

Borrisbeg Grid Connection

Chapter 15 Interactions and Cumulative Effects

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15 Interactions and Cumulative Effects

The preceding Chapters 4 to 14 of this EIAR identify the potential significant environmental effects that may occur in terms of Population and Human Health, Biodiversity, Land, Soils and Geology, Hydrology and Hydrogeology, Air Quality, Climate, Noise and Vibration, Cultural Heritage, Landscape and Visual, Material Assets (Roads and Traffic, Telecommunications, Aviation, Utilities and Waste Management), and Vulnerability to/from Major Accidents and Natural Disasters as a result of the Proposed Grid Connection as described in Chapter 3 of this EIAR.

All of the potential significant effects of the Proposed Grid Connection and the measures proposed to mitigate them have been outlined in the preceding chapters of this EIAR. Mitigation measures and best practice measures for the construction and operation of the Proposed Grid Connection are detailed in the accompanying Construction Environment Management Plan (CEMP, Appendix 3-2). However, for any development with the potential for significant environmental effects there is also the potential for interaction between these potential significant effects. The result of interactive effects may exacerbate the magnitude of the effects or ameliorate them or have a neutral effect.

15.1.1 Statement of Authority

The EIA authors of the preceding chapters 4 to 14 have contributed to this chapter in relation to the interacting factors of their relevant disciplines. This chapter has been reviewed by Karen Mulryan and by Paul Chadwick, of RPS. Karen is a Senior Environmental Scientist with RPS with over 9 years' experience in the consultancy sector. Karen holds a BA International in Archaeology from NUI Galway and a MSc in Archaeology from the University of Edinburgh. Karen's expertise is in project management, environmental impact assessment, wind energy site selection and feasibility assessment. Karen has experience managing wind farm Environmental Impact Assessment Report applications of various scales including SID applications across Ireland. Karen holds memberships with the Chartered Institute for Archaeologists (ACIfA) and the Institute of Archaeologists of Ireland (IAI).

Paul is a Technical Director with the Energy, Environment and Resources Sector and leads the team responsible for environmental, waste and resource management and assessment of infrastructural and industrial projects for RPS in Ireland. Paul specialises in the fields of air quality and climate. He has considerable experience, both academic and professional, in ambient air quality and a wide range of atmospheric pollutants from waste / wastewater, road traffic, air traffic, industrial and stationary sources. As a result of two years research in atmospheric chemistry, he has an in-depth knowledge of the chemical and physical transformations associated with local and regional air pollution and climate change. Paul is a trained and experienced expert witness and is supported by a team of multidisciplinary environmental experts across RPS in Ireland

15.1.2 Legislation and Guidance

Interactions are addressed within Article 3 (1) of the EIA Directive as amended by Directive 2014/52/EU which requires that *"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)".* Also, pursuant to section 2(1)(b) of the Roads Act 1993 (as amended) the EIAR (or EIS as then was under the Roads Act) is *"including an examination, analysis and evaluation by An Bord Pleanála under section 51(5) in order to identify, describe and assess the direct and indirect significant effects of the particular proposed road development, including significant effects derived from the vulnerability of the proposed road development to risks of major accidents and disasters relevant to it, on—*

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- (i) population and human health,*
- (ii) biodiversity, with particular attention to species and habitats protected under Council Directive 92/43/EEC of 21 May 19923 and Directive 2009/147/EC of the European Parliament and of the Council of 30 November 20094,*
- (iii) land, soil, water, air and climate,*
- (iv) material assets, cultural heritage and the landscape, and*
- (v) the interaction between the factors mentioned in subparagraphs (i) to (iv);”*

The interaction of effects within the Proposed Grid Connection in respect to each of the environmental factors, listed in Article 3(1) of the EIA Directive, have been identified and addressed in detail in the respective chapters in this EIAR. This chapter presents an assessment of the interaction (inter-relationship) of impacts between the various environmental factors.

15.1.3 Methodology

15.1.3.1 Interaction Matrix

An interaction matrix has been developed and it is presented in Table 15-1. The matrix highlights the occurrence of potential positive or negative effects during both the construction (C) and operational (O) phases. The matrix is symmetric, with each environmental component addressed in the chapters of this EIAR being placed on both axes of a matrix, and therefore, each potential interaction is identified twice. In Section 15.1.4 below, the potential interactions between each environmental component have been discussed in order of the relevant chapters of the EIAR. Once a potential interaction between two environmental components has been discussed, for example, Population & Human Health and Hydrology and Hydrogeology, the interaction will not be discussed again in the following relevant section, therefore there is no Hydrology and Hydrogeology and Population & Human Health section.

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Table 15-1: Interactions Matrix: Potential for interacting impacts

	Phase	Population and Human Health	Biodiversity	Major Accidents	Land, Soils, Geology	Hydrology & Hydrogeology	Air Quality	Climate	Noise & Vibrations	Cultural Heritage	Landscape & Visual	Material Assets Traffic/Waste /Utilities
Population and Human Health	C											
	O											
Biodiversity	C											
	O											
Major Accidents	C											
	O											
Land, Soils, Geology	C											
	O											
Hydrology and Hydrogeology	C											
	O											
Air Quality	C											
	O											
Climate	C											
	O											
Noise & Vibrations	C											
	O											
Cultural Heritage	C											
	O											
Landscape & Visual	C											
	O											
Material Assets Traffic/Waste/Utilities	C											
	O											

No Interacting Effect Neutral Effect Positive Effect Negative Effect

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15.1.4 Impact Interactions

15.1.4.1 Population and Human Health

Population and Human Health, Land, Soils and Geology

The use of plant machinery on site during excavation works and the movement of spoil may result in the potential for soil and ground contamination. The Proposed Grid Connection is not a recognised source of pollution and so the potential for effects during the operational phase are imperceptible. With the implementation of mitigation and monitoring measures detailed in Chapter 7 Land, Soil and Geology and the CEMP (Appendix 3-2), the potential residual effects associated with soil or ground contamination during the construction and operational phases and subsequent health effects are imperceptible.

Population and Human Health, and Hydrology & Hydrogeology

Potential health effects arise mainly through the potential for surface and groundwater contamination which may have negative effects on public and private water supplies. There are no mapped public or group water scheme groundwater protection zones in the area of the Site. However, the Proposed Grid Connection design and mitigation measures detailed in Chapter 8 and the CEMP (Appendix 3-2) ensures that the potential for effects on the water environment are not significant. Comprehensive surface water mitigation and controls are outlined in Chapter 3 Development Description and Chapter 8 Hydrology and Hydrogeology to ensure protection of all downstream receiving waters. Mitigation measures will ensure that surface runoff from the developed areas of the Site will be of a high quality and will therefore not impact on the quality of downstream surface water bodies, no impact on group water schemes, wells and therefore no subsequent health effects.

Population and Human Health, and Air Quality

The excavation and movement of spoil during the construction phase of the Proposed Grid Connection is likely to create dust and CO₂ emissions which will result in a short-term imperceptible negative impact on local air quality. Mitigation measures to reduce dust and CO₂ emissions generated during the construction phase of the Proposed Grid Connection are presented in Chapter 9 Air Quality. During the operational phase, Impacts from dust and other emissions to air from private and maintenance vehicles during the operational phase of the Proposed Grid Connection are considered to be momentary and imperceptible.

As stated throughout this EIAR, the Proposed Grid Connection is required to facilitate the transmission of renewable energy from the Consented Wind Farm to the national grid. Over the operational lifetime of the Consented Wind Farm, an estimated 1,764,240 tonnes CO₂ will be displaced from the atmosphere. Thus, there will be an indirect long-term overall Positive effect on Air Quality.

Population and Human Health, and Climate

The construction of the Proposed Grid Connection will have a short-term and slight negative effect on climate and will be restricted to the duration of the construction phase. By facilitating the connection of the Consented Wind Farm to the national grid, the grid connection indirectly supports the offsetting of CO₂e from fossil fuel-based electricity generation. 58,808 tonnes of CO₂ will be offset per annum from the largely carbon-based traditional energy mix by the Consented Wind Farm. Over the 30-year lifetime of the Consented Wind Farm therefore, 1,764,240 tonnes of carbon dioxide will be displaced from traditional carbon-based electricity generation. The GHG emissions associated with the construction of the Proposed Grid Connection is 265.7 tCO₂e. This represents

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0.02% of the total amount of carbon dioxide emissions that will be offset by the Consented Wind Farm over its operational life. If the Proposed Grid Connection does not receive a grant, the offsetting benefits of the Consented Wind Farm will not be fulfilled. There will be a long term beneficial (TII 2022) or imperceptible positive effect (EPA 2022) effect on Climate and therefore Health as a result of reduced GHG emissions with the operation of the Proposed Grid Connection alongside the Consented Wind Farm.

Population and Human Health, and Noise and Vibration

The construction phase will generate an increase in noise levels in the vicinity of the Site which has the potential to cause a nuisance to Sensitive Properties in the area. The contractor undertaking the construction of the works will be obliged to take specific noise abatement measures and comply with the recommendations of British Standard BS 5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites – Noise and all mitigation measures as detailed in Chapter 11 Noise and Vibration and the Construction and Environmental Management Plan (CEMP, Appendix 3-2), will be implemented. The construction phase will likely create a short-term, slight negative effect on human health due to the nuisance caused by construction plant and vehicle noise emissions. As detailed in Chapter 11, the predicted noise emissions during the operational phase range from imperceptible to not significant.

Population and Human Health, and Landscape and Visual

The construction phase of the Proposed Grid Connection will see the temporary introduction of construction machinery, which is categorised as temporary, transient and very localised negative effects on landscape and imperceptible for most Sensitive Properties due to screening effects of surrounding vegetation. Operational effects are considered to range from Moderate-Slight to Imperceptible and permanent. The proposed 110kV substation will be an intensive and utilitarian electrical facility that will impart an industrial character on the immediate rural surrounds. However, it will also present in-combination with the Consented Wind Farm as a related ancillary feature of more modest proportions than the surrounding turbines. A proposed grassed berm to the east of the proposed substation will aid in the assimilation of the substation within the surrounding context while also screening the ground level movement and clutter of electrical components. Given the containment of the substation site, the influence on landscape character will be substantially contained to a very localised context of around 500-1000m. Overall, the magnitude of landscape impact associated with the Proposed Grid Connection is deemed to be no greater than Medium and of a Negative quality, but within a localised geographical extent during both the construction and operational phases. When combined with the Low sensitivity of the receiving landscape, the significance of effect is deemed to be no greater than Slight. This level of effect is considered to be Not Significant.

Population and Human Health, and Material Assets

The Proposed Grid Connection will give rise to traffic volumes on the local road network and, therefore, is likely to create some short-term inconvenience for other road users as well as dust and exhaust emissions. A Traffic Management Plan will be in place to minimise all disruption, as described in Chapter 14 Material Assets and the CEMP (see Appendix 3-2). During the operational phase, impacts on the surrounding local highway network will be imperceptible. With the implementation of measures detailed in Chapter 4 Population and Human Health, Chapter 9 Air Quality and the CEMP (Appendix 3-2) dust and exhaust emission will be contained and the potential for impact on health will be imperceptible.

As detailed in Chapter 14 Material Assets, the Proposed Grid Connection has no potential to interfere with telecom links or Irish rail communications during the construction phase and an imperceptible, long-term effect on Irish Rail communications infrastructure due to EMF during the

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operational phase. There will be an imperceptible to slight impact on water supply infrastructure, electricity supply and infrastructure and waste management during the construction phase with the implementation of the recommended mitigation measures as set out in Chapter 14 section 14.5.2. During the operational phase, there will be an imperceptible effect on water supply infrastructure and waste management. The Proposed Grid Connection will facilitate the transmission of renewable energy from the Consented Wind Farm to the national grid, providing clean, electricity to approximately 47,000 households per annum and offsetting 58,808 tonnes of CO₂. Based on the above, the Proposed Grid Connection will have an indirect Slight, positive, long-term effect onto the national electricity supply and a long term imperceptible positive effect on Health.

15.1.4.2 Biodiversity

Biodiversity and Land, Soils and Geology

The removal of soil, during construction phase of the Proposed Grid Connection is likely to result in some disturbance of flora and fauna in and adjacent to the Proposed Grid Connection footprint thereby, potentially causing a long term, slight, negative effect on flora and fauna. These potential impacts have been assessed in Chapter 5 of this EIAR and excavated spoil will be contained on site through linear berm formation alongside the new access tracks proposed along the grid connection cable route within agricultural fields.

Biodiversity, and Hydrology and Hydrogeology

Site activities during the construction phase of the Proposed Grid Connection may have the potential to give rise to water pollution, and consequential indirect effects (such as disturbance and deterioration of habitat quality) on flora and fauna that use that water within the same catchment. These potential impacts have been assessed in Chapter 5 Biodiversity and Chapter 8 Hydrology and Hydrogeology and the relevant mitigation measures outlined in these chapters and the CEMP Appendix 3-2 will be in place to avoid any water pollution and subsequent effect on Biodiversity.

Biodiversity, and Air Quality

During the construction and operation phase of the Proposed Grid Connection, increased vehicular and dust emissions within and around the Site have the potential to be a nuisance to flora and fauna. The mitigation measures outlined in Chapter 9 Air Quality will ensure that the potential for negative effects is imperceptible. The indirect offsetting of fossil fuel emissions will have a long-term significant positive effect on air quality for biodiversity.

Biodiversity and Climate

The construction of the Proposed Grid Connection will result in greenhouse gas emissions associated with the production of construction materials, and operation of vehicles and plant. This impact on biodiversity will be short term and slight only, given the quantity of greenhouse gases that will be emitted to the atmosphere and the duration of the construction phase. Mitigation measures are presented in Chapter 10 Climate to minimise any potential effects.

During the operational phase, the Proposed Grid Connection will indirectly facilitate the offsetting of carbon emissions from fossil fuel-based electricity generation plants, which will help contribute to a slower increase in the rate of global warming and a reduction in air pollution, consequently, could in combination with other renewable energy projects, have a long term, significant positive effect on biodiversity.

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Biodiversity and Noise and Vibration

Site activity during the construction phase could give rise to noise that could be a nuisance for fauna which use the Site. Best practice mitigation measures are included in Chapter 5 Biodiversity, Chapter 11 Noise and Vibration and the CEMP Appendix 3-2 to minimise the potential negative effect of noise generated during the construction phase on biodiversity. The limited onsite noise activity generated by the Proposed Grid Connection during the operational phase will have an imperceptible effect on biodiversity.

15.1.4.3 Vulnerability to Natural Disasters

As described in Chapter 6 of the EIAR, major accidents or natural disasters are hazards which have the potential to affect the Proposed Grid Connection and lead to environmental effects both directly and indirectly. These include accidents during construction and operation of the Proposed Grid Connection caused by operational failure and/or natural hazards. The assessment of the potential for significant accidents or disasters is conducted in connection with the information that must be included in the EIAR. This includes aspects such as population and human health, biodiversity, land and soil, hydrology and hydrogeology, air quality, climate, material assets, cultural heritage, and the landscape. The risk of a major accident and/or disaster during the construction of the Proposed Grid Connection is considered 'low' in accordance with the 'Guide to Risk Assessment in Major Emergency Management' (DoEHLG, 2010).

When the above mitigation is implemented, and all mitigation detailed in the EIAR is implemented, the residual effect(s) associated with the construction and operation of the Proposed Grid Connection are not significant.

15.1.4.4 Land, Soils and Geology

Land, Soils and Geology and Hydrology & Hydrogeology

As identified in Chapter 7 Land, Soils and Geology, the movement/removal of spoil during the construction phase has the potential to have a significant, negative effect on water quality through potentially silt-laden runoff from the Proposed Grid Connection works areas. Mitigation measures to ensure there are no significant negative effects on water quality are presented in Chapter 7 Land, Soils and Geology, Chapter 8 Hydrology & Hydrogeology, and the CEMP Appendix 3-2.

Land, Soils and Geology and Cultural Heritage

There are no Recorded Monuments or Protected Structures within the Site. The removal of spoil during the construction phase is likely to have a permanent, significant, negative effect on any previously unrecorded sub-surface archaeological site. Mitigation measures outlined in Chapter 12 Cultural Heritage will reduce the potential for negative effects on unrecorded sites during excavations. Any archaeological features or sites, if detected during the construction phase monitoring will be preserved by record (archaeologically excavated) or preserved in-situ (avoidance) and therefore a full record made of same. In this regard, the potential effect after the implementation mitigation measures is likely to be Not Significant.

Land, Soils and Geology and Landscape and Visual

The removal of spoil and the subsequent replacement with crushed stone for the construction of the Proposed Grid Connection has the potential to alter the local landscape. The visual effect of this

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change is permanent, localised in nature and ranges from Imperceptible Moderate-slight effect at VP3 which looks onto the substation field. In the context of the cumulative Consented Wind Farm the Proposed Grid Connection becomes less noticeable in its own right and is assimilated as a modest scale ancillary development to the Consented Wind Farm.

Land, Soils and Geology and Air Quality

The excavation works and transportation of vehicles to/from and around the Site will give rise to dust and exhaust emissions which is considered to be a imperceptible, negative impact on air quality and short-term in nature. Mitigation measures outlined in Chapter 9 Air Quality will reduce the potential for negative effects on land, soils, and geology, including dust suppression measures which is further outlined in the CEMP (please see accompanying CEMP Appendix 3-2). No ground works are required for the operational phase.

15.1.4.5 Air Quality

Air Quality and Material Assets

Following implementation of mitigation measures as outlines in Chapter 9 Air Quality, Chapter 14 Material Assets, and the CEMP Appendix 3-2 there will be a short-term slight negative effect to air quality due to the transportation of vehicles to/from and around the Site. Dust and exhaust emissions generated through the transportation of vehicles to/from and around the Site during the operational phase (1-2 LGVs per day) are imperceptible.

15.1.4.6 Climate

Climate and Material Assets

The construction of the Proposed Grid Connection will result in greenhouse gas emissions, e.g., carbon dioxide (CO₂), carbon monoxide and nitrogen oxides, associated with the production of construction materials, and operation of vehicles and plant. This impact will be permanent and slight only, given the quantity of greenhouse gases that will be emitted to the atmosphere and will be restricted to the duration of the construction phase.

The Proposed Grid Connection facilitates the connection of the Consented Wind Farm to the national grid; the grid connection indirectly supports the offsetting of CO₂e from fossil fuel-based electricity generation. 58,808 tonnes of CO₂ will be displaced per annum from the largely carbon-based traditional energy mix by the Consented Wind Farm. Over the 30-year lifetime of the Consented Wind Farm therefore, 1,764,240 tonnes of carbon dioxide will be displaced from traditional carbon-based electricity generation. Subsequently, this will cause a long-term moderate positive effect on Climate as a result of reduced greenhouse gas emissions.

15.1.4.7 Landscape and Visual

Landscape and Visual and Cultural Heritage

As described in Chapter 12 of this EIAR, the Proposed Grid Connection has the potential to change the landscape setting of recorded sites and monuments in the wider area. As stated in section 12.8.4 of Chapter 12 Cultural Heritage that any potential, indirect, visual effect of the Proposed Grid Connection on sites and monuments range from permanent imperceptible to no visual effects on Recorded Monuments, Protected Structures, National Monuments, National Inventory of

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Architectural Heritage and Historical Gardens, Features of Local Cultural Heritage Merit and UNESCO sites.

15.1.4.8 Mitigation and Residual Impacts

Where any potential interactive negative impacts have been identified in the above, a full suite of appropriate mitigation measures has already been included in the relevant sections (Chapters 4 to 14) of the EIAR and are detailed in the CEMP Appendix 3-2. The implementation of these mitigation measures will reduce or remove the potential for these effects. Information on potential residual impacts and the significance of effects, is also presented in each relevant chapter.

15.2 Cumulative Effects

15.2.1 Legislation and Guidance

Cumulative effects are defined as per the EPA Guidelines (EPA, 2022) as *“the addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects.”* The EIA Directive (2014/52/EU) mandates that an account is provided for *“the interaction between any of the foregoing aspects.”*

Annex IV (5)(e) of the EIA Directive as amended by Directive 2014/52/EU requires that the EIAR shall contain *“a description of the likely significant effects of the project on the environment resulting from, inter alia: (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;”*

Furthermore, Annex IV (5) states that the EIAR shall contain: *“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 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”*.

The following guidelines and publications were considered in undertaking the Cumulative Impact Assessment (CIA):

- *“Guidelines on the Assessment of Indirect and Cumulative Impacts as well as Impact interactions”* (EC, 1999).

15.2.2 Methodology

The following sections outlines the process followed to identify and screen in projects and/or plans that are consented, proposed or operational that are considered cumulatively with the effects of the Proposed Grid Connection. The process has considered information made publicly available for projects and/or plans, as well as the potential for interactions on a conceptual, spatial and temporal basis.

15.2.2.1 Cumulative Impact Assessment Stage 1

The initial step of the Cumulative Impact Assessment (CIA) Stage 1 is to identify the planning applications seeking planning permission that may impact the environment cumulatively with the Proposed Grid Connection. These interactions may arise during the construction and / or

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operational phases. Existing projects, where relevant, have been considered as part of the chapter baselines in Chapters 4 – 14 of this EIA.

The Zone of Influence (Zoi) for each of the disciplines is used to identify the occurrence of other projects and/or plans which may result in cumulative impacts with the Proposed Grid Connection. Projects and/or plans within this Zoi were identified for the purpose of assessing CIA Stage 1.

RPS undertook a desk study to source publicly available information on projects within the defined Zoi using internet searches, planning databases and other available sources to identify other projects falling within the Zoi. This search was conducted using My Plan map viewer, the EIA Portal map viewer and planning application map viewer. The search was limited to the 10-year period from up to September 2025. This planning search excluded 'incomplete', 'withdrawn', and 'refused' applications.

A search of An Bord Pleanála's website and the Local Authority website was completed to identify any relevant planning applications including Strategic Infrastructure Development (SID) and Strategic Housing Development (SHD) applications received within the Zoi and in the last 10 years.

Searches for EPA licence applications were also undertaken. To inform the CIA on land, soils, biodiversity and water, all EPA facilities and applications within the area defined by the water catchment and groundwater body were also searched. If listed as 'Licensed' then the facility was considered as part of the baseline. Where the status of the application is listed as 'Applied', these facilities were examined further for hydrological connectivity or other pathway for cumulative impact.

Once the relevant planning applications were collated, the list was refined based on the following:

The following types of projects were not considered:

- One-off housing, farm sheds/ buildings, house/ building extensions/ renovations.
- Planning applications where any appealed decision was refused.
- Any EPA licence which expires before 2025 was excluded on the basis of no temporal overlap with the assumed construction programme for the Proposed Grid Connection.

The full list of all planning applications screened into further assessment due to the possibility as having potential for cumulative impacts are provided in Appendix 15-1.

15.2.2.2 Cumulative Impact Assessment Stage 2

At Stage 2, the EIA specialists carried out a screening exercise on the list of planning applications compiled during Stage 1 of the CIA. This is carried out in accordance with a set of defined screening criteria (grounds for screening in or out) in order to identify which planning applications should be considered in the assessment of cumulative effects. The criteria are explained in Table 15-2. The relevant planning applications are listed and assessed within their respective chapters.

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Table 15-2: Screening Criteria for Cumulative Impact Assessment

Criteria	Criteria- explanation	Screening decision (in/out)
Included as part of the topic baseline	As the project has been considered as part of the relevant chapter baseline, it has already been assessed/considered and hence is not considered within the CIA.	Screened out
Low data confidence	The data provided by the planning application does not provide enough evidence or lacks adequate information for an assessment of cumulative effects to be completed.	Screened out
No conceptual or physical effect receptor pathway	No source, pathway or effect was identified between the Proposed Grid Connection and the planning application.	Screened out
No temporal overlap	The planning application is defined by a different time frame and does not overlap with the time frame of the Proposed Grid Connection	Screened out
Potential cumulative impact exists	An effect and pathway have been identified either within the construction or operational / maintenance phase of the planning application that may cause a combined impact to the Proposed Grid Connection	Screened in

15.2.2.2.1 Data confidence

In order to categorise data confidence for the purposes of this EIAR, a three-point scale was employed (see **Table 15-3**). This scale aims to provide a transparent basis upon which planning applications may be screened in or out at this step.

For the purposes of screening, planning applications with high or medium data confidence were automatically screened into the CIA. Planning applications with low data confidence were screened out of the assessment. This category includes planning applications that may take place in the future, but have no information on how the planning application will be executed and therefore cannot be considered within the CIA.

Decisions upon whether to screen a planning application in or out at this stage were taken on a topic-by-topic basis. This allowed certain planning applications to be screened in for certain topics where sufficient detail is present, while the same planning application may be screened out for another topic.

Table 15-3: Criteria for the Allocation of Data Confidence

Data confidence	Criteria
High	- Projects, plans and activities with an EIAR or other equivalently detailed planning document, containing sufficient topic-specific detail for an adequately detailed CIA to be undertaken on a quantitative or semi-quantitative manner. - Peer reviewed and/or industry standard third party quantitative, semi-quantitative or qualitative data. - Detailed project parameters for other projects being proposed by the Developer and third-party project details published in the public domain and confirmed as being accurate by the developer.
Medium	- Projects, plans and activities with an EIAR or other equivalently detailed planning document, containing a moderate level of detail that still allows a CIA to be undertaken on a qualitative basis. - Third-party data supplied to or obtained by the Developer that has not been subject to peer review and cannot be quality controlled by the developer. - Peer reviewed and grey literature that is considered relevant, but either old, and hence potentially not as representative of the current situation, or of insufficient detail in order to accurately inform assessment in its own right.

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Data confidence	Criteria
Low	- Projects, plans and activities with a lack of robust information and where details of implementation are scarce or likely to change before any potential consent/approval. - Projects, plans and activities that may be developed in future, but for which no specific information is currently available.

15.2.2.2.2 Conceptual overlap

For a cumulative effect to occur, it must be established that there is potential to directly or indirectly affect the receptor(s) in question. In EIA terms, this is described as an impact-receptor-pathway and is hereafter referred to as a conceptual overlap. An example of a conceptual overlap can be seen where increased suspended sediment concentrations arising from a nearby project and from the Proposed Grid Connection (impact) effect the same water resources and Sensitive Receptors. Conversely, a conceptual overlap cannot be demonstrated between activities such as the operation of surface water infrastructure and roosting bats. It is in cases such as this second example where planning applications are screened out at this stage.

Each planning application on the Stage 1 list has been considered on a topic-by-topic basis to evaluate the potential for conceptual overlaps to exist. Planning applications that clearly do not have an overlap are screened out of the assessment. In cases where a conceptual overlap is not clear-cut, the planning application in question has been screened into the CIA in order to maintain the maximum design scenario approach. These planning applications are then further considered in the relevant topic chapters.

15.2.2.2.3 Physical overlap

The ability for impacts arising from the Proposed Grid Connection to overlap with those from other planning applications have been assessed on a receptor basis for each topic. In most examples an overlap of the physical extents of the impacts arising from Planning applications must be established for a cumulative impact to arise. For example, a cumulative sedimentation impact or accidental spill impact to be established between the Proposed Grid Connection and a planning application, it must be established that the extent of sediment or pollutant release from both the planning application and the Proposed Grid Connection has the potential to overlap and may affect a receptor at a single physical place. Exceptions to this, are for certain mobile receptors that may move and be subject to separate physical extents of impact from two or more projects.

15.2.2.2.4 Temporal overlap

In order for a cumulative effect to arise from two or more planning applications, a temporal overlap of impacts arising from each must be established. Some impacts are active only during certain phases of development. The anticipated construction periods for planning applications within the Stage 1 list have been obtained from their relevant planning documents (e.g. Scoping Reports, EIARs etc.). The details provided represent the current understanding of programmes of development though it is recognised that these programmes may be subject to change. In order to consider worst case, where information on construction timeframes is unknown or not certain, it has been assumed that construction programmes will overlap.

For the purposes of this CIA, all planning applications that were built and operational at the time of data collection have been screened out of the CIA. This is because the effects of these planning applications have already been captured within the Proposed Grid Connection site-specific surveys, and hence their effects have already been accounted for within the baseline assessment. The exclusion of built and operational developments that were in place at the time of data

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collection/survey in this way avoids the double counting that would occur if developments were to be included within both the baseline and the CIA. The exception to this is where developments have an ongoing impact, and this is addressed by the screening criterion 'part of the baseline but has an ongoing impact'.

15.2.2.3 Cumulative Impact Assessment (Stage 3)

Stage 3 comprises the CIA of the planning applications screened in during Stage 2. At Stage 3, all topics aimed to undertake a full quantitative assessment; however, where project information was considered insufficient, a mix of qualitative and quantitative, or wholly qualitative assessment was employed. The significance of effect for each cumulative effect is presented independently for the assessment, except where no relevant planning applications have been screened in. Refer to the Cumulative Impact Assessment section of chapters 4-14 for details.