No. 1:

The development shall be carried out and completed in accordance with the plans and particulars lodged with the application, as amended by the further plans and particulars submitted to the planning authority on the 27th day of November, 2013, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.

In light of the withdrawal of consent by one land owner Mr. Buckley, (informed to county council, An Bord Pleanala and subject of a Judicial Review) the development as consented cannot be carried out in full.

Planning Application Document
Drawing Purposes Only

EDL Comment on Grace Submission:

Point 7: Inside/Outside SPA

This point relates to Upperchurch Windfarm, for which planning permission has already been granted, and not to the subject application UWF Related Works.

For clarity - During the planning process (2013) for Upperchurch Windfarm, the DAU (NPWS) commented that, because the windfarm is located close to the boundary of the Slievefelim to Silvermines Mountain SPA for Hen Harrier, it should be treated as being within the SPA for the purposes of evaluating the ex-situ effects on Hen Harriers which breed within the SPA but forage outside of the SPA.

See also comment on Point 2 – Page 3 above.

EDL Comment on Grace Submission:

Point 8: Mr. Buckley's Lands

This point relates to Upperchurch Windfarm, for which planning permission has already been granted, and not to the subject application UWF Related Works.

To clarify, by way of background, Mr Buckley was in dispute with the Upperchurch Windfarm project whereby he withdrew consent to apply for development on his lands (which comprised the windfarm access road in question), during the planning process. This dispute was part of a Judicial Review of the planning consent for Upperchurch Windfarm (2014 No. 579 JR). Mr Buckley failed in his challenge to the planning consent. Part of the reason for this is because, as Mr Justice Cregan adds in the paragraph quoted in the submission, "*I am satisfied that the Applicant did give a valid and informed consent to the developer to make the application.*"

In relation to UWF Related Works, Mr. Buckley's land is not located within the boundary of the UWF Related Works site.

Grace Submission

Mr. Justice Cregan in his judgement stated:
71. In my view, even if Mr. Buckley was subsequently withdrawing his consent, he did provide consent to the application and to the use of the airspace above his lands. What he is withdrawing his consent to now, is to the construction of an access road over his lands. However, given that this is so, and given that the developer cannot build on his lands even if he has planning permission without Mr. Buckley's consent, **the developer will have to reconfigure the road to avoid Mr. Buckley's land. Whether this amounts to an immaterial deviation or not is not a matter for me to decide. That is a matter for another day.**

However although the developer realigns some roads in this application, he simply does not address the issue of Mr. Buckley's road, he simply leaves it out. This issue has not been addressed and it leaves it impossible for one to comment on that section of four turbines and the drainage around that section of the development. Any planning application must fully describe the proposed development and this application does not do so, this is in contravention of the planning and development act.

See Appendix 9

9.
Noise and Animal Health

This submission from Ecopower is simply a resubmission of an EIS originally prepared and submitted in 2013. The noise assessment methodology was adopted from ETSU-R-97 – The Assessment and Rating of Wind Farm Noise (1997) This document is currently used as the industry standard in the UK and Ireland and the noise levels contained within the Irish Wind Energy Planning Guidelines are adapted from this document. This standard is outdated because:

- acoustic standards which formed the basis of discussion for the ETSU-R-97 document have been updated
- the maximum size of commercial scale wind turbines has increased
- the maximum size of wind farms has also increased
- the possibility for closer adjacencies between neighbouring wind farms has increased, leading to the need for greater consideration of cumulative noise effects
- the planning policy and guidance landscape has changed
- the effect of noise on animal health

None of these changes are reflected in the studies carried out at noise sensitive locations in the Upperchurch Windfarm area.

This has a particular relevance to the wildlife in the area, especially protected species such as badgers and bats. Please read attached peer reviewed paper titled Wind turbines cause chronic stress in badgers R. C. N. Agnew1,2, V. J. Smith3, R. C. Fowkes1

See Appendix 10

Case C-258/11 Sweetman v. An Bord Pleanala the judgement states: So far as concerns the assessment carried out under Article 6(3) of the Habitats Directive, it should be pointed out that it cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned (see, to this effect, Case C-404/09 Commission v Spain, paragraph 100 and the case-law cited). It is for the national court to establish whether the assessment of the implications for the site meets these requirements.
See Appendix 11

Planning Application Document
For Validation Purposes Only

EDL Comment on Grace Submission:

Point 9 and 10: Noise

Again, this point primarily relates to Upperchurch Windfarm, for which planning permission has already been granted, and not to the subject application UWF Related Works. The noise from operational Upperchurch turbines has already been assessed by An Bord Pleanála and considered acceptable.

In relation to the operation stage, as there will be no sources of operational noise from any part of the UWF Related Works, there will be no potential for UWF Related Works to cause cumulative effect. (see Section 12.2.4.3 of Chapter 12: Air of the EIA Report).

During construction of UWF Related Works and the other element of the whole Upperchurch Windfarm project, there will be noise emitted by construction machinery and as a result of construction works, but only during daylight hours and generally of short duration at any one point.

The potential for construction stage noise to cause disturbance effects to wildlife is comprehensively evaluated in the EIA Report in Chapter 8 Biodiversity and effects are evaluated to be not significant (See Chapter 8: Biodiversity, Sections 8.3.4.1; 8.4.4.3; 8.6.4.2; 8.7.4.2; 8.7.4.5; 8.8.4.4; 8.9.4.2; 8.9.4.3; 8.9.4.5; 8.9.4.6; and 8.10.4.1).

The potential for construction stage noise to effect people is comprehensively evaluated in the EIA Report in Chapter 12 Air and Chapter 7 Human Health and effects are evaluated to be not significant (See Chapter 12 Air: Sections 12.2.4.2; 12.2.4.3 and 12.3.4.3); and (Chapter 7: Human Health, Sections 7.2.4.2, 7.3.4.1 and 7.4.4.1).

Furthermore, in order to avoid cumulative noise effects to local residents in the Knockmaroe and Knockcurraghbola area where works for the UWF Related Works, UWF Grid Connection and Upperchurch Windfarm occur in the same area, construction works will only be carried out for one project element at a time within 350m of a local residence – See PD-03, Section 5.2.4 Chapter 5: Description of the Development.

Grace Submission

10.
Noise and Human Health

This submission from Ecopower is simply a resubmission of an EIS originally prepared and submitted in 2013. The noise assessment methodology was adopted from ETSU-R-97 – The Assessment and Rating of Wind Farm Noise (1997) This document is currently used as the industry standard in the UK and Ireland and the noise levels contained within the Irish Wind Energy Planning Guidelines are adapted from this document. This standard is outdated because:

- acoustic standards which formed the basis of discussion for the ETSU-R-97 document have been updated
- the maximum size of commercial scale wind turbines has increased
- the maximum size of wind farms has also increased
- the possibility for closer adjacencies between neighbouring wind farms has increased, leading to the need for greater consideration of cumulative noise effects
- the planning policy and guidance landscape has changed
- the effect of noise on animal health

None of these changes are reflected in the studies carried out at noise sensitive locations in the Upperchurch Windfarm area.

DIRECTIVE 2014/52/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment
Article 3
1. The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:
(a) population and human health;
(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;
(c) land, soil, water, air and climate;
(d) material assets, cultural heritage and the landscape;
(e) the interaction between the factors referred to in points (a) to (d).

in Article 5, paragraphs 1 to 3 are replaced by the following:
'1. Where an environmental impact assessment is required, the developer shall prepare and submit an environmental impact assessment report. The information to be provided by the developer shall include at least:
(a) a description of the project comprising information on the site, design, size and other relevant features of the project;
(b)a description of the likely significant effects of the project on the environment;
(c)a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;
(d) a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment;
(e) a non-technical summary of the information referred to in points (a) to (d); and
(f)any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.

Planning Application Document
Not to be viewed for Purposes Only

Point 10: Windfarm Noise

This point appears to be an attempt to question the basis on which planning permission was granted in 2014 for the Upperchurch Windfarm (and is therefore an impermissible collateral attack on that planning permission), rather than a submission on the subject application UWF Related Works. It does not relate to cumulative effects of the Whole UWF Project.

Grace Submission

Where an opinion is issued pursuant to paragraph 2, the environmental impact assessment report shall be based on that opinion, and include the information that may reasonably be required for reaching a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment. The developer shall, with a view to avoiding duplication of assessments, take into account the available results of other relevant assessments under Union or national legislation, in preparing the environmental impact assessment report.

Infrasound, sometimes referred to as low-frequency sound, is sound that is lower in frequency than 20 Hz or cycles per second, the "normal" limit of human hearing. Hearing becomes gradually less sensitive as frequency decreases, so for humans to perceive infrasound, the sound pressure must be sufficiently high. The ear is the primary organ for sensing infrasound, but at higher intensities it is possible to feel infrasound vibrations in various parts of the body. The study of such sound waves is sometimes referred to as infrasonics, covering sounds beneath 20 Hz down to 0.1 Hz and rarely to 0.001 Hz. People use this frequency range for monitoring earthquakes, charting rock and petroleum formations below the earth, and also in ballistocardiography and seismocardiography to study the mechanics of the heart.

The submitted EIS states the following:

4.4.3 Wind Farms Noise and Health
To date there is no published evidence to suggest a direct link between wind farms and health. The main publications supporting these views include.
a) Australian National Health and Medical Research Council (NHMRC) July 2010
"There is currently no published scientific evidence to positively link wind turbines with adverse health effects".
b) Wind Turbine Sound and Health Effects - An Expert Panel Review - American Wind Energy Association and Canadian Wind Energy Association December 2009
"There is no evidence that the audible or sub-audible sounds emitted by wind turbines have any direct adverse physiological effects.
The ground-borne vibrations from wind turbines are too weak to be detected by, or to affect, humans. The sounds emitted by wind turbines are not unique. There is no reason to believe, based on the levels and frequencies of the sounds and the panel's experience with sound exposures in occupational settings, that the sounds from wind turbines could plausibly have direct adverse health consequences."
c) Renewable UK - Wind Turbine Syndrome - An independent review of the state of knowledge about the alleged health condition July 2010
"There is no reason to believe that the sounds from wind turbines could plausibly have direct adverse health consequence"

Planning Application Document
Not to be used for any purpose other than viewing

However in the intervening period this has now changed :

A) Australia's Administrative Appeals Tribunal (AAT) has declared that the "noise annoyance" caused by wind turbine generated low-frequency noise and infrasound "is a plausible pathway to disease" based on the "established association between noise annoyance and some diseases, including hypertension and cardiovascular disease, possibly mediated in part by disturbed sleep and/or psychological stress/distress."
The AAT also held that "The dB(A) weighting system is not designed to measure [wind turbine noise], and is not an appropriate way of measuring it." "We accept that the evidence points to an association and a plausible pathway between WTN and adverse health effects (of a physical nature),

Point 10: Windfarm Noise

This point appears to be an attempt to question the basis on which planning permission was granted in 2014 for the Upperchurch Windfarm (and is therefore an impermissible collateral attack on that planning permission), rather than a submission on the subject application UWF Related Works. It does not relate to cumulative effects of the Whole UWF Project.

Grace Submission

mediated by annoyance, sleep disturbance and/or 373 See Exhibit A58. 374 Exhibit A60, p 8. 375 Ibid. PAGE 152 OF 161 psychological distress"

B) A study carried out by Michael A Nissenbaum et al and reported in the article "Effects of Industrial Wind Turbine Noise on Sleep and Health" published in 2012 showed as follows:

Participants living within 1.4 km of an IWT had worse sleep, were sleepier during the day, and had worse SF36 Mental Component Scores compared to those living further than 1.4 km away. Significant dose-response relationships between PSQI, ESS, SF36 Mental Component Score, and log-distance to the nearest IWT were identified after controlling for gender, age, and household clustering. The adverse event reports of sleep disturbance and ill health by those living close to IWTs are supported.190

In an article entitled "Infrasound from Wind Turbines Could Affect Humans" published in 2011, Dr Alec Salt and Dr James Kaltenbach postulate that:

Although the cells that provide hearing are insensitive to infrasound, other sensory cells in the ear are much more sensitive, which can be demonstrated by electrical recordings. Responses to infrasound reach the brain through pathways that do not involve conscious hearing, but instead may produce sensations of fullness, pressure or tinnitus or have no sensation. Activation of subconscious pathways by infrasound could disturb sleep. Based on our current knowledge of how the ear works, it is quite possible that low frequency sounds at the levels generated by wind turbines could affect those living nearby.196

In a later article, published in 2014, the same authors provided a diagram illustrating the portion of "the wind turbine sound spectrum" which is too low to be heard, but "sufficient to stimulate the OHC of the ear".197 They also stated that:

Evidence is mounting that loss of or even just overstimulation of OHCs may lead to major disturbances in the balance of excitatory and inhibitory influences in the dorsal cochlear nucleus. One product of this disturbance is the emergency of hyperactivity, which is widely believed to contribute to the perception of phantom sounds or tinnitus. The granule cell system also connects to numerous auditory and nonauditory centres of the brain. Some of these centres are directly involved in audition, but others serve functions as diverse as attentional control, arousal, startle, the sense of balance, and the monitoring of head and ear position.198 ... Although there have been many studies of infrasound on humans, these have typically involved higher levels for limited periods (typically of up to 24 hours). In a search of the literature, no studies were found that have come close to replicating the long-term exposures to low-level infrasound experienced by those living near wind turbines. So, to date, there are no published studies showing that such prolonged exposures do not harm humans. On the other hand, there are now numerous reports (e.g., Pierpont, 2009; Punch and James, 2016), discussed extensively in this journal, that are highly suggestive that individuals living near wind turbines are made ill, with a plethora of symptoms that commonly include chronic sleep disturbance. The fact that such reports are being dismissed on the grounds that the level of infrasound produced by wind turbines is at too low a level to be heard appears to totally ignore the known physiology of the ear.199

C) An Information Report prepared for the Multi-Municipal Wind Turbine Working Group, Ontario, Canada, dated July 2015 states as follows with respect to infrasound and low frequency noise:

Noise measurements for most studies and environmental assessments have been limited to the measurement of audible sound outside homes—using dBA weighted monitoring which is insensitive to infrasound frequencies. Some studies and environmental assessments have even relied on projected audible sound averages from computer produced models. Such observations and projections fail to take appropriate account of the distinguishing signature of the sound from a wind turbine. Unlike the more random naturally occurring sounds (such as wind or lake waves which may themselves have an infrasound component), the sound from wind turbines displays characteristics that produce a pattern that the ear and audio processing in the brain recognize. Our hearing is strongly influenced by pattern recognition. (This is why we can pick out the sound of a familiar voice even in a crowded room with many people speaking). One recognizable wind turbine pattern is a

Point 10: Windfarm Noise

This point appears to be an attempt to question the basis on which planning permission was granted in 2014 for the Upperchurch Windfarm (and is therefore an impermissible collateral attack on that planning permission), rather than a submission on the subject application UWF Related Works. It does not relate to cumulative effects of the Whole UWF Project.

Grace Submission

tonal signal of sharply rising and falling pulses in the infrasound range, (typically about 0.75 Hz, 1.5 Hz, 2.25 Hz, 3.0 Hz, and so on). It is produced by the blade passing the tower. At this frequency these pulses may be "felt or sensed" more than "heard" by the ears. Research by Dr. Alec Salt and others has demonstrated that subaudible (sic) infrasound does result in a physiological response from various systems within the body. The second recognizable pattern is the amplitude modulation. This is the typical "swoosh" rising and falling that is audible. * A third recognizable pattern of sound from wind turbines results from the equipment in the nacelle (such as the gearbox if the turbine has one) and ventilating fans. Although in some cases this third sound source may become predominant, it is usually of lesser effect that (sic) the first two. We now know that subaudible pulsating infrasound can be detected inside homes near operating wind turbines. It can also be identified up to 10 kilometres distant. We know also that very low levels of infrasound and LFN are registered by the nervous system and affect the body even though they cannot be heard. The research cited in this report implicates these infrasonic pulsations as the cause of some of the most commonly reported "sensations" experienced by many people living close to wind turbines including chronic sleep disturbance, dizziness, tinnitus, heart palpitations, vibrations and pressure sensations in the head and chest etc.

Attached also is a recent paper from the Scientific Journal Aerospace Engineering and Mechanics 2017, 1(2):83-98 Volume 1 | Issue 2

Considering the new scientific evidence available to the planning authority it would be wrong to accept an out of date EIS from the developer on which to base any assessment

See Appendix 12
See Appendix 13

To all of the above we wish to add our original objections both to Tipperary County Council and An Bord Pleanala. We have always believed that this development is wrong and will only cause detriment to people and the environment. In the five years since the original planning submission was made by the developer this belief has only strengthened.

See Appendix 14

We believe that to grant permission for this development would be ultra vires of both the EU directive and Irish planning law.

Yours sincerely

Edel Grace Paul Grace

Paul & Edel Grace

Planning Application Document for viewing purposes Only!

EDL Comment on Grace/Sweetman Submission:

End of Point 10: Original object to Upperchurch Windfarm

This point appears to be an attempt to question the basis on which planning permission was granted in 2014 for the Upperchurch Windfarm (and is therefore an impermissible collateral attack on that planning permission), rather than a submission on the subject application UWF Related Works. It does not relate to cumulative effects of the Whole UWF Project.

Appendix 3.5

Appendix 3.5

Seskin House, Upperchurch, Thurles, Co. Tipperary

12th August 2018

TIPPERARY CO. COUNCIL
RECEIVED
15 AUG 2018
PLANNING SECTION
FILE NO. 18600913

Planning Application no 18600913

Dear Sirs

We would like to comment on the above application which raises a number of concerns with regard to both content and presentation. Our observations are not exhaustive due to the volume of both this application and the related SID application with ABP which have both been submitted at the same time. I would point out that these applications are the work of many professionals over several years, as lay people we are expected to respond in a few weeks and this alone is in direct conflict with the Aarhus Convention, which states that all parties should have a level playing field.

1. It is impossible to properly consider the cumulative impact of the complete project when it has been divided up over many years and submitted to different authorities in several parts. It is clearly project splitting. Upperchurch Wind Farm needs to be looked at as a complete unit, including all work necessary to arrive at operation, rather than a number of part works giving a broken impression of many issues. The planning granted so far is clearly flawed in this respect considering O'Grianna v An Bord Pleanala 12/12/14. We have found this extremely confusing; it is hard to know exactly which part of anything we are supposed to comment on or how to look at anything with a joined up approach. Random references are made to the grid connection and also Bunkamalta Windfarm, which we thought was a different project altogether but this now suggests that the two have some relationship so maybe should be included in the entire project and submitted as one unit. This calls the whole into question with regard to the Grace/Sweetman judgement ECJ 25/7/2018.

Planning Application Document for Viewing Purposes Only!

EDL Comment on Embleton Submission:

Point 1: Volume of Material & Non-Technical Summary

The information to be provided in an EIA Report, is set out in Article 5 and also in Annex IIA and Annex IV of the EIA Directive. The information requirements are extensive and therefore it was the EIA co-ordinators' aim to set out the environmental information in a rational and systematic format. Accessibility, legibility and clarity were the key considerations during the preparation of the environmental factor topic chapters in the EIA Report. The result is an EIA Report that is concise and well integrated across the topic chapters. The layout is comprehensively described in Chapter 2 of the EIA Report. See in particular Section 2.4 for *Descriptive Terminology Used in this EIA Report*; Section 2.5 *Presentation of the EIA Report*. See also Appendix 2.4 to the EIA Report *Completed EIA Report Checklist* for a quick guide to the location and sufficiency of all of the information provided in the EIA Report.

In recognition of the volume of information that is prescribed and the obligations under Aarhus to make information on EIA projects accessible to the general public, the EIA Directive also requires the production of a **Non-technical Summary** in accordance with Article 5 (1) (e) and Annex IV (9), wherein it is prescribed that all of the information presented in the EIA Report is summarised in non-technical language, in a separate Non-technical Summary document. Guidance on the preparation of the Non-technical Summary in also available in 'Guidance on the preparation of EIA Reports' (EC 2017), wherein the Non-technical Summary is defined as an easy-to-follow and understandable summary of the information included in the EIA Report, addressed to a non-technical audience - which is written in non-technical language without technical jargon, avoiding technical terms, detailed data and scientific discussion. It should be understandable to anybody, who does not have a background in the environment or in the project. Also, being a summary, it needs to be concise and engaging enough to enable stakeholders and the public to get a proper sense of the key issues at stake.

Taking account of the Directive and the guidance, **EDL have produced a Non-technical Summary**, of the information in the UWF Related Works EIA Report, which provides a concise but comprehensive description of UWF Related Works and the whole Upperchurch Windfarm project, its environment, the effects on the environment and provides an overview of the approach to the assessment. Cross references to the EIA Report and EIA Report technical Appendices are made throughout the Non-technical Summary so that the more in-depth and scientific information can be accessed easily, should the reader wish. A non-technical description of the terminology and layout used in the EIA Report is provided in Sections 2.4 and 2.5 of the Non-Technical Summary. Each topic chapter of the Non-technical summary is set out in the same order and with the same headings so that the flow of the document is easy to follow and the salient points are apparent. Technical figures were omitted and figures, when included, were only those that the author considered of most interest to the general public particularly in the local area.

The authors are satisfied that should a member of the public wish to understand and become involved in the planning of the project, then the Non-technical Summary provides an assessable and true reflection of the information contained in the EIA Report and Appendices. The Non-technical Summary provides enough information to understand the implications of the subject application and of the whole Upperchurch Windfarm project. All of the subject application reports, drawing and figures (including planning and environment documents for other elements of the whole Upperchurch Windfarm project documents) are available for examination on www.upperchurchwindfarm.ie

Point 1: Alleged Project Splitting

See EDL Comment on Grace Point 1: Environmental Impact Assessment (EIA)/ Alleged Project Splitting

Point 1: Bunkimalta Windfarm

Bunkimalta Windfarm is not part of, nor is it an off-site or secondary development associated with UWF Related Works of any other elements of the whole Upperchurch Windfarm project. Bunkimalta Windfarm is considered for cumulative effects as an 'Other Existing or Consented Project' which, due to its proximity to the UWF Related Works, is located within the zone of potential cumulative effects for some environmental factor topics. *Continued on next page...*

Appendix 3.5

Appendix 3.5

2. Over the years Tipperary County Council has failed on many levels to look after the interests of its population. It is time to follow other Councils such as Meath and Donegal with regard to industrial development. It is also time to reassess the commercial rates applied to wind farms which are not in line with those imposed of every small, struggling business in the county, which provide many jobs. Wind farms do not provide employment beyond the construction phase. In this instance the maintenance employment is so small it will easily be outweighed by self employed home workers wanting to leave the area (of which I can think of several including ourselves). We also take issue with section 4.4 of the Non Technical Summary which states that wind farms produce green electricity. There is no evidence, scientific or otherwise to suggest that wind turbines reduce carbon emissions or produce a realistic amount of reliable power, this in mind their proliferation is causing considerable harm. They do not result in reduced use of oil, coal or gas and that is without considering a lifetime analysis. Data has come a long way in the last few years but sadly guidelines with regard to wind farms are now 12 years out of date (2006). Central government has failed in this matter and we appeal to you, the local council to take a more up to date and informed approach. The landscape decisions made in the last 10 years have made more changes than the area has seen since the last ice age. This cannot continue at this rate, we have a responsibility to hand Tipperary to the next generating in good order, at the moment we are creating a non productive industrial zone which is likely to be bankrupt and derelict very soon.

EDL Comment on Embleton Submission:

Point 1: Bunkimalta Windfarm *Continued from previous page*

The scoping of Other Existing or Consented Projects is provided in Appendix 2.3 of the EIA Report, where Bunkimalta Windfarm is scoped in for the evaluation of cumulative effects for certain environmental factors and certain impact pathways. The relevant environmental factors are listed in Table 5-11, on page 55 of Chapter 5: Description of Development (Section 5.6.3 Description of Other Projects and Activities) of the EIA Report. Bunkimalta Windfarm is generally scoped in as there is the potential for this large project to be constructed at the same time as UWF Related Works. This is relevant because the effects of the UWF Related Works are largely confined to its construction stage. The other windfarms in the area are already constructed, and consequently there no potential for cumulative construction stage effects.

Point 2: Employment

This point relates to Upperchurch Windfarm, for which planning permission has already been granted, and not to the subject application - UWF Related Works.

In relation to UWF Related Works, the employment gain during the operational stage is screened out from evaluation in Chapter 6 Population of the EIA Report as any effects on the Local Economy will be Neutral – this is due to the low numbers employed.

Point 2: Wind reduces carbon emission

This point appears to be an attempt to question the basis on which planning permission was granted in 2014 for the Upperchurch Windfarm (and is therefore an impermissible collateral attack on that planning permission), rather than a submission on the subject application UWF Related Works.

However it should be noted that every Kilowatt of electricity generated by wind power, avoids CO_2 emissions from electricity generated by non-renewable sources such as coal, peat, oil, gas, and non-renewable waste. The latest SEAI report 'Energy-related CO_2 Emissions in Ireland 2005 – 2016', lists avoided CO_2 emissions due to wind power generation - the avoided emissions for 2016 were over 2 million tonnes of CO_2.

Point 2: Windfarms in the Landscape

This point relates to Upperchurch Windfarm, for which planning permission has already been granted however it should be noted that in 2014, when Upperchurch Windfarm was granted planning, the windfarm site was in a policy area designated for wind farm development in the Tipperary Wind Capacity Strategy 2009. Favourable zoning continues in the new Tipperary Renewable Energy Strategy 2016 where Upperchurch Windfarm site location is now within a Policy Area which is 'Open for consideration for New Wind Energy Development'. The new Strategy contains only two Policy Areas - 'Open for consideration for New Wind Energy Development' and Not Suitable for New Wind Energy Development'. This new Tipperary Renewable Energy Strategy 2016 was subject to Strategic Environmental Assessment (SEA) and Appropriate Assessment (AA). In addition Section 2.5.1 of this new Strategy states that the strategy *will supplement and inform the current county planning framework as set out and will go forward to underpin and support any review of the County Development Plans.*

See also EDL Comment on Grace – Point 7: County Development Plan

Appendix 3.5

Appendix 3.5

3. At the Public information meeting on 10/10/17 (all meetings were held at the same time which did not facilitate attendance) with regard to the grid connection we were clearly told that the grid would be submitted to Tipperary County Council. We now discover that an SID was purchased and that is not the case. How this happened remains a mystery as other similar projects do not get SID, it is private enterprise for profit, does not connect major centres of population and will not supply a significant amount of power to the grid. The national wind fleet has been consistently embarrassing itself for more than 4 months now, producing well under 15% capacity, at times drawing power from the grid to run its own systems. Just today (12/8/2018) wind output slipped into negative once again and was in single megawatt figures for several hours. The wind forecast has not improved and most days all renewables are running at less than 10%, often less than 5% of the fuel mix (Eirgrid Dashboard). We are dependent on gas and spending €3 million Euros per day on wind is farcical (The Costs of Wind Energy in Ireland 2017). Our electricity prices are third highest in Europe and spiralling out of control, wind is largely the cause of this because other options have not been considered.

4. In relation to decommissioning there are a couple of points to note. It is proposed to leave the concrete from the cables in the ground removing only the actual cables. Since it is already proposed to leave in the turbine bases this amounts to a vast quantity of concrete over a huge area. My concerns are long term alkaline leaching into largely acidic soils, particularly in bog areas, thereby changing the natural flora of the area so close to and through the SPA. The concrete will also be damaged by the acid soils and degradation will occur. Eventually this must impact on water and will immediately impact on drainage. Cumulative quantities of oil and diesel are routinely spilt on the concrete bases in wind farms. Removal of concrete at decommissioning would be a step towards protecting what environment is left. The same can be said of the roads. The land owners have never needed these roads before and will have no need to visit empty turbine sites. The land should be reinstated and any unnecessary hard landscape removed completely.

5. Environment protection measures accepted with the UWF application need to be revisited. As this application is split, the whole must now be treated as a new application. Substitution of habitat has now been shown to be ineffective (Grace and Sweetman ECJ 25/7/2018) and mitigation of this nature is unacceptable because there is no scientific proof that it is effective. Mitigation cannot be considered at this stage. We already know that the Upperchurch area is very close to the boundary of the SPA and in this regard must be

EDL Comment on Embleton Submission:

Point 3: Public Consultation and Information Days

In order to avoid the necessity of people travelling too far to attend the public information day, it was decided to hold the information day at three separate venues – Kilcommon, Rearcross and Newport. Meetings were held at the same time and the same information was presented, by personnel involved in the project, at each location. EDL representatives did not misinform people who attended the Public Information Day, and did not tell James or Tanya Embleton that the UWF Grid Connection application element of the whole Upperchurch Windfarm project, would be made to Tipperary County Council.

Point 3: Cost of Wind Energy

Wind generated electricity production is not the only factor that influences energy prices in Ireland – according to SEAI report 'Electricity and Gas Prices July to Dec 2017', these factors include, but are not limited to, imported fuel prices, energy infrastructure investment costs, electricity generating fuel mix and non-energy costs that affect energy prices (for example, taxes levied, employment costs, raw material and shipping costs) and the most significant factor affecting energy prices in Ireland is the instability of global oil prices which have shown dramatic fluctuations in recent years, which leads to a knock-on impact of high global oil prices on other energy prices, in particular natural gas from which most of the fossil fuel generated electricity is generated in Ireland. All this results in higher electricity prices.

See also See EDL Comment on Grace Point 5: The Cost of Wind

Point 4: Decommissioning

This point relates to Upperchurch Windfarm which is not the subject application. However it should be noted that all concrete used for the construction of the turbine bases will conform to the current Irish standard: I.S. EN 206:2013 - Concrete Specification, Performance, Production and Conformity or any updated version of this concrete standard. In relation to decommissioning of these bases, this will be carried out under Condition 22 of the Upperchurch Windfarm permission, where the removal or covering with soil of turbine bases and roads will be agreed with the planning authority prior to any decommissioning of the windfarm.

Point 5: Various

This is answered at Point 1: Alleged Project Splitting; Point 2: Alleged Compensatory Measures; Point 2: Upperchurch Windfarm to be treated as 'being within the SPA'; and Point 3: Loss of Habitat in relation to Marsh Fritillary, Golden Plover and Meadow Pipit, of the EDL Comments on the Grace submission.

Point 6: Decommissioning of the blades

This point relates to Upperchurch Windfarm, a brief description of the decommissioning of the windfarm is provided in the EIA Report - Section A5.5 - 5.3.3 of Appendix 5.5: Compiled Description of Upperchurch Windfarm, the disposal of blades is outlined in Section A5.5 – 5.4.3.4 of Appendix 5.5.

Appendix 3.5

Appendix 3.5

treated as SPA. Therefore all proposed set aside for hen harrier foraging as mitigation is not acceptable, neither is any habitat infringement of a listed species.

6. Section 5.2.3. deals with decommissioning. I cannot find reference to how the turbines and their blades will be disposed of. As blades are 45m long and most turbines consume at least three sets during their lifetime this will amount to approximately 200 blades. They are not recyclable and will require massive landfill. What is the plan please?

7. I have to take issue with 6.3. The wind farm will not provide employment, it is already stated that it is likely to affect tourism, population changes will be downwards as people seek a quiet place to sleep at night. The population here is used to very low background noise of a natural, intermittent nature, such as tree noise. Wind turbine noise can be loud and incessant. It is widely accepted that they reduce property values, reduce visitors to an area and reduce the quality of the area for those that remain. I am not sure how 'large demand for new long term employment in the area' fits in with this. There will be a small maintenance crew who will not live on site.

8. It is freely stated that there will be a reduction in tourism and tourism revenue. I would point out that a small fortune has been obtained in grants and tourism supports in this area from a number of different sources. This was all got after and during the application for the wind farm by the same landowners. Was this a good investment or should it be refunded as tourism here will be laid waste? The applicants were well aware of the duplicity right from the start. It seems the land owners here have not one hand out but both. The national economy can only suffer from paying out more subsidies for little or no return.

9. Human health is a big issue. The population is identified as vulnerable – largely young and old. 7.3 barely touches on many problems. Most houses in the area have their own private water supply. I call for monitoring of water quality regularly throughout the life of the wind farm for all residential properties. It can take several years for the damage to the water supply to become apparent, wells can become contaminated or the constant vibration can lead to silting up.

10. Noise and disturbance to sleep needs revisiting. The original noise projection and measurement were recorded in Dba. It is now possible, without big expense to make a proper noise assessment using the linear scale. Dba does not record the noise frequency or hertz. The linear measurement shows hertz as well as volume. Dba is a worthless measurement because it is not quantified. Since most damage to human health is believed to occur at between 9 and 12 hertz, it is at a level which is not audible to the human ear. However, low frequency noise such as this leads to loss of sleep, increased blood pressure, cardiovascular disease, increased epilepsy, increased febrile seizures, cell changes, suppressed immune system and many other problems. Sleep deprivation in itself is a contributing factor in some cancers, depression and other long term issues.

11. Construction hours are too long and construction noise needs a smaller window. For most of the year there will be no day light hours except Sunday without noise and heavy traffic. 7am

EDL Comment on Embleton Submission:

Point 7: Policy Context in relation to Population

This point relates to Upperchurch Windfarm, which has already been granted permission.

In relation to the UWF Related Works, Section 6.3 of Chapter 6: Population in the EIA Report provides a brief overview of national, regional and county-level policy in relation to the environmental factor: population. In relation to Section 6.2 of the EIA Report, EDL wishes to clarify that it does not put forward that there will be a 'large demand for new long term employment in the area' and does not propose a job creation project, though as part of Best Practice Measures, the construction manager will develop a local employment and local sourcing policy, and the Community Liaison Officer will engage with local services and businesses, manage a database of local employment and resources and monitor the recruitment and training of local employees in line with the Local Employment and Local Sourcing Policy.

Point 8: Tourism Revenue

This point relates to Upperchurch Windfarm, for which planning permission has already been granted.

In relation to UWF Related Works, the effects of a reduction in tourism revenue as a result of the UWF Related Works, alone or cumulatively with the other elements of the whole Upperchurch Windfarm project, is scoped out from further evaluation in Chapter 6: Population of the EIA Report because it is concluded that effects on tourism revenue or the local economy will be Neutral, see Table 6-7 in Section 6.2.4.2: Description and Rationale for Excluded (scoped out) Impacts.

Point 9: Human Health

The potential impact on health as a result of contamination of well water supplies as a result of UWF Related Works, alone or cumulatively with the other elements of the whole Upperchurch Windfarm project, is scoped out from further evaluation in Chapter 7: Human Health of the EIA Report because it is concluded that as effects to water supply are not likely to occur, health effects caused by contaminated water are also not likely to occur, see Table 7-10 in Section 7.2.4.2: Description and Rationale for Excluded (scoped out) Impacts.

Point 10: Noise

This point relates to Upperchurch Windfarm, for which planning permission has already been granted.
See EDL Comment on Grace Submission Point 9 & 10: Noise

Point 11: Noise and Road Safety during Construction

The effect of construction noise is evaluated in Chapter 12: Air of the EIA Report, Section 12.2.4.2: Impact Evaluation Table: Increase in Ambient Noise Levels. The evaluation conclusion is that there will be a moderate impact from construction noise, which is not significant, because of the low number of receptors (local residences) and the temporary duration of works (generally one week) in close proximity to residences at any one location.

The potential impact of increased risk of road accidents as a result of traffic management, road works and construction traffic associated with the construction stage of UWF Related Works, alone or cumulatively with the other elements of the whole Upperchurch Windfarm project, is scoped out from further evaluation in Chapter 15: Material Assets (Roads) of the EIA Report because it is concluded that the application of advanced signage and traffic management measures, on the approach to any works or site access points; the use of flagman at temporary entrances and the application of speed restrictions on vehicles delivering construction materials along the local road network, these project design measures will ensure the continued safe passage of all road users, see Table 15-16 in Section 15.3.4.2: Description and Rationale for Excluded (scoped out) Impacts.

Appendix 3.5

Appendix 3.5

-7pm leaves no safe opportunity for locals to walk, relax outside or for exercise horses. The irritation level will be enormous for those of us who normally work quietly at home. I would suggest cutting the noise day to 8am – 6pm and Saturday 9am – 1pm in the interests of the local population not being driven completely mad.

12. Kilcommon school is not close to any of the works, Upperchurch school however, is facing into a very disrupted future but has not been mentioned. Our concern would be large numbers of children subjected to long term low frequency noise, research now clearly indicates that children are at greater risk than adults, nosebleeds can develop alarmingly quickly. In addition their entire working day will be during heavy traffic and construction noise, ultimately the school will suffer from turbine noise. Depending on weather conditions we already often notice turbine noise from as far as 4 miles away

13. The roads being used are very lightly trafficked; they are also very lightly surfaced. Our own road, owned by the council, has had no maintenance in the twenty years that we have lived here and is barely passable. Every winter large areas of road surface disintegrate and pot holes open everywhere. Increased heavy traffic will require considerable increased investment in road repair just to keep the roads open.

14. The Clogdiagh River and also the Multeen are feeders for freshwater pearl mussels. No w er deterioration is permissible, temporary or otherwise. For Hen Harriers no loss of foraging is acceptable and alternative provision is not considered useful. Up to 20% habitat loss for Marsh Fritillary is hopeless. These butterflies vary in population massively from year to year they usually exist within a network of other sites which are hard to determine, it is likely that the survey has failed to reveal the full extent of the population. They are Annex II listed in the Habitats Directive and as such require total protection, part of which must be the preservation of their food supply. Concrete from the cabling could well affect the flora, therefore reducing the viability of the population. They are more likely to be able to persist in larger areas of habitat. Up to 20% habitat loss is not sustainable. With relation to fauna, it seems likely that animals gradually migrate away from active wind farms. There is a lot of anecdotal evidence around the Roscrea windfarm and with the proliferation of turbines in Hollyford and the new Eco Power development locally we are seeing large numbers of previously occasional visitors including buzzards, black caps, red polls, buntings and others I cannot identify. I repeat, it is not possible to assess the cumulative effects because this is a split project.

15. With regard to soils there will be alkaline leaching from the concrete which will affect the flora. Any gardener knows that a bed retainer made with concrete will leach into the soil and change the acidity for many years. Presumably run off will affect water ph too, as has happened in the Slieve Felims where tree planting has been allowed too close to water courses.

Planning Enforcement Document

EDL Comment on Embleton Submission:

Point 12: Upperchurch National School

This point relates to Upperchurch Windfarm, for which planning permission has already been granted and in any case Upperchurch Windfarm and UWF Related Works will be developed 2km from Upperchurch School at the nearest point. There are no construction traffic haul routes through Upperchurch village.

Point 13: Condition of local roads

The Traffic Management Plan provides for the repair and reinstatement of local roads, see Chapter 15: Material Assets (Roads), Section 15.5: Best Practice Measures, GC-BMP-30 Traffic Management Measures and Tab 3 of the Environmental Management Plan: Traffic Management Plan.

Point 14: Biodiversity

As outlined in Section 11.2.1.2 of Chapter 11 Water of the EIA Report, UWF Related Works and Upperchurch Windfarm are mainly located within the Clodiagh (Tipperary), Multeen and Owenbeg catchments of the River Suir with the remainder within the Mulkear regional catchment of the River Shannon.

Measures to deal with protection of the aquatic environment include silt fencing; the passing of dirty construction water through settlement ponds, silt bags; and over at least 50m of natural vegetation filters (stream buffers) before reaching a watercourse. There is no reliance on a single type of drainage measure at any proposed works area.

In addition, the EIA Report is very clear about the importance of water quality protection, irrespective of the species. In summary, there are 23 no. Project Design Environmental Protection Measures and 13 no. Best Practice Measures (BPMs) proposed in the EIA Report (see Section 5.2.4 of Chapter 5: Description of the Development, and Section 11.10 of Chapter 11: Water) and Surface Water Management Plan (see Tab 4 of Volume D: Environmental Management Plan for UWF Related Works) for the protection of surface water quality. Many of these measures deal with sediment and surface water runoff. These design measures have been developed by the hydrological/drainage and ecological expert members of the EIAR team in consultation with Inland Fisheries Ireland and use best practice watercourse crossing techniques which are tried and tested regularly across the country. Furthermore a full time team of Environmental Managers will be employed during the construction stage to monitor the effectiveness of these measures on a daily basis.

Hen Harriers foraging habitat: see EDL comments on Grace Submission Point 3: Alleged Compensatory Measures and Point 3: Upperchurch Windfarm to be treated as 'being within the SPA' (as requested by DAU).

Marsh Fritillary habitat loss: The Marsh Fritillary butterfly was studied in Chapter 8: Biodiversity of the EIA Report, most particularly in Section 8.11: Sensitive Aspect No.10 Marsh Fritillary. The 'up to 20% habitat loss' is a misleading comment by Embleton, in fact, as set out in Section 8.11.4.1: Cumulative Impact Magnitude of All Elements of the Whole UWF Windfarm Project with Other Projects or Activities - *in total 1.2Ha of suitable habitat for this sensitive receptor of County Importance is present within the Whole UWF Project Study Area. 0.25% of this will be temporarily lost prior to re-instatement within the UWF Grid Connection whilst 5.1% will be lost within the UWF Related Works/Upperchurch Windfarm*. The Marsh Fritillary surveys were extensive and covered a 50m area around and incorporating the construction works areas, the afforestation lands and activity locations associated with the UWF Related Works, UWF Grid Connection, UWF Replacement Forestry, Upperchurch Windfarm and UWF Other Activities. This 50m distance is in accordance with best practice (CIEEM 2016). It was evaluated that cumulative habitat loss effects as a result of all elements of the whole Upperchurch Windfarm project will be of Slight adverse significance, due to the overall extent and degree of habitat loss (5.1% of available habitat); the County Importance of Marsh Fritillary butterfly; and the long term nature of the loss which is offset by the absence of Marsh Fritillary larvae webs in the habitats to be lost.

Appendix 3.5

16. Water in private wells needs to be monitored regularly over a long period and great distance from the works, 50m can hardly be adequate as problems have been experienced around the world, sometimes years after construction, as the constant vibration gradually silts up the local water supplies. Long term protection is needed.

17. 13.4 Co2 impacts cannot be neutral. All construction creates emissions. Assuming that Co2 and climate are directly linked I do not understand how the project can have a positive climate effect. Changing climate means more storms, more calm conditions both summer and winter. Neither of these produce wind power. With the national wind fleet producing less than 15% capacity for the last 4 months they are never going to pay back the carbon debt created by construction, which needs to be quantified.

18. It is hard to understand how there can be no effect on the landscape, unless one is blind. The turbines will be visible over many miles of countryside, visible as far away as Toumyvara and Templemore. Love them or hate them they are not invisible, cannot be screened by trees which are only one tenth of their height and as a site visit to Milestone will show you are very dominant in the landscape and out of keeping with the rural nature of the area. It is an area of exceptional beauty and rolling hills. Random wind turbines at close proximity to each other have already changed the character of large stretches. Another windfarm will appear as continuous development with so many others already constructed. It is a shocking disregard for the landscape on the boundary of the SPA.

19. Trying to consider this application a number of other matters have arisen, for which clarification is needed.

In the event of internet disruption or reduction (it is already patchy at best) will the developer take financial responsibility for long term repair?

In the event that health, property, property values or enjoyment of property are compromised in any way could you please confirm who is responsible for compensation – the land owner, the developer or the Council? Is appropriate insurance in place? After the case in Cork it seems sensible to sort this out now.

Could you confirm that the turbines will be in full compliance with the European Machines Directive and carry the CE quality mark?

In the event of a turbine fire will there be suitable equipment in the area to deal with it? Turbine fires have been the cause of wildfires in Portugal this summer and this area is heavily forested and residences are scattered through it.

Planning Application Document For Viewing Purposes Only

EDL Comment on Embleton Submission:

Continued Point 14 : Biodiversity - Other Birds: The baseline context and character of General Bird Species in the UWF Related Works study area is described in Chapter 8: Biodiversity, Section 8.7.1.2. The general bird species in the baseline environment were studies across 2 no. breeding seasons one each in 2016 and 2017. 58 species of birds were recorded, including the species mentioned by Embleton.

Point 15: Concrete

Effects on Local Soils, Subsoils & Bedrock are evaluated in Section 10.2 of Chapter 10: Soils of the EIA Report. The effect on soils due to contamination by Cement Based Compounds is evaluated in Section 10.2.4.5, where it is evaluated that the effect associated with the UWF Related Works will be negligible because cement will only be used at the Telecom Relay Pole foundation. Due to the small scale of these works, the significance of the impact will be imperceptible. When all elements of the whole Upperchurch Windfarm project are considered, effects from Cement Based Compounds are evaluated as being of Slight Significance.

Effects on Local Surface Water Bodies are evaluated in Section 11.2 of Chapter 11: Water of the EIA Report. The effects on water quality due to the use of Cement Based Compounds is evaluated in Section 11.2.4.8, where it is evaluated that the effect associated with the UWF Related Works will be negligible because the use of cement-based compounds will be limited to the Telecom Relay Pole foundation and to the 9 no. of public road crossings. Due to the small scale of these works, the significance of the impact will be Imperceptible. When all elements of the whole Upperchurch Windfarm project are considered, effects from Cement Based Compounds are evaluated as being of Slight Significance.

Point 16: Vibration

The potential for vibration related damage, as a result of UWF Related Works, alone or cumulatively with the other elements of the whole Upperchurch Windfarm project, is scoped out from further evaluation in Chapter 12: Air of the EIA Report because it is concluded that effects will be neutral in relation to the construction stage, and that no effects are likely to occur during the operational stage , see Table 12-24 in Section 12.2.4.6: Description and Rationale for Excluded (scoped out) Impacts - summarised below.

As outlined in Table 12-24 of Section 12.2.4.6, there will be no sources of significant vibration **during the construction stage** of UWF Related Works, due to any absence of piling and blasting on site. There will be some vibration emissions from road opening, rock breaking and earthmoving activities, though these vibrations will be at a very low level with expected levels of between 0 and 1 mm/s at 10m distance, this is substantially less than the vibration levels of '8mm/s at frequencies of less than 10Hz, to 12.5mm/s for frequencies of 10 to 50Hz, and to 20mm/s at frequencies of 50Hz and above' below which even cosmetic damage to buildings can be avoided, and below the lower limit for human tolerance of piling of 2.5mm/s.

In relation to the Upperchurch Windfarm, according to UWF RFI 2013 there will be no blasting or piling **during construction**, and therefore there will be no significant sources of vibration.

As outlined in Table 12-24 of Section 12.2.4.6 of the EIA Report, **during operation** there is no potential for impacts, as there will be no sources of significant vibration during the operational stage of UWF Related Works, due to any absence of piling, blasting, road opening, rock breaking or earthmoving activities. Vibration from operational plant or from operational vehicles using site access roads will be almost impossible to detect, and will not cause damage to buildings or internal nuisance to residents. In relation to the cumulative effects from Upperchurch Windfarm, according to the UWF RFI 2013, the level of vibration from wind turbines is so small that only the most sophisticated instrumentation and data processing can reveal their presence, and they are almost impossible to detect, therefore no effects are likely to occur at local residences.

Appendix 3.5

Appendix 3.5

Our fee is enclosed but I feel you should refund it as we have already paid to comment on part of this project, we should not be expected to pay more fees just because it has been presented in a piecemeal fashion.

Yours sincerely

Tanya Embleton.

James and Tanya Embleton

Planning Application Document
-for viewing purposes Only!

EDL Comment on Embleton Submission:

Point 16: Study Area for local wells

The justification for the 50m study area extent is provided by the competent experts in Chapter 11: Water of the EIAR Report, Section 11.4.1 Study Area for Local Wells & Springs, where it states in Table 11-31 that due to the shallow depth and temporary nature of the excavations associated with the construction works, the potential for impacts to local wells/springs is limited to physical contact with the well head/source or localised changes to surface water runoff/groundwater flow or localised contamination of the source by fuel/oil spills/cement-based compounds, and therefore the 50m study area is appropriate'. Long term protection is not required because there won't be any excavations within 50m of a well or spring during the operation of UWF Related Works.

Point 17: Climate

The effects on Climate are evaluated in Chapter 13: Climate of the EIA Report. The UWF Related Works, on its own, was evaluated as having a neutral effect on Climate. Specifically in relation to CO_2, Section 13.2.1.2: Evaluation of UWF Related Works states there will be neutral impacts to Climate because the increases in CO_2emissions from embodied emissions from construction materials and from excavations, emissions from vehicles, machinery or equipment or from forestry felling will be negligible. Cumulatively the effects of the Upperchurch Windfarm when operational, with all the windfarms in Ireland, will be significantly positive.

Point 17: Efficiency of Wind Power

This point relates to Upperchurch Windfarm, for which planning permission has already been granted, however it should be stated that wind power is now producing 24% of Ireland's electricity demand. Even though the wind is not available 100% of the time, wind turbines generate electricity for 90-95% of the time, but not always at full output. The variability in the wind is well catered for in our electricity system, where demand levels for electricity also vary all the time. The electricity system is mostly made up of large power stations and the system has to be able to cope if one or more of these large plants goes out of action or is undergoing maintenance. So catering for the variability of wind, which is forecastable, is not a major issue for the national grid.

Point 18: Landscape

This point relates to Upperchurch Windfarm, for which planning permission has already been granted, however it should be stated that in response to Q9 of the RFI (2013) for Upperchurch Windfarm, a Revised Landscape and Visual Assessment was produced which took account of the cumulative impact of the following windfarms; Knockastanna County Limerick, Mienvee, Garracummer, Falleennafinoga, Hollyford, Glencarbry, Glenough, Cappagh White, Curraghgraigue, Knockmeale and Milestone, in County Tipperary. These are the windfarms to which Embleton Point 18 refers.

Point 23: Other Matters

The other matters relate to Upperchurch Windfarm only, and do not relate to cumulative impacts.

Appendix to Chapter 4: Alternatives Considered

No Appendices for Chapter 4