

KWF Grid Connection EIA Report 2023

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Volume C2: EIAR 2023 Main Report

Chapter 2: The EIA Report (including Screening and Scoping)

EIAR Coordinator:



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Appendix 2.1	Scoping of other projects and activities for the Cumulative Evaluations

Appendices referenced in this topic chapter can be found at the end of the chapter.

Glossary of General Terms

Term	Definition
KWF Grid Connection (the subject development)	Underground cabling, additional plant and apparatus in the existing Woodhouse Substation, the construction a new link road, the widening of an existing forestry road and the use of the existing entrance and windfarm road network at Woodhouse Windfarm.
Authorised Knocknamona Windfarm	Not Constructed - Knocknamona Windfarm authorised in 2016 (ABP-PL 93.244006); Amendments to Knocknamona Windfarm to provide for larger turbines authorised in September 2022 (ABP-309412-21) and Junction & Bend Widening Works to facilitate turbine component access through the windfarm site entrance at Knocknaglogh Lower authorised in December 2022 (ABP-314219-22)
Whole Project	KWF Grid Connection with Authorised Knocknamona Windfarm

List of Abbreviations

Abbreviation	Full Term
EIA Directive	EU Directive 2011/92/EU (as amended by Directive 2014/52/EU) on the assessment of the effects of certain public and private projects on the environment.
EIAR	Environmental Impact Assessment Report prepared by competent experts and submitted as part of the planning application
EIA	Environmental Impact Assessment by the planning authority of the effects of certain public and private projects on the environment, governed by the terms of the EIA Directive
Habitats Directive	EU Habitats Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.

2. The EIA Report (including Screening & Scoping)

2.1 The EIA Directive

The Environmental Impact Assessment (EIA) of projects is governed by the terms of European Union Directive 2011/92/EU (as amended by Directive 2014/52/EU) on the assessment of the effects of certain public and private projects on the environment, herein called the EIA Directive. The EIA Directive requires that projects that are likely to have significant effects on the environment be made subject to an assessment prior to development consent being given by the planning authority.

EIA Directive Article 1: Paragraph 2(a) defines 'project' as

- The execution of construction works or of other installations or schemes and
- Other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources.

The EIA Directive divides potential Projects into two lists;

- Annex I – where EIA is required in all cases.
- Annex II – where Member States shall determine whether an EIA is required.

2.2 Screening for EIA

The proposed KWF Grid Connection development does not fall within Annex I or Annex II of the EIA Directive or within Part 2: Schedule 5 of the Planning & Development Regulations 2001 (as amended).

A further screening exercise was carried out by the applicant to determine the requirement for EIA for the KWF Grid Connection project in the context of the development as part of the whole Knocknamona Windfarm project. The screening was informed by the available results from other assessments of the effects on the environment, which were previously carried out pursuant to European Union legislation other than the EIA Directive. The relevant other assessments and screening are presented in the table below;

Table 2-1: Screening for EIA

Previous Assessments	Pursuant to Directive	Screening Result	Rationale
Strategic Environmental Assessment carried out for Waterford City & County Development Plan (WCCDP) 2022-2030 – Renewable Energy Strategy	Directive 2001/42/EC (the Strategic Environmental assessment (SEA) Directive)	<p>No EIA required</p> <p>In Appendix 7: Renewable Energy Strategy 2016-2030 at S. 12.2 it states that <i>The Council is committed to working closely with Eirgrid in the preparation of this Grid Development Strategy (Grid 25) to ensure that the County has the required infrastructure network to enable it to generate, distribute and export renewable energy.</i></p> <p>KWF Grid Connection is identified in Section 6.4 Energy of the Plan as an Eirgrid project subject to upgrades during the lifetime of the Plan - <i>CP1052: Knocknamona 110kV new Station – Wind Farm connection.</i> The proposed development is compatible with WCCDP commitments (S.6.4) <i>to support the national policy shift to low carbon energy solutions for a greener future, as well as the need to enhance electrical generation and distribution infrastructure to ensure that current and future energy demands are met.</i> Further, Policy UTL 13 states that it is policy to facilitate and encourage <i>where appropriate, proposals for renewable energy generation, transmission and distribution and ancillary support infrastructure facilities.</i></p>	<p>The development location is within a Preferred Area (the highest preference) for Wind Energy developments in Appendix 7: Renewable Energy Strategy 2016-2030 of the Plan</p> <p>WCCDP 2022-2028 Renewable Energy Strategy was subject to Screening for SEA (See Appendix 4 of the Strategy¹) where commitments <i>to maximise Waterford's renewable energy potential and its transition to becoming a more energy secure, low carbon county in line with national energy targets whilst balancing the need to protect the environmental, social and heritage assets of the city and county</i> and identification of preferred areas for such developments (windfarms and grid infrastructure) form part of the baseline Plan assessed. Following the SEA Screening process, whereby the strategic aims, policy and strategic planning considerations (section 13) of the Renewable Energy Strategy were assessed against the environmental significance criteria as contained in Annex II (2) of the SEA Directive and it was concluded in the Screening exercise that a Strategic Environmental Assessment is not required for the Waterford Renewable Energy Strategy 2016-2030.</p>

¹ <https://consult.waterfordcouncil.ie/en/system/files/materials/2264/Appendix%207%20-%20Renewable%20Energy%20Strategy%202016-2030.pdf>

Previous Assessments	Pursuant to Directive	Screening Result	Rationale
Flood Risk Management Plan (FRMP) 2018 – 2021 Blackwater (Munster) WFD catchment management unit ID 18)	Directive 2007/60/EC (Floods Directive)	No EIA Required There are no River Water Bodies (RWBs) on the KWF Grid Connection site.	No part of the KWF Grid Connection site is in a fluvial or pluvial flood zone. The site is wholly located in mapped Flood Zone C – where the probability of flooding is low (less than 0.1% or 1 in 1,000). Additionally, no flood events have been recorded within or in the vicinity of the site.
River Basin Management Plan (RBMP) for Ireland 2018 – 2021 and Draft RBMP 2022 – 2027	Directive 2000/60/EC (Water Framework Directive)	EIA Required KWF Grid Connection is not directly hydrologically connected to any River Water Bodies (RWBs), there are no RWBs and limited drainage on site. However the potential for interaction of indirect effects to water, aquatic habitats and species from excavations for the various elements of the Whole Knocknamona Windfarm Project and with other projects should be considered.	Notwithstanding that the scale and nature of KWF Grid Connection does not indicate that an EIA be carried out, and that there is no water at the site location nor direct hydrological connection to a RWB, nevertheless an EIA would be preferred so that indirect impacts on River Water Bodies of the proposed KWF Grid Connection together with other elements of the Whole Knocknamona Windfarm Project and with other projects can be considered.

Previous Assessments	Pursuant to Directive	Screening Result	Rationale
Appropriate Assessments (2016; 2022) for Authorised Knocknamona Windfarm	Directive 92/43/EEC (Habitats Directive)	<p>EIA Required</p> <ul style="list-style-type: none"> No part of the Whole Knocknamona Windfarm Project site locations are within a European Site. No part of the Whole Knocknamona Windfarm Project is directly connected with, or necessary to, the management of any European site. Neither KWF Grid Connection nor the Authorised Knocknamona Windfarm are hydrologically connected to a European Site. <p>However the potential for interaction of indirect effects to water, aquatic habitats and species from excavations for the various elements of the Whole Knocknamona Windfarm Project along with other projects should be considered.</p>	Notwithstanding that the scale and nature of KWF Grid Connection does not indicate that an EIA be carried out, and that there is no water at the site location nor hydrological connection to a European Site, nevertheless an EIA would be preferred so that that indirect impacts on European Sites of the proposed KWF Grid Connection together with other elements of the Whole Knocknamona Windfarm Project and with Other Projects can be considered.

The results of other assessments, carried out pursuant to Directive 2008/50/EC (Air Quality directive) and Directive 2002/49/EC (environmental noise) where relevant to the scale and nature of the proposed development and relevant to the site location are discussed in the effects on Air Chapter of this EIA Report.

2.3 EIA Screening Conclusion

Notwithstanding that the KWF Grid Connection development does not fall within Annex I or Annex II of the EIA Directive or Part 2: Schedule 5 of the Planning & Development Regulations 2001; that the scale and nature of the development does not indicate that an EIA should be carried out; that the development is compatible with WCCDP 2022-2028 policy on grid infrastructure: that there is no water on site; and that there is no direct hydrological connection to a European Site, nevertheless an EIA should be carried out so that the environmental effects on water of KWF Grid Connection together with the Authorised Knocknamona Windfarm can be considered.

Therefore, Knocknamona Windfarm Limited commissioned the preparation of an EIA Report for the development.

2.4 The EIA Report

The form and content of this EIA Report is in compliance with the EU Directive 2011/92/EU (as amended by Directive 2014/52/EU) and fulfils all the requirements of an Environmental Impact Assessment Report under the Directive.

2.4.1 EIA Report Requirements

The information to be provided in the EIA Report, is set out in Article 5 and also in Annex IIA and Annex IV of the EIA Directive. This EIA Report was compiled having regard to the generality of the EIA Directive (meaning Directive 2011/92/EU as amended by 2014/52/EU) and specifically to the requirements of Article 5; Annex IIA and Annex IV and also having regard to Schedule 6 of the Planning and Development Regulations 2001 (as amended).

2.4.2 Guidance Documents for the EIA Report

This EIA Report has been prepared in accordance with the following Guidance Documents:

- **EIA Directive:** Article 5, Annex IIA and Annex IV https://environment.ec.europa.eu/law-and-governance/environmental-assessments/environmental-impact-assessment_en
- **Planning and Development Regulations 2001** (as amended) – Part 10 Environmental Impact Assessment & Schedule 6 Information to be contained in EIAR.
- **Planning and Development Act 2000** (as amended) – Part X Environmental Impact Assessment
- **Guidance on the preparation of the EIA Report** (European Commission, 2017) https://ec.europa.eu/environment/eia/pdf/EIA_guidance_EIA_report_final.pdf
- **Guidance on Screening** (European Commission, 2017) https://ec.europa.eu/environment/eia/pdf/EIA_guidance_Screening_final.pdf
- **Guidance on Scoping** (European Commission, 2017) https://ec.europa.eu/environment/eia/pdf/EIA_guidance_Scoping_final.pdf
- **Guidelines for the Assessment of Indirect and Cumulative Impacts** as well as Impact Interactions, (European Commission, 1999). <https://ec.europa.eu/environment/archives/eia/eia-studies-and-reports/pdf/guidel.pdf>

- **Guidelines on the information to be contained in Environmental Impact Assessment Reports** (EPA May 2022). https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR_Guidelines_2022_Web.pdf
- **Statutory Instrument** S.I. No. 296 of 2018. European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018.
<http://www.irishstatutebook.ie/eli/2018/si/296/made/en/pdf>
- **Chapter 3: The Scoping Consultations**

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2.4.3 The Project Design Team

An EIA Report Coordinator was appointed, who arranged for all the initial consultations, site investigations, development designs and technical investigation to be carried out; appointed engineering and scientific experts as the Project Design Team to prepare the final project design; assembled the EIA Report Team of experts (which includes the project design team members) to prepare the specialist environmental factors or topic chapters for the EIA Report on the chosen design; co-ordinated the assembly and presentation of the EIA Report and carried out continuous reviews of the Report. Philomena Kenealy of Ecopower is the EIA Report Coordinator for KWF Grid Connection.

Specialist engineering and environmental consultants were engaged for planning, design and evaluation of KWF Grid Connection. These specialists are competent experts² in their field of expertise and, are identified in the table below.

Table 2-2: The Project Design Team

Team Member	Competence	Design Area
Ecopower	Windfarm planning and development specialists Project Supervisor Design Process (PSDP) EIA practitioners	Supervision of overall design Overall Alternatives Considered EIAR Coordinators
INIS Environmental Consultants Ltd	Environmental Consultants specialising in ecology & environmental management	Biodiversity
Hydro Environmental Services	Geologist and Hydrogeologist Environmental engineering consultancy	Water
TLI Group	TLI (Transmission Links Ireland) Utility Infrastructure Development Consultancy	Electrical and Cable Design Construction Methodologies as set out in Chapter 5

² Competent Experts: Article 5(3) Directive 2014/52/EU

2.4.4 The EIA Report Team

Including the Project Design Team, Ecopower engaged the services of additional suitably qualified and experienced Competent Experts to appraise the likely effects on all the prescribed Environmental Factors of the KWF Grid Connection development as described in Chapter 5 of this EIAR. The competency of all the experts engaged is summarised in the table below.

Table 2-3: The EIAR Team

EIAR Chapter	Competent Expert
EIA Report Co-ordinator Chapters 1-5, 15-16 Non-technical Summary	Philomena Kenealy Lead Assessor (Dip. EIA) Julie Brett Dip. EIA Ecopower Managers in EIA and AA Reporting leaders of a multi-disciplinary team which has completed site investigations, assessments and planning applications on 23 windfarm projects on-shore in Ireland.
Biodiversity	Andrew Whitfield (BA. MA. C. Ecol. C. Env) and Dr Alex Copland (BSc PhD MEnvSc) of Inis Environmental Consultants Ltd
Population & Human Health	Population Ciara Morley (Ph.D. and M.A. in Economics and Finance), Director at Morley Economic Consulting Ltd. Human Health - Tara Barratt (MSc Environmental Technology, Associate Director in Savills' Health and Social Impact Assessment team), Dr Andrew Buroni (PhD in international Health and Impact Assessment methods and best practice, Savills' Health and Social Impact Assessment Practice Leader)
Land & Soils	Land - Andy Dunne (B.Agr.Sc M.Sc(Agr) PhD) Environmental Agricultural Engineering Consultancy (EAEC) Soils - David Broderick (BSc, H. Dip Env Eng, MSc): Hydrogeologist; Michael Gill (P. Geo., B.A., B.A.I., M.Sc., Dip. Geol, MIEI): Environmental Engineer and Hydrogeologist of Hydro-Environmental Services (HES)
Water	As per Soils above
Air	Air Quality - Ciara Nolan BSc (Hons) in Energy Systems Engineering and Master in Applied Environmental Science, AWN Consultancy Noise & Vibration - Peter Barry (BAgr Sc.MSc) Malachy Walsh & Partners, consulting environmental engineers Electromagnetic Fields - Lewis Brien (B (Hons) in Electronics) Compliance Engineering Ireland (CEI)
Climate	Per Air Quality above

EIA Chapter	Competent Expert
Material Assets	Ruairí Geary and David Tarrant, Chartered Engineers with TII Group, utility infrastructure consultancy and construction company Eoin Reynolds NRB Consulting Engineers
Cultural Heritage	Al Curtis (MA (Hons); ACIfA) of Archaeological Management Solutions (AMS), Cultural Heritage Consultants. James Powell (BSc MIEI CEng), a Chartered Engineer with a post-graduate diploma in Applied Building Repair and Conservation
Landscape	Richard Barker MLArch Master Landscape Architecture. Macro Works Consultancy

A more detailed statement of competency of the environmental experts is provided in each environmental topic **Chapters 6 – 14: Section X.1.4³**.

2.5 Scoping for Content and Extent of the EIA Report

According to ‘EC 2017 Guidance on Scoping’, scoping is the process of determining the content and extent of the information to be submitted to the planning authority to ensure that the environmental assessment is focused on any likely significant effects of the project on the environmental factors. Scoping was carried out throughout the whole EIA Report preparation process.

2.5.1 Key Activities in the preparation of the EIA Report

The key activities involved in the preparation of this EIA Report included:

- A preliminary description of the proposed KWF Grid Connection development was prepared by Ecopower.
- Scoping the content and extent of the EIA Report by the project design team. Previous and more recent consultations with local and regional authorities, and other interested parties such as landowners were taken into account.
- Once the final particulars of the development were established, a description of the final proposed development was prepared by Ecopower which included the characteristics of the Project; the life-cycle stages including construction and operation phases; the use of natural resources including land, biodiversity, water and soils; expected residues, emissions, and waste from the Project; and the vulnerability of the development to major accidents, natural disasters and climate change. All elements of the whole project including the previously authorised Knocknamona Windfarm; the authorised Larger Turbines at Knocknamona Windfarm and authorised Junction & Bend Widening works along with unrelated projects are described.
- Preparation of the 9 No. topic specific chapters (Chapters 6 – 14) covering Population & Human Health; Biodiversity; Land & Soils; Water; Air; Climate; Material Assets; Cultural Heritage and Landscape. These

³ X represents the chapter number

were prepared by topic specific experts. These chapters describe the sensitivity of the environmental topic; the information sources for the evaluation and the evaluation methodology; study area for the evaluation; the baseline environment and the effects of the passage of time since previous studies and surveys, future trends in that environment and the likely receiving environment at the construction stage; then follows the evaluation of effects (including direct, indirect, and cross-factor effects) on sensitive aspects both directly from the KWF Grid Connection and cumulatively with other elements of the whole Knocknamona Windfarm Project and with other projects where relevant; Summary table and summary text was prepared for each Sensitive Aspect Evaluation and a summary description was prepared for the end of the chapter itself. **Note:** Where no significant effects are found the full Evaluation Tables are in the Appendices for each topic chapter.

- Interaction of the Foregoing (Chapter 15) - the Interaction of the predicted effects. Some impacts can affect more than one environmental factor. Consideration of interactions ensures that cross factor effects are evaluated.
- Chapter 16 – the Mitigation and Monitoring Arrangements for KWF Grid Connection was compiled by the EIA Coordinator.
- A non-technical summary of the information contained in the EIA Report, was prepared by the EIA Coordinator.

2.5.2 Scoping for Sensitive Aspects

Scoping to identify the sensitive aspects of the environment where there is potential to be affected by the development was conducted through all iterations of the project from initial design; through to alternatives; and during examination of the final design.

The scoping process considered topic specific publications; the available results from other assessments, which were previously carried out pursuant to European Union legislation including the River Basin Management Plan (RBMP) for Ireland 2018 – 2021 (Water Framework Directive), Flood Risk Management Plan (FRMP) 2018 – 2021 Blackwater Munster (Floods Directive), and previous Appropriate Assessment prepared for other elements of the whole Knocknamona Windfarm project (Habitats Directive); legislation or regulatory controls relevant to the project; feedback from Statutory Bodies and NGOs and other parties who were likely to have either or both, thematically specific or area specific concerns; Landowner and neighbour feedback; competent expert fieldwork and desktop studies and previous fieldwork and desktop studies for the Whole Knocknamona Windfarm Project other elements.

The Scoping process followed the same pattern irrespective of project design stage;

- **Scoping to identify Sensitive Aspects of the Environment:** Any Sensitive Aspects with potential to be affected by the project were identified using a combination of field surveys; desktop surveys of mapping including designated sites mapping; information from previous assessments, industry guidance on protection standards for the environmental topics and the competent expert's knowledge and expertise.
- **Identification of a Study Area:** KWF Grid Connection study areas are not governed by the development area (red line boundary) - rather to delineate a study area boundary, the receiving environment relevant for each topic and each Sensitive Aspect was scoped for the likely zone of impact based on the nature and scale of the proposed development and the competent expert's knowledge and expertise using a combination of information from previous assessments and industry guidance.

- **Scoping to identify Impact Pathways:** The Conceptual Site Model technique was used by the Competent Experts to identify likely source-pathway-receptor links to receptors i.e. the Sensitive Aspects, see the table below. Cross Factor effects between topics were also examined. Each expert had access to the other expert's reports so that potential cross factor effects could be examined.

The terms used in this EIA Report to describe impacts/ source/ pathway/ receptor are defined in the table below.

Table 2-4: Definition of Terms – Source, Pathway, Receptor (EPA, May 2022)

Term	Description
Effect/Impact	A change resulting from the implementation of a project
Source	The activity or place from which an effect originates
Pathway	The route by which an effect is conveyed between a source and a receptor, i.e. a Sensitive Aspect.
Receptor	Any element in the environment which is subject to impacts, i.e. a Sensitive Aspect

The Source-Pathway-Receptor is identified in the detailed long form Evaluation Tables relating to each Environmental Factor. These are presented as an Appendix to each chapter (found at the end of the chapter) where no significant effects are found. Only a detailed summary table is presented in the chapter body in order to keep the chapter itself concise and coherent.

2.5.2.1 Scoping out of Sensitive Aspects of the Environment

During all stages of EIAR preparation, the competent experts also scoped out (excluded) Sensitive Aspects of their environmental topic. This was because either:

- there will be either no potential or no likelihood for the Sensitive Aspect to be affected, or
- any effects to the Sensitive Aspect will be Neutral, or
- to avoid duplicating evaluations due to the Sensitive Aspect being examined in another EIA Report topic chapter.

Note: EPA define 'Neutral' as 'No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error'. The Imperia method defines No Impact as 'An effect so small that it has no practical implication. Any benefit or harm is negligible'

2.5.3 Scoping Projects and Activities for inclusion in the Cumulative Evaluations

2.5.3.1 What are Cumulative Impacts?

Cumulative impacts are the addition of many effects, including effects of other projects, to create larger, more significant effects.

2.5.3.2 Cumulative Evaluation Requirements

Under the EIA Directive, the cumulative effects of a project must be considered which includes all elements of a whole project and other projects and activities. The consideration of the potential for effects of the whole project and of other projects or activities to create larger, more significant, cumulative effects with the proposed development is carried out for the **Whole Knocknamona Windfarm Project** including the

subject development, the proximate **Woodhouse Substation and Woodhouse Windfarm projects** and relevant **other projects and activities**.

2.5.3.3 Scoping of the Whole Knocknamona Windfarm and proximate projects Woodhouse Windfarm and Substation

The location of KWF Grid Connection overlaps to some extent with the authorised Knocknamona Windfarm (not yet constructed). There are also an overlap with two proximate existing projects – operational Woodhouse Substation and operational Woodhouse Windfarm. These three projects – Authorised Knocknamona Windfarm, Woodhouse Substation and Woodhouse Windfarm are included in the cumulative evaluations in each topic chapter.

The location of these projects is illustrated on Chapter 1 Figure - **Figure 1.2: Location of KWF Grid Connection in relation to Authorised Knocknamona Windfarm, existing Woodhouse Windfarm and existing Woodhouse Substation**

The competent expert scoping of previously authorised elements of the Knocknamona Windfarm project and overlapping operational projects was informed by;

- A description of the Authorised Knocknamona Windfarm (not constructed) as presented in **EIA 2023 Chapter 5: Description of the Development: Section 5.5.1: Authorised Knocknamona Windfarm**.
- The Revised EIS 2015 for Knocknamona Windfarm; Revised EIA 2021 for the Larger Turbines at Knocknamona Windfarm; and Screening for EIA 2022 for Junction & Band Widening Works which are submitted herein as **Reference Documents**.
- Knocknamona Windfarm Grant of Permission 2016; Board Direction and Board Order and ABP Inspector's Report No. 1 and No. 2 (Authorised 14/12/2016 under ABP Ref. PL93.244006). Accessed at <https://www.pleanala.ie/en-ie/case/244006>
- Larger Turbines at the Authorised Knocknamona Windfarm Grant of Permission 2022; Board Direction and Board Order and ABP Inspector's Report (ABP Ref: PL PL93.309412). Accessed at <https://www.pleanala.ie/en-ie/case/309412>
- Junction & Bend Widening Works Grant of Permission 2022; Board Direction and Board Order and ABP Inspector's Report (ABP Ref. PL93.314219). Accessed at <https://www.pleanala.ie/en-ie/case/314219>
- A description of operational Woodhouse Substation presented in **EIA Chapter 5: Description of the Development: Section 5.5.3**.
- A description of operational Woodhouse Windfarm presented in **EIA Chapter 5: Description of the Development: Section 5.5.4**.

2.5.4 Passage of time since previous site investigations and assessments

The Passage of Time was considered for each environmental factor topic. The previous investigations and assessments of baseline conditions were reviewed in the context of the current baseline conditions to determine whether there have been any relevant or material changes in the baseline environment since these previous planning documents were prepared. The passage of time is documented in each topic chapter.

- The effect of the passage of time since the Board's 2016 assessment on the baseline environment of Knocknamona Windfarm is also considered in the context of cumulative evaluation. The effects of passage of time is presented in the Cumulative (baseline) Information for each Sensitive Aspect in each of the Environmental Factor topic chapters.
- Impacts which were assessed for the Knocknamona Windfarm application, the Larger Turbines application and the Junction and Bend Widening Work application were automatically included for evaluation in the KWF Grid Connection application.
- In the event of any new impact pathway being identified during the course of KWF Grid Connection investigations, then this new impact pathway was examined for Knocknamona Windfarm also, so that the cumulative whole project impact with KWF Grid Connection could be determined for this new impact.

2.5.5 Scoping of other projects and activities

Other Projects in the area relate to existing or consented projects which by addition, could create larger, more significant effects. Other projects in the area (within c.17km) were scoped for potential to cause cumulative effects with the development.

The area around KWF Grid Connection was researched in 2023 for projects such as water treatment works, electricity substations, power stations, underground or overhead power lines, road projects, large infrastructure projects, sewage treatment plants, pumping stations, factories, pipelines, filling stations, hospitals, waste facilities, large housing or building developments, manufacturing plants, windfarms, industrial or commercial development of land, marinas or harbour developments, concrete batching plants, abattoirs, mining, quarries, piggeries, breweries, industrial chimneys, communication masts and data centres. The research covers all projects which may have received planning (and an additional extension of duration) and which could be constructed at the same time as KWF Grid Connection or of Knocknamona Windfarm.

Figures (at the end of the chapter)

Figure 2.1: Location of other projects included in the Scoping for the Cumulative Evaluations

Appendices (at the end of the chapter)

Appendix 2.1: Scoping of other projects and activities for the Cumulative Evaluations

2.5.5.1 Results of Scoping Exercise for other projects

In total 44 other projects were identified within c.17km of KWF Grid Connection. These are numbered 1-44 on Figure 2.1: Location of other projects included in the Scoping for the Cumulative Evaluations.

These 44 projects were scoped to determine if they were located or occurred within the cumulative geographical and time-frame boundaries.

The scoping results were that 35 of the 44 projects were excluded as they do not occur within the geographical and time-frame boundaries, and therefore are not likely to cause cumulative impacts with KWF Grid Connection.

7 No. projects:

- No. 6 Piggery in Knocknaglogh Upper 3.3km to the southeast;
- No. 8: Animal housing and slurry tank in Carrowgarra Beg 8km to the northeast;
- No. 13: Agricultural shed & slatted tank in Ballymulalla West 653m to the north;
- No. 34: Solar farm (63ha) 6km to the northwest (near Cappoquin);
- No. 37: Solar farm (29ha) 4.5km to the northwest (near Cappoquin);
- No. 39: Single wind turbine (131m overall tip height) connecting to the GlaxoSmithKlein plant on the outskirts of Dungarvan town, 8km to the east;
- No. 44: Agricultural shed, underground slatted slurry storage tanks, two walled silage storage slabs in Farranbullen 3km to the north.

were within geographical boundaries but have been scoped out from further cumulative evaluation in the EIAR because either the projects were not in the timeframe boundary (No.6, No.8 and No.13 are already constructed); or No. 39 where the planning consent has expired, or Nos. 34 and 37 where cumulative effects with KWF Grid Connection will be negligible due to the nature of these projects in addition to the separation distances. No. 44 will likely be built before KWF Grid Connection but in any case the small scale of this development and of KWF Grid Connection and the separation distance of 3km will result in no potential cumulative effects.

2 No. windfarm projects:

- No. 40: Lyrenacarriga Windfarms: A Strategic Infrastructure Development application with respect to Lyrenacarriga Windfarm, was made to An Bord Pleanála in August 2021 (ABP Ref. 309121). The proposed Lyrenacarriga Windfarm site is approximately 5km southeast of Tallow, Co. Waterford, 9km northwest of Youghal, Co. Cork and approximately 11km west of the Knocknamona Windfarm site. The Lyrenacarriga windfarm site is currently utilised for commercial forestry and agriculture. The proposed windfarm comprises 17 wind turbines, each with a maximum height to blade tip of up to 150 metres on lands straddling the Waterford/Cork County boundaries. The proposed windfarm is located in the Blackwater (Munster) catchment.
- No. 41: Scart Mountain Windfarm: Proposed 17 No. wind turbines up to 186 metres overall height in Scart Mountain Co. Waterford 11km north northwest of KWF Grid Connection. Current Pre-Application SID consultation (ABP Ref. PC93.315920). The proposed windfarm is located in the Blackwater (Munster) catchment.

Both proposed Lyrenacarriga and Scart Mountain windfarms have been scoped out for cumulative evaluation because cumulative effects with KWF Grid Connection are considered to be negligible during the construction stage due to the separation distance from KWF Grid Connection and the small scale of the KWF Grid Connection works (effects on water). During the operational stage cumulative effects are considered to be negligible also, due to the compact surface expression of additional electrical equipment proposed for an existing substation (effects on Avifauna, Landscape and Cultural Heritage).

In summary, the result of the scoping exercise is that there are no other projects within 17km scoped in for evaluation of cumulative effects in this EIA Report.

2.5.5.1.1 Existing Windfarms

The existing 2-turbine Ballycurreren Windfarm is considered herein for in-combination effects. Ballycurreren Windfarm is located c.12km to the southeast of the KWF Grid Connection in the Maoil_an_Choirnigh sub-catchment. Due to the separation distance from the KWF Grid Connection, the built status of the

Ballycurreen Windfarm and its location in a separate subcatchment, it is considered that Ballycurreen Windfarm does not have any potential to cause cumulative effects with KWF Grid Connection.

2.5.5.2 Other activities considered

Forestry and Agricultural Landuse activities: Forestry is the dominant landuse occurring at the KWF Grid Connection development site, with sections of forestry plantation also occurring throughout the wider area. Commercial forestry plantation is the most dominant habitat within the authorised windfarm site boundary along with sections of recently felled forestry. Intensive agriculture is also one of the main land uses within the wider area. Land reclamation, drainage, reseeding, fertilisation and intensive grazing have all made an impact on the landscape of this area. Forestry and agricultural activities which occur within the landholdings of the KWF Grid Connection were also considered for cumulative evaluations, but were ultimately scoped out from further evaluation herein as the KWF Grid Connection is not likely to cause significant cumulative impacts when considered with these landuse activities.

Other activities include residential, commercial, infrastructural, recreational or other development which may give rise to direct impacts on habitats or species (loss of habitat, disturbance to species); as well as activities which could have indirect impacts (e.g. activities which could affect water quality or hydrology which could in turn affect the status/health of populations of water dependant habitats or species). A search of the EIA Portal and Waterford County Council's online planning system in May 2023 did not list planned major developments in proximity to the proposed KWF Grid Connection, that had potential to contribute to significant cumulative effects.

2.6 Methodology used in this EIA Report

The methodology used to describe the baseline environment and to evaluate impacts is described in Section X.1.6 of each chapter (X being the chapter number).

For environmental factor topics, where there are no specific guidelines on evaluating the baseline environment and assessing the effects of a development on that factor, the methodology used is a standardised EU methodology – the IMPERIA methodology. The Imperia methodology if used is described in Section X.1.6 of the topic chapter.

2.7 Descriptive Terminology Used in this EIA Report

Terms that have a widely accepted meaning are used consistently throughout this EIA Report. Specialised or technical terms are listed in the Glossary of Terms at the beginning of each chapter. The terms 'effect' and 'impact'; 'appraised' and 'evaluated'; 'indirect impact' and 'secondary impact' or 'cross factor impact'; and 'receptor' and 'Sensitive Aspect' are used interchangeably in this EIA Report.

The terms used to describe effects are EPA definitions taken from the latest relevant guidance per;

- EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports (May 2022);

The standard descriptive terminology for Effects, which is used in this EIA Report is set out below, for;

- Probability
- Quality

- Extent and Context
- Duration and Frequency
- Significance
- Type of Effects

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Table 2-5: Definition of Probability of Effects

Probability of Effect	Description
Likely Effect	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
Unlikely Effect	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.

Source: EPA (May 2022) *Guidelines on the information to be contained in EIA Reports*

Table 2-6: Definition of Quality of Effects

Quality of Effect	Description
Positive Effect	A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities)
Neutral Effect	No impact or impact that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Negative/Adverse Effect	A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem; or damaging health or property or by causing nuisance).

Source: EPA (May 2022) *Guidelines on the information to be contained in EIA Reports*

Extent and Context refers to the 'size' or 'amount' of an effect, determined on a quantitative basis and the 'context' which refers to whether the effect is unique or, perhaps, commonly or increasingly experienced.

Table 2-7: Definition of the Extent and Context of Effects

Extent and Context	Description
Extent	The size of the area, the number of sites and the proportion of a population affected by an effect
Context	Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)

Source: EPA (May 2022) *Revised Guidelines on the information to be contained in EIS*

Table 2-8: Definition of the Duration and Frequency of an Impact

Duration of Effect	Description
Momentary	Effects lasting from seconds to minutes
Brief	Effects lasting less than a day
Temporary	Effects lasting less than a year
Short-term	Effects lasting one to seven years
Medium-term	Effects lasting seven to fifteen years
Long-term	Effects lasting fifteen to sixty years
Permanent	Effects lasting over sixty years

Duration of Effect	Description
Frequency of Impacts	How often the effects will occur. (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)

Source: EPA (May 2022) *Guidelines on the information to be contained in EIA Reports*

Table 2-9: Definition of Significance of Impacts


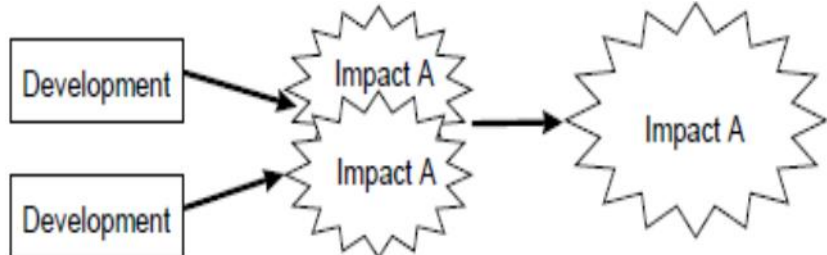
Significance of Effect	Description
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight Impacts	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
Moderate Impacts	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends
Significant Impacts	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
Very Significant Impacts	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment
Profound Impacts	An effect which obliterates sensitive characteristics

Source: EPA (May 2022) *Guidelines on the information to be contained in EIA Reports*

Direct effects are those that result from direct cause-effect consequences of interactions between the environmental factor and the development.

Indirect and cumulative impacts and impact interactions are also considered. The definitions presented below have been used in the appraisals of the various environmental factors in the Environmental Topic Chapters 6-14.

Table 2-10: Definition of Indirect, Cumulative and Impact Interaction

Type of Effect	Description
Indirect Effects (also referred to as Secondary or Off-Site effects)	Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway. 
Cumulative Effects	The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects. 

Sources: EPA (May 2022) *Guidelines on the information to be contained in EIA Reports with Graphics from EC (May 1999) Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions: Section 2.1*

Table 2-11: Definition of Other Types of Effects

Type of Effect	Description
'Do Nothing' Effects	The environment as it would be in the future should the subject project not be carried out.
'Worst Case' Effects	The effects arising from a project in the case where mitigation measures substantially fail.
Indeterminable Effects	When the full consequences of a change in the environment cannot be described.
Irreversible Effects	When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.
Residual Effects	The degree of environmental change that will occur after the proposed mitigation measures have taken effect.
Synergistic Effects	Where the resultant effect is of greater significance than the sum of its constituents, (e.g. combination of SO _x and NO _x to produce smog).

Source: EPA (May 2022) *Guidelines on the information to be contained in EIA Reports*

2.8 Presentation of the EIA Report

In this EIA Report the Coordinators' aim is to set out the herein environmental information in a rational and systematic format so that the EIA Directive requirements are shown to be addressed. This is achieved through briefing and editing by the lead assessor during the whole EIAR process in order to keep the focus on evaluating the likely effects on important or sensitive environmental receptors. Ease of reading, clarity and structure were key considerations during chapter review and editing, in order to produce an EIA Report that is concise and well-integrated across the specialist chapters.

To achieve this concise and focused style, the key presentation techniques deployed were;

- The **Non-Technical Summary** is presented in a handy, short, separate volume with figures included. This is **Volume C1: Non-Technical Summary**.
- In the **Main Report**, the information in the Environmental Factor topic Chapters 6 – 14 is prepared by various experts but presented in the chapters using a standardised structure with a pre-defined layout, terms and definitions; standard evaluation processes and standard descriptive methods and impact descriptions in order to ensure that the key characteristics of sensitive aspects of the environment, and the likely effects to these receptors or sensitive aspects are clearly communicated, placed in context and **easily cross-referenced**.
- The evaluation of the baseline or receiving environment and likely impacts are presented by individual Sensitive Aspect.
- Every Environmental Factor chapter is set out in the following manner;
 - **Section X.1:** ('X' being the chapter number, e.g. Section 6.1 in the Population and Human Health chapter): comprises an introduction to the topic, and overview of the receiving topic environment; a list of the Sensitive Aspect (receptors); the authors; sources of EIA Report information; methodology for evaluation.
 - **Section X.2 – X.X** (2nd X depending on how many Sensitive Aspects are Evaluated): sets out the baseline environment, study area and characteristics for the particular Sensitive Aspect

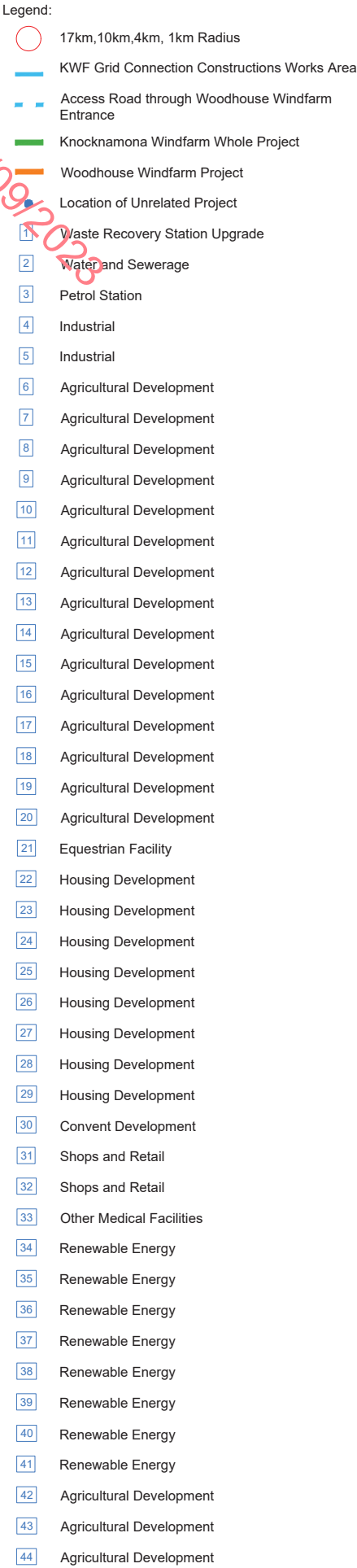
(Section X.X.1); and the evaluation of impacts (Section X.X.2) comprising a summary table and text of the significance of the potential impacts (including cumulative impacts). Because the topic experts concluded that the effects of KWF Grid Connection (directly or cumulatively) will be no more than Negative Slight (and generally less i.e. Neutral or Imperceptible) and therefore Not Significant, the full evaluation tables on which the summary is based are presented in Appendix 1 at the end of each topic chapter. This is to keep the EIA Report focused on likely significant impacts, as required by the EIA Directive (under Article II A) – (2) *where the developer must provide a description of the aspects of the environment likely to be significantly affected by the project and (3) a description of any likely significant effects.*

There is one exception in Chapter 11: Climate, where there is the only Significant effect and therefore the evaluation table is presented within the Chapter itself.

- **Final Section X.X** - Summary of the Topic Chapter.

- The impacts that are examined in Chapters 6 to 14, are for the subject development as it is described in Chapter 5: Description of Development.
- The cumulative impacts with other projects and activities that are examined in Chapters 6 to 14 are for these projects as described in Chapter 5: Description of Development; Section 5.5.
- **Appendices** have been used for including detailed, supplementary or technical information and photographs which underpins the information and evaluations in the topic chapters. In addition, Appendix X.1 of Chapters 6-14 contains the long form evaluation tables for the Sensitive Aspects, for non-significant impacts.
- **Mapping and Illustrations**, including maps, plans, sections and diagrams are presented after the relevant chapter so that they can be prepared at a scale that is legible and so that they do not distract from the flow of the text.
- **Red Font** is used to **cross reference** to the **location** of all appendices, figures and references to interacting environmental factors in other chapters of the EIA Report.
- At the beginning and end of each chapter is a **lists of chapter figures**, and **list of chapter appendices** for reference.
- A **Glossary of Terms** and **list of abbreviations** is located before the introduction to each chapter where relevant.
- **EPA evaluation criteria and definitions** are used across all the topic Chapters. EIA Report Descriptive Terminology is set out in **Section 2.7 above**.

Figure 2.1 - Location of other projects included in the Scoping for Cumulative Evaluations



Appendix 2.1: Scoping of other projects and activities for the Cumulative Evaluations

The data and descriptions in this appendix have informed Chapter 2: The EIAR Process including Scoping.

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A2.1.1	Other projects identified within 17km of the KWF Grid Connection	2
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Appendix 2.1 - Scoping of other projects and Activities for the Cumulative Evaluations

A2.1.1 Other projects identified within 17km of the KWF Grid Connection

Aside from operational Woodhouse Substation and Woodhouse Windfarm and Authorised (but not constructed) Knocknamona Windfarm, the area around KWF Grid Connection was researched for other relevant projects. Projects such as water treatment works, electricity substations, power stations, underground or overhead power lines, road projects, large infrastructure projects, sewage treatment plants, pumping stations, factories, pipelines, filling stations, hospitals, waste facilities, large housing or building developments, manufacturing plants, windfarms, industrial or commercial development of land, marinas or harbour developments, concrete batching plants, abattoirs, mining, quarries, piggeries, breweries, industrial chimneys, communication masts and data centres were researched. **In total 44 other projects were identified within 17km of KWF Grid Connection**, as per Table 1.

Table 1: Full list of other projects within 17km of KWF Grid Connection

List of other projects within 17km of KWF Grid Connection						
ID	Title	Short Description	Address	Status	Planning Reference	Distance to KWF.GC
1	Waste Recovery Station Upgrade	Waste recovery/transfer and sludge drying facility	Youghal, Co. Cork	Plans Granted	114123	13km
2	Water & Sewerage	2 water reservoirs, installation of c.6km of pipeline, decommissioning of existing seawater treatment plant, resurfacing of roads.	Gort na Daibhche Uachtarach, An Rinn, Co. Waterford	Plans Granted	16550	10km
3	Petrol Station	Service station.	Campus Service Station, Kilrush, Dungarvan, Co. Waterford	Plans Granted	17319	9km
4	Industrial	Laboratory buildings	Eurofins Lancaster Laboratories, Dungarvan, Co. Waterford	Plans Granted	16347	8km
5	Industrial	Additional Industrial grain storage and drying facilities	Cappoquin, Co. Waterford	Plans Granted	11476	7km
6	Agricultural	Piggery Facility	Knocknaglogh Upper, Aglish, Co.	Constructed	16725	3.3km

List of other projects within 17km of KWF Grid Connection						
ID	Title	Short Description	Address	Status	Planning Reference	Distance to KWF.GC
	Development		Waterford			
7	Agricultural Development	Dairy building and facilities	Cappoquin, Co. Waterford	Plans Granted	1469	10km
8	Agricultural Development	Animal housing, and slurry tanks	Carrowgarrif Beg, Cappagh, Co. Waterford	Constructed	14113	8km
9	Agricultural Development	Animal housing, and slurry tanks	Templemichael, Youghal, Co. Waterford	Constructed	15148	13km
10	Agricultural Development	Dairy buildings and facilities	Tallow, Co. Waterford	Constructed	15409	16km
11	Agricultural Development	Extension of animal housing	Grange, Co. Waterford	Constructed	17228	8km
12	Agricultural Development	Dairy facilities including slurry storage tanks and soiled water tanks	Ballymacmague East, Dungarvan, Co. Waterford	Constructed	17871	6km
13	Agricultural Development	Agricultural shed and slatted tank	Ballymulalla West, Dungarvan, Co. Waterford	Constructed	15405	653m
14	Agricultural Development	Animal housing, and slurry tanks	Cappagh, Dungarvan, Co. Waterford	Constructed	17499	4.2km
15	Agricultural Development	Dairy and extension to existing farm buildings and facilities	Youghal, Co. Cork	Constructed	165390	16km
16	Agricultural Development	Yard, animal housing, and slurry lagoon	Cappoquin, Co. Waterford	Constructed	15224	9km
17	Agricultural Development	Animal housing, and slurry tanks	Ballinamult, Co. Waterford	Constructed	16687	14km
18	Agricultural Development	Dairy building and facilities	Grange, Co. Waterford	Constructed	1518	8km
19	Agricultural Development	Dairy building and facilities	Tallow, Co. Waterford	Constructed	14118	16km
20	Agricultural Development	Construction of dairy facilities including slurry storage tanks, and silage pits	Lismore, Co. Waterford	Constructed	1888	14km
21	Equestrian Facility	Upgrade and extension of existing	Ballynacourty, Dungarvan, Co.	Plans Granted	13112	13km

List of other projects within 17km of KWF Grid Connection						
ID	Title	Short Description	Address	Status	Planning Reference	Distance to KWF.GC
		equestrian facility, construction 20 holiday homes.	Waterford			
22	Housing Development	17 houses	Abbeyside, Dungarvan, Co. Waterford	Constructed	15750	10km
23	Housing Development	98 houses	Dungarvan, Co. Waterford	Constructed	11510041	10km
24	Housing Development	150 houses	Clonea Road, Dungarvan, Co. Waterford	Constructed	17580	11km
25	Housing Development	75 houses, and associated roads	Clonea, Dungarvan, Co. Waterford	Constructed	16411	11km
26	Housing Development	66 houses	Youghal, Co. Cork	Constructed	184041	15km
27	Housing Development	47 apartments and amenities, includes demolition of existing hotel	Youghal, Co. Cork	Constructed	1458007	17km
28	Housing Development	21 holiday homes	Clonea Strand, Dungarvan, Co. Waterford	Constructed	11404, 07614, 16754	14km
29	Housing Development	98 houses	Dungarvan, Co. Waterford	Constructed	17579	10km
30	Convent Development	Upgrade of existing convent, includes new buildings	St Mary's Abbey, Glencairn, Lismore, Co. Waterford	Constructed	11326	17km
31	Shops and Retail	Supermarket and car parking	Youghal-Lands, Youghal, Co. Cork	Constructed	145523	14km
32	Shops and Retail	change of use, alterations within existing buildings	Youghal Lidl Youghal, Co. Cork	Constructed	184484	14km
33	Other Medical Facilities	Health care facility including car parking	Dungarvan Community Hospital, Dungarvan, Co. Waterford	Constructed	13510030	9km
34	Renewable Energy	Solar Farm, 63ha	Cappoquin, Co. Waterford	Plans Granted	17564	6km
35	Renewable Energy	Solar farm 5MW	Killadangan, Dungarvan, Co. Waterford	Plans Granted	17156	8km
36	Renewable Energy	Solar farm 5MW 5ha	Youghal Mudlands, Youghal, Co. Cork	Plans Granted	175245	14km
37	Renewable Energy	Solar farm on 29ha site.	Cappoquin, Co. Waterford	Plans Granted	16126	4.5km

List of other projects within 17km of KWF Grid Connection						
ID	Title	Short Description	Address	Status	Planning Reference	Distance to KWF.GC
38	Renewable Energy	Single wind turbine at existing piggery (45m overall tip height)	Ballinamult, Co. Waterford	Plans Granted	13465	16km
39	Renewable Energy	Single wind turbine at GSK Plant (131m overall tip height)	Knockbrack, Dungarvan, Co. Waterford	Plans Granted	13497	8km
40	Renewable Energy	17 No. wind turbines up to 150 metres overall height	Lyrenacarriga, Co. Waterford and Lyremountain, Co. Cork.	SID Application 2021 – in planning	ABP Ref. 309121	12.5km southwest
41	Renewable Energy	17 No. Wind Turbines up to 186m overall height	Scart Mountain 4km north of Cappoquin County Waterford	Pre-Application SID 28/02/23	ABP Ref. 315920	11km north northwest
42	Agricultural Development	Retention and Modification of Dairy building and facilities	Ballymulalla West, Dungarvan, Co. Waterford	Constructed	18617	650m north
43	Agricultural Development	Slatted Slurry Tank in Existing Shed	Ballymulalla West, Dungarvan, Co. Waterford	Constructed	203	1.3m north
44	Agricultural Development	Agricultural shed, underground slatted slurry storage tanks, two walled silage storage slabs	Farranbullen, Whitechurch, Cappagh, Dungarvan	Plans Granted	2392	3km north

A2.1.2 Scoping of other projects in relation to the Environmental Factors

The 44 other projects are scoped in Table 2 below for each of the Environmental Factor topics.

Methodology:

- As a worst-case scenario, it was assumed during scoping that any 'other projects' with a status of 'Plans Granted' within 5 years, will build and operate during the same periods as KWF Grid Connection.
- Any 'other projects' which occur within the geographical boundaries for potential impacts associated with KWF Grid Connection were then examined for their occurrence within timeframe boundaries (i.e. the construction stage or operational stage of KWF Grid Connection as appropriate).

- Where an 'other project' occurs within both geographical and timeframe boundaries, the 'other project' is then evaluated for potential to cause cumulative effects with KWF Grid Connection.
- The 'other project' is scoped out where impacts are not likely to occur, or where cumulative impacts would be negligible, otherwise the 'other project' is scoped in for detailed evaluation in the Impact Evaluation Tables for the relevant Environmental Factor topic.

Table 2: Scoping of the 44 other projects for each Environmental Factor Topic

Scoping of other projects for each Environmental Factor Topic					Scoping Evaluation:
Environmental Factor	Sensitive Aspect	Geographical Boundary of the Cumulative Study Area	Are any of the other projects located within the <u>Geographical</u> Cumulative Study Area?	Are any of these other projects <u>also located within the Timeframe</u> Cumulative Study Area?	
Population & Human Health	Local Population (Socio-Economic)	Electoral Divisions (EDs): Keereen, Dromana, Whitechurch, Dromore, Mountstuart, Carriglea in relation to cumulative socio-economic impacts and secondary effects on health.	6: Piggery Facility 13: Agricultural shed and slatted tank	NO	6 & 13: Not within timeframe boundary, already constructed - SCOPED OUT
Population & Human Health	Local Population (human health) Transient People (human health)	Cumulative study area boundaries as those used for Chapter 10: Air and Chapter 12: Material Assets are used: 700m from KWF Grid Connection construction works, 50m from KWF Grid Connection haul routes for KWF Grid Connection construction materials and abnormal loads, 200m from KWF Grid Connection operational electrical equipment and additional plant and apparatus at Woodhouse Substation (operational	13: Agricultural shed and slatted tank None of the other projects are likely to cause cumulative impacts to Population & Human Health	NO	13: Not within timeframe boundary, already constructed - SCOPED OUT

Scoping of other projects for each Environmental Factor Topic					
Environmental Factor	Sensitive Aspect	Geographical Boundary of the Cumulative Study Area	Are any of the other projects located within the <u>Geographical</u> Cumulative Study Area?	Are any of these other projects <u>also located within the Timeframe</u> Cumulative Study Area?	Scoping Evaluation:
		noise). cabling, and 800m from operational KWF Grid Connection			
Biodiversity	Terrestrial Habitats	Construction works area boundary plus 100m in all directions	NO - No other projects within the Geographical Study Area, and None of the other projects are likely to cause cumulative impacts to Terrestrial Habitats	n/a	n/a
Biodiversity	Birds	KWF Grid Connection construction works area boundary plus 1km	13: Agricultural shed and slatted tank None of the other projects are likely to cause cumulative impacts to Birds	NO	13: Not within timeframe boundary, already constructed - SCOPED OUT
Biodiversity	Mammals	- Bats: 300m of the construction works area (CWA) boundary - Otter: 600m from CWA - Badger & Other Mammals: 100m from CWA	NO - No other projects within the Geographical Study Area, and None of the other projects are likely to cause cumulative impacts to Mammals	n/a	n/a

Scoping of other projects for each Environmental Factor Topic					Scoping Evaluation:
Environmental Factor	Sensitive Aspect	Geographical Boundary of the Cumulative Study Area	Are any of the other projects located within the <u>Geographical</u> Cumulative Study Area?	Are any of these other projects <u>also located within the Timeframe</u> Cumulative Study Area?	
Biodiversity	Aquatic Habitats Species &	Local surface water bodies catchments (<i>see also Water below</i>)	<p>YES - 6: Piggery Facility, 8: Animal housing & slurry tank 13: Agricultural shed and slatted tank 34: Solar Farm, 63ha 37: Solar farm on 29ha site 39: Single wind turbine at GSK Plant (131m overall tip height) 40: Proposed 17 No. Wind Turbines c.12.5km to the southwest in the Blackwater Catchment (Lyrenacarriga Windfarm) 41: Proposed 17 No. Wind Turbines c.11km to the north northwest in the Blackwater Catchment (Scart Mountain Windfarm)</p> <p>No additional other projects are likely to cause</p>	<p>NO – 6, 8 & 13</p> <p>Potentially YES – 34, 37, 39, 40 & 41</p>	<p>6, 8 & 13 exist and therefore part of baseline - SCOPED OUT. 34, 37 & 39 are potentially within the timeframe boundary, but due to the scale and nature of these developments, the separation distance to KWF Grid Connection, and the resulting dilution factor, any cumulative effects would be negligible - SCOPED OUT. 40 & 41 are in the same surface water body catchment – Blackwater (Munster) but due to the separation distance from KWF Grid Connection; the small scale and nature of KWF Grid Connection works and the resulting dilution factor; and the compact surface expression of the operational development, any cumulative effects would be negligible – SCOPED OUT</p>

Scoping of other projects for each Environmental Factor Topic					
Environmental Factor	Sensitive Aspect	Geographical Boundary of the Cumulative Study Area	Are any of the other projects located within the <u>Geographical</u> Cumulative Study Area?	Are any of these other projects <u>also located within the Timeframe</u> Cumulative Study Area?	Scoping Evaluation:
			cumulative impacts to Aquatic Habitats & Species.		
Land & Soils	Land Use Soil & Bedrock	Land use: Boundary of construction works areas in general, and the individual landholdings where there is any potential to split parcels of land Soils & Bedrock: Within the KWF Grid Connection construction works area boundary and immediate adjacent lands that adjoin the works area boundary	NO - No other projects within the Geographical Study Area, and None of the other projects are likely to cause cumulative impacts to Land or Soils	n/a	n/a
Water	Local Surface Water Bodies	Local surface water bodies catchment divides as defined by the EPA mapping on www.catchments.ie	YES - 6: Piggery Facility, 8: Animal housing & slurry tank 13: Agricultural shed and slatted tank 34: Solar Farm, 63ha 37: Solar farm on 29ha site 39: Single wind turbine at	NO – 6, 8 & 13 Potentially YES – 34, 37, 39, 40 & 41	6, 8 & 13 exist and therefore part of baseline - SCOPED OUT . 34, 37 & 39 are potentially within the timeframe boundary, but due to the scale and nature of these developments, the separation distance to KWF Grid Connection, and the resulting dilution factor, any cumulative

Scoping of other projects for each Environmental Factor Topic					
Environmental Factor	Sensitive Aspect	Geographical Boundary of the Cumulative Study Area	Are any of the other projects located within the <u>Geographical</u> Cumulative Study Area?	Are any of these other projects also <u>located within the Timeframe</u> Cumulative Study Area?	Scoping Evaluation:
			<p>GSK Plant (131m overall tip height)</p> <p>40: Proposed 17 No. Wind Turbines c.12.5km to the southwest in the Blackwater Catchment</p> <p>41: Proposed 17 No. Wind Turbines c.11km to the north northwest in the Blackwater Catchment</p> <p>No additional other projects are likely to cause cumulative impacts to Water</p>		<p>effects would be negligible - SCOPED OUT.</p> <p>40 & 41 are in the same surface water body catchment – Blackwater (Munster) but due to the separation distance from KWF Grid Connection; the small scale and nature of KWF Grid Connection and the resulting dilution factor, any cumulative effects would be negligible – SCOPED OUT</p>
Water	<p>Local Ground Water Bodies</p> <p>Local Water Supplies</p>	<p>Local GWBs catchment divides as defined by GSI/WFD within 300m of construction works areas.</p> <p>Local wells and springs within 300m of construction works areas</p>	<p>NO - No other projects within the Geographical Study Area, and</p> <p>None of the other projects are likely to cause cumulative impacts to local groundwater bodies or local water supplies</p>	n/a	n/a

Scoping of other projects for each Environmental Factor Topic					
Environmental Factor	Sensitive Aspect	Geographical Boundary of the Cumulative Study Area	Are any of the other projects located within the <u>Geographical</u> Cumulative Study Area?	Are any of these other projects <u>also located within the Timeframe</u> Cumulative Study Area?	Scoping Evaluation:
Air	Air	<u>Construction Dust, Noise and Vibration</u> : Dust, Noise & Vibration: Air Quality, Noise & Vibration: 700m from construction works, 50m from main transport routes <u>Operational Noise</u> : 800m from both the Woodhouse Substation and Consented KWF Substation <u>Operational EMF</u> : 200m from Woodhouse Substation, underground cabling, Woodhouse turbines, Knocknamona Windfarm Substation and Knocknamona turbines	YES - 13 : Agricultural shed and slatted tank. None of the other projects are likely to cause cumulative impacts to Air	NO	13: Not within timeframe boundary, already constructed - SCOPED OUT
Climate	Climate	Irish state	n/a	n/a	n/a – the full Irish State is considered in the context of carbon emissions and climate change targets.
Material Assets	Public Roads	The local roads L6074 between Clogh Crossroads and the Woodhouse Substation entrance and the L60741 between the junction with the L6074 and the existing Woodhouse Windfarm entrance.	NO - No other projects within the Geographical Study Area, and None of the other projects are likely to cause cumulative impacts to	n/a	n/a

Scoping of other projects for each Environmental Factor Topic					
Environmental Factor	Sensitive Aspect	Geographical Boundary of the Cumulative Study Area	Are any of the other projects located within the <u>Geographical</u> Cumulative Study Area?	Are any of these other projects <u>also located within the Timeframe</u> Cumulative Study Area?	Scoping Evaluation:
			Material Assets		
Cultural Heritage	Recorded Legally Protected Sites	Construction Stage Effects; Within the footprint of the construction works area plus 500m radius surrounding the footprint of the construction works areas. Operational Stage Visual Effects: 4km zone around the additional plant in Woodhouse Substation	<p>YES - 13: Agricultural shed and slatted tank</p> <p>40: Proposed 17 No. Wind Turbines c.12.5km to the southwest (Lyrenacarriga Windfarm)</p> <p>41: Proposed 17 No. Wind Turbines c.11km to the north northwest (Scart Mountain Windfarm)</p> <p>None of the other projects are likely to cause cumulative impacts to Cultural Heritage</p>	Potentially YES – 40 & 41	<p>Not within timeframe boundary – already constructed and located within an existing farmyard complex, forms part of the baseline environment - SCOPED OUT.</p> <p>40 & 41 being proposed windfarms within 15km but due to the separation distance from KWF Grid Connection; the small scale and nature of KWF Grid Connection works and the resulting dilution factor; and the compact surface expression of the operational development, any cumulative effects would be negligible – SCOPED OUT.</p>
Landscape	Landscape Character & Visual Amenity	Construction stage cumulative effects: 1km corridor from construction works areas and activity locations within the site boundary Operational stage cumulative effects: 4km radius from the additional plant	<p>YES -13: Agricultural shed and slatted tank</p> <p>None of the other projects are likely to cause cumulative impacts to</p>	Potentially YES – 40 & 41	<p>Not within timeframe boundary – already constructed and located within an existing farmyard complex, forms part of the baseline environment - SCOPED OUT.</p>

Scoping of other projects for each Environmental Factor Topic					
Environmental Factor	Sensitive Aspect	Geographical Boundary of the Cumulative Study Area	Are any of the other projects located within the <u>Geographical</u> Cumulative Study Area?	Are any of these other projects <u>also located within the Timeframe</u> Cumulative Study Area?	Scoping Evaluation:
		in Woodhouse Substation	<p>Landscape</p> <p>40: Proposed 17 No. Wind Turbines c.12.5km to the southwest (Lyrenacarriga Windfarm)</p> <p>41: Proposed 17 No. Wind Turbines c.11km to the north northwest (Scart Mountain Windfarm)</p>		<p>40 & 41 being proposed windfarms within 15km but due to the separation distance from KWF Grid Connection; the small scale and nature of KWF Grid Connection works and the resulting dilution factor; and the compact surface expression of the operational development, any cumulative effects would be negligible – SCOPED OUT</p>

Forty-four other projects are scoped for each of the Environmental Factor topics. The result of the scoping exercise is that all 44 No. other projects were scoped out for potential for cumulative effects.

A2.1.3 Scoping of activities in relation to the Environmental Factors

The local landuse activities at the KWF Grid Connection location are forestry and agriculture (predominately dairy and management of grassland pastures). It was evaluated by the competent experts that forestry and agricultural activities in the area within and surrounding the KWF Grid Connection site formed part of the baseline environment for Population & Human Health, Biodiversity, Land and Soils, Air, Climate, Material Assets, Cultural Heritage and Landscape, therefore forestry or agricultural activities were not scoped in for these topic chapters in the EIA Report.

In relation to Water, current agricultural and forestry landuse and associated activities are known pressures on downstream river waterbodies, groundwater bodies and downstream designated sites. Agricultural water quality impacts largely relate to nitrification (fertilizer/manure etc.) rather than sediment. Forestry related water quality impacts largely relate to acidification and eutrophication, in addition to sediment load during harvesting activities. The proposed KWF Grid Connection has potential to adversely affect downstream waterbodies through sedimentation and through contamination by fuels, oils or cementitious materials. No nitrification water quality impacts are anticipated with respect the KWF Grid Connection, in addition no forestry felling is required for the KWF Grid Connection development and therefore there is no potential for cumulative impacts to Water via nitrification, acidification or eutrophication sources. In relation to sediment related impacts, forestry felling will be carried out in accordance with best practice and felling license conditions. Best practice harvesting would include standard measures such as the use of sediment traps and other protective measures to protect water quality. When the size, scale and nature of KWF Grid Connection is considered cumulatively with potential forestry harvesting activities in the surrounding area, it is considered that with the implementation of best practice harvesting measures and the sensitive scheduling of KWF Grid Connection construction works, that significant cumulative sedimentation impacts are unlikely to occur. In relation to contamination by fuels and oils, while agricultural and forestry activities do involve the use of vehicles and machinery run on hydrocarbons, the volumes involved are negligible, farm and forestry machinery is generally in good working order, these activities will occur in multiple catchments, in the context of few flowpaths (watercourses and drains) within the landholdings and therefore cumulative impacts to river waterbodies from Oils, Fuels and Chemicals spillages is not likely. In relation to contamination by cementitious materials, agricultural and forestry activities are not expected to contribute to cumulative effects as the pouring of cement is not currently planned by any of the landowners involved in the project. Therefore, as significant cumulative impacts are not likely to occur, agricultural and forestry landuse activities are scoped out from further evaluation of cumulative impacts in the Water topic chapter in the EIA Report.

Other activities include residential, commercial, infrastructural, recreational or other development which may give rise to direct impacts on habitats or species (loss of habitat, disturbance to species); as well as activities which could have indirect impacts (e.g. activities which could affect water quality or hydrology which could in turn affect the status/health of populations of water dependant habitats or species). A search of the EIA Portal and Waterford County Council's online planning system in May 2023 did not list planned major developments in proximity to the proposed KWF Grid Connection, that had potential to contribute to significant cumulative effects.