NORTH LINCOLNSHIRE GREEN ENERGY PARK

Planning Act 2008

Infrastructure Planning (Applications Prescribed Forms and Procedure) Regulations 2009

APFP Reg. 5(2)(a)

Infrastructure (Environmental Impact Assessment) Regulations 2017

North Lincolnshire Green Energy Park

Volume 6
Environmental Statement
6.2.4 EIA Process and Assessment Methodology

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Acronyms and Abbreviations

Name	Description
ABP	Associated British Ports
CEA	Cumulative Effects Assessment
CEMP	Construction Environmental Management Plan
DCO	Development Consent Order
DHPWN	District Heat and Private Wire Network
DCO	Development Consent Order
EEA	European Economic Area
EIA	Environmental Impact Assessment
ES	Environmental Statement
EU	European Union
FRA	Flood Risk Assessment
HRA	Habitats Regulations Assessment
NLC	North Lincolnshire Council
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project

Name	Description
PEIR	Preliminary Environmental Information Report
SoS	Secretary of State
SPA	Special Protection Area
TA	Traffic Assessment
WFD	Water Framework Directive
ZOI	Zone of influence

1. ASSESSMENT METHODOLOGY

1.1 Introduction

1.1.1.1 This chapter presents the methodology that has been followed in undertaking the Environmental Impact Assessment (EIA) and producing the Environmental Statement (ES) in support of the Development Consent Order (DCO) application.

1.1.1.2 In accordance with the Planning Act (2008) and the Infrastructure Planning Environmental Impact Assessment Regulations 2017 (as amended), the EIA process for the Project includes the following:

- establishing, through consultation, the Scope of the EIA including obtaining a Scoping Opinion from the Secretary of State (SoS);
- consideration of any potential technical and environmental alternatives;
- establishing a comprehensive understanding of the existing baseline environmental and socio-economic conditions for the land within the Order Limits and the relevant study areas for each topic;
- identifying the potential environmental effects resulting from the Project;
- determining how the potential environmental effects can be avoided, reduced or off-set through informed design and/or mitigation and how its benefits may be enhanced;
- assessing the significance of the potential environmental effects in conjunction with other effects arising from the Project and those from other neighbouring developments and/or sources (cumulative effects); and
- the development of practicable measures to be included into the Project to mitigate, manage, and monitor any significant residual effects.

1.1.1.3 A brief description of the key steps is provided here. It should also be noted that the EIA process includes responding to consultation comments on the Preliminary Environmental Information Report (PEIR).

1.2 Establishing the Scope of the Environmental Impact Assessment

1.2.1.1 The Applicant held initial discussions with North Lincolnshire Council (NLC) with a view to developing a project at Flixborough Wharf in July 2019. Since that time, the Applicant has held a number of meetings with consultees including NLC, the Environment Agency, ABP Ports and local parish councils, both in person and virtually due to the restrictions imposed by the Covid-19 pandemic.

1.2.1.2 Before commencing the Project, the Applicant requested a Scoping Opinion from the SoS in October 2020. The request was supported by a Scoping Report that described the key anticipated environmental issues that would require detailed evaluation as part of the EIA process. The formal Scoping Opinion was received in November 2020, and has allowed

for agreement on the likely significant environmental effects of the Project and, therefore, the aspects of the environment on which the EIA should focus.

1.2.1.3 The Scoping Report and subsequent Scoping Opinion are included as Annex 1 and Annex 2 to this ES respectively.

1.2.1.4 Since the publication of the Scoping Report, the scope of the Project has reduced. The extension of the wharf at Flixborough Wharf and the associated construction and dredging works which may have been required within the tidal reach of the River Trent are no longer included as part of the Project.

1.2.1.5 Further to this reduction in scope, two minor increases in the Order Limits have been incorporated into the Project. These are the inclusion of land at the Scunthorpe North substation, and the addition of an agricultural field north of the B1450. Neither of these changes were considered to constitute a material change to the Project or to give rise to any additional likely significant environmental effects resulting from the Project.

1.2.1.6 Nonetheless, regulation 14 (3)(a) of the Infrastructure EIA Regulations 2017 requires that where a scoping opinion request has been submitted, the subsequent ES must be based on the most recent scoping opinion adopted. As the scope of the EIA has changed since the scoping opinion was issued, consultation on refinements to the proposals has been undertaken with the relevant stakeholders to allow updated advice to be provided.

1.3 Environmental Baseline

1.3.1.1 In undertaking an EIA for any project it is essential to identify the environmental baseline for the potential receptors (both human and ecological) in the vicinity of the development location. This allows the effects of the Project to be compared and/or combined with the existing quality of the environment in order to deliver an informed assessment of the potential effects and to allow the identification of the most appropriate mitigation which could be employed to minimise any adverse impacts.

1.3.1.2 To establish the baseline, a study area that is appropriate for each assessment topic was identified. Next, a range of environmental data was gathered from a combination of sources in respect of the study area. This included:

- Documentary information on the Energy Park Land, Scunthorpe, the Northern District Heat and Private Wire Network (DHPWN) Land, Southern DHPWN Land and the Railway Reinstatement Land and their surroundings within each relevant study area;
- Field survey information, including phase 1 ecological surveys, landscape character assessments, background noise level monitoring, phase 1 ground conditions / contaminated land investigations, archaeological surveys, identification of the location of sensitive receptors, and traffic levels on the surrounding road network; and
- Data held by both statutory and non-statutory consultees.

1.3.1.3 Working on the basis that the Project is granted development consent by the Secretary of State within the current programme it is anticipated that construction of the Project would commence in 2023. Therefore, where necessary, the assessment extrapolates from the '2021 baseline' to provide a future baseline against which the direct, indirect, and cumulative effects can be assessed.

1.4 Assessment Parameters

1.4.1.1 As described in Chapter 3 Project Description and Alternatives (**Document Reference: 6.2.3**), the proposed Application will seek a 'Rochdale Envelope' approach to flexibility for the final design of the Project (e.g. stack height / final building positions). To take account of this flexibility in design, each topic-specific assessment has tested a reasonable worst-case scenario to make provision for the likely significant effects arising from the Project to be robustly assessed on a conservative basis. This reasonable worst-case scenario is set out in each topic chapter.

1.5 Assessment Methodology

1.5.1.1 Environmental significance criteria have been used as a means to deliver a robust and repeatable process for evaluating and quantifying the likely significant environmental effects of the Project, and to present these effects in a manner that can be fully understood.

1.5.1.2 Environmental significance criteria are important as they help inform the determination by the competent authority of the overall acceptability of the Project. An understanding of the significance criteria for all assessed effects is an important and relevant consideration in the determination of the application for a DCO in respect of the Project.

1.5.1.3 The evaluation of significance should ideally demonstrate legal compliance (e.g. compliance with quantified standards, avoidance of effects on legally protected resources). In the absence of quantified standards, significance can be evaluated through considering the magnitude of an impact in combination with the importance/quality/value of the receptor or resource that is affected, also considering the response (or sensitivity) of a resource or a receptor to a particular impact. Effects of more than minor significance may warrant re-examination to see if an impact magnitude can be reduced further. Different mitigation options may be examined and the reasons for selecting one and rejecting others explained. Some impacts/effects that cannot be adequately mitigated may need to be addressed through the consideration of offsets or compensation. The evaluation process may go through one or more iterations of working with project design to develop suitable mitigation and re-evaluating impacts and effects.

1.5.1.4 The approach to assessing and assigning significance to an environmental effect relies upon a wealth of published legislative requirements, guidelines, standards, and codes of practice; as well as consideration of the Infrastructure EIA Regulations 2017; the advice and views of statutory consultees, and other interested parties; and expert judgement.

1.5.1.5 To provide a consistent approach and enable a comparison of effects between different environmental receptors, the assessments generally follow the structure and use the terminology outlined in Table 1 to Table 3.

Table 1: Receptor importance / sensitivity

Importance / sensitivity of receptor	Criteria	Examples
Very High	Nationally significant attribute of high importance/sensitivity	Internationally designated site (e.g. Ramsar / Special Protection Area (SPA)/ World Heritage Site).
High	Locally significant attribute of high importance/sensitivity	Nationally designated site (e.g. Site of Special Scientific Interest), / designated Landscape (e.g. National Park) / principal aquifer / main watercourse / human health.
Moderate	Of moderate importance/sensitivity	Regionally designated ecology / heritage site / secondary aquifer / minor watercourse.
Low	Lower importance/sensitivity	Locally designated ecology / heritage site; area of hardstanding / brownfield land / industrial site / low ecological value.

Table 2: Magnitude of Potential Impact

Magnitude of potential impact	Criteria	Examples
Large	A large change relative to the baseline. Long-term and permanent. Routine/ongoing. Extending some distance beyond the Order Limits.	Noise levels or pollutant concentrations exceed a standard. A receptor is exposed to an impact throughout operation or is lost to a project footprint. An impact occurs during all normal operations. An impact is experienced at a distant ecological or residential receptor
Medium	A medium change relative to the baseline. Medium term. Intermittent to regular. Within and local to the Order Limits.	A noticeable change to the baseline but within any relevant standards or limits. Impacts (e.g. traffic) that last for the whole of the construction phase. Noise impacts from periodic deliveries. The impact is experienced within the site and in a zone around it.
Small	A small change relative to the baseline. Temporary, short term. Rare, infrequent. Limited to a zone around the	A change that is noticeable but readily accommodated or adapted to. Impacts that only occur during construction at any one location and cease soon after construction has moved on. Accidental events (e.g. spills). Impact restricted to a zone around a specific activity or piece of equipment.

Magnitude of potential impact	Criteria	Examples
	construction activities or operational development.	
Negligible1	A change relative to the baseline that is immeasurable or within the range of normal natural variation.	Fluctuations in environmental parameters that would also occur in a do-nothing scenario. For example surface water run-off and drainage at green-field run-off rates.

Table 3: Significance of effects

Importance/sensitivity of receptor	Magnitude of Impact			
	Negligible	Small	Medium	Large
Very High	Negligible - Not significant	Moderate adverse – significant	Major adverse - significant	Major adverse - significant
High	Negligible - Not significant	Moderate adverse – significant	Moderate adverse – significant	Major adverse - significant
Medium	Negligible - Not significant	Minor adverse – not significant	Moderate adverse – significant	Moderate adverse – significant
Low	Negligible - Not significant	Negligible - Not significant	Minor adverse – not significant	Minor adverse – not significant

1.5.1.6 It is noted here that for some assessment topics, significance criteria may need to differ from the general guidelines presented above. Each technical chapter of the ES clearly identifies and explains any specific criteria used. Unless otherwise stated, effects of moderate or above are considered to be significant for the purposes of the Infrastructure EIA Regulations 2017.

1.5.1.7 For clarity, assessments within this ES have been split to consider the Energy Park Land, Railway Reinstatement Land, Northern DHPWN Land, and Southern DHPWN Land and their associated construction compounds. This approach allows any potential effects to be clearly attributed to the relevant element of the Project. A summary of the assessment is included in each chapter to draw together the potential effects of the Project as a whole.

[1] Impacts of neglig ble magnitude will not lead to likely significant effects

1.6 Mitigation, Monitoring and Enhancement

1.6.1.1 Full consideration has been given to the measures that will be used to mitigate impacts and minimise any potential adverse effects of the Project on the environment.

1.6.1.2 In the hierarchy of mitigation, likely significant adverse effects should, in the first instance, be avoided altogether; where this is not possible such effects should then be minimised, reduced, and finally, offset.

1.6.1.3 The Project has been developed in such a way that the reduction and, wherever possible, elimination of any associated significant adverse environmental effects are integral to the overall design philosophy.

1.6.1.4 One of the key objectives of an EIA is to identify and define socially and environmentally acceptable, technically feasible and cost-effective mitigation measures. Mitigation measures are developed to avoid, minimise, reduce, remedy (e.g. reinstate or restore) or offset any negative effects identified, and to create or enhance positive effects. In this context, mitigation measures are taken to include measures incorporated into the design and established good and best construction practices as required. The assessments presented in this ES have considered such measures as fully committed to by the Project in assessing the likely significant effects.

1.6.1.5 For each significant adverse effect of the Project identified during the EIA process, the specialists undertaking the assessments have, where appropriate, identified mitigation measures that are consistent with statutory requirements and good practice in their respective field.

1.6.1.6 Ultimately the measures adopted by the Project will be secured and delivered through a number of means, for example, further integration into the design; development of management procedures; or through a Construction Environmental Management Plan (CEMP). The ES reports all the mitigation measures developed during the EIA process, together with standard industry practice measures, as being fully committed to by the Applicant as integral aspects of the Project. The ES also reports the monitoring planned for the construction and operation phases necessary to demonstrate that mitigation is working as intended and residual impacts and effects are as predicted in the ES. The EIA is intended to ensure that decisions on projects are made in full knowledge of their likely significant effects on the environment and society. The effects and their significance reported in the ES are the ‘residual effects’ based on the Project as planned and designed and taking into account all the mitigation measures described in this ES.

1.6.1.7 Opportunities to provide environmental enhancements, or to maximise beneficial effects, have also been considered throughout the assessment. Enhancements incorporated into this stage of the design include, for example, the provision of additional public access routes across the Application Land for non-motorised users, the creation of planted ‘ecological corridors’ along these access routes, and improved traffic links to the Project in order to mitigate existing areas of congestion in the vicinity of the Project and improve connectivity to the wider industrial area.

1.7 Indirect, Secondary and Cumulative Impacts and Interrelationships between Impacts

1.7.1 Indirect Effects

1.7.1.1 For the purposes of this EIA indirect (or induced effects) are taken to be effects that arise from the impact of activities not explicitly forming part of the Project and therefore not under the control of the Applicant. In order to operate, the Project will require a connection to the National Grid Electricity Transmission system. The ES includes an appropriate consideration of activities associated with this connection together with any associated cumulative effects in Chapter 18 of the ES, Cumulative and Indirect Effects Assessment (**Document Reference: 6.2.18**).

1.7.2 Secondary Impacts and Effects

1.7.2.1 Secondary impacts and effects are assessed integrally within the assessment. For example, emissions to air will have an impact on air quality with potential effects on people and ecological populations that are directly exposed. Emissions will also lead to the deposition of acid and nutrient nitrogen to vegetation and soils with potential secondary effects.

1.7.3 Cumulative Effects

1.7.3.1 Both the EIA Directive and the Infrastructure EIA Regulations 2017 require the ES to consider the potential for the Project to have cumulative effects on receptors. National Policy Statement (NPS) EN-1 also refers to the consideration of cumulative effects in paragraph 4.2.5, stating that:

> *"The ES should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence)."*

1.7.3.2 Planning Inspectorate Advice Note 17 (Cumulative effects assessment relevant to nationally significant infrastructure projects) goes on to emphasise the importance of considering cumulative effects in the context of the EU EIA Directive, the Infrastructure EIA Regulations 2017 and the Overarching Energy NPS EN-1.

1.7.3.3 The Cumulative Effects Assessment (CEA) proposed for the Project has been undertaken in line with the four-stage approach set out in Advice Note 17 as follows:

- Stage 1: Establish the Project's zone of influence (ZOI) and identify a list of other developments within it.
- Stage 2: Identify a shortlist of other developments for CEA based on their potential to have similar effects to those of the Project on the same receptors.
- Stage 3: Information gathering.
- Stage 4: Cumulative Effect Assessment (CEA).

1.7.3.4 Chapter 18 provides detail on the approach and each technical assessment chapter (where applicable) provides additional information.

1.7.4 Impact Inter-relationships

1.7.4.1 Impact inter-relationships in the assessment are considered in two ways.

- The likely significant effects of multiple impacts from the Project on one receptor are addressed where appropriate. For example, noise and air quality together could have a greater effect on human health and wellbeing than each impact considered separately.
- Inter-relationships between topic assessments are addressed in terms of, for example, traffic and its noise and air quality effects on human health.

1.8 Residual Effects

1.8.1.1 Each technical assessment chapter (where applicable) presents a description of the likely significant effects arising from the Project. The effects reported, and their significance, are the 'residual effects': i.e. those which are predicted to remain after considering the extent to which the mitigation measures committed to the Project have avoided, minimised, or reduced the impact that causes the effect. A decision to grant consent for the Project would need to acknowledge that the benefits of the Project outweigh the negatives of such residual effects.

1.9 Transboundary Effects

1.9.1.1 Regulation 32 of the Infrastructure EIA Regulations 2017 (Development with significant transboundary effects) applies where an ES is to be provided that, in the opinion of the Secretary of State, shows the development is likely to have significant effects on the environment in another European Economic Area (EEA) State.

1.9.1.2 The Planning Inspectorate's Scoping Opinion states that:

> *"The Inspectorate considers that where Regulation 32 applies, this is likely to have implications for the examination of a DCO application. The inspectorate recommends that the ES should identify whether the Proposed Development has potential for significant transboundary impacts and if so, what these are which EEA States would be affected."*

1.9.1.3 Having undertaken a high-level screening assessment following submission of the Scoping Report, it was concluded that the only EIA topic that has the potential to encounter transboundary effects is socio-economic characteristics, due to the potential for importation of equipment from Europe. However, the magnitude of this impact is considered negligible, and therefore not likely to result in significant effects; transboundary effects have not been considered further in the ES.

1.10 Flood Risk Assessment

1.10.1.1 A Flood Risk Assessment (FRA) (**Document Reference 6.3.3**) has been carried out in accordance with the requirements of Regulation 5(2)(e) of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, as well as in accordance with the National Planning Policy Framework (NPPF) (2021). The purpose of the assessment is to assess and describe the impact of the Project in terms of flood risk. In order to comply with the NPPF, the FRA identifies the potential flood risks to the Application Land and demonstrates appropriate flood mitigation measures to ensure that the risk is acceptable for the level of development proposed and that the Project does not increase the flood risk elsewhere. The FRA considers the impact of climate change on flood risk for the lifetime of the development in line with the latest UK climate projections. The FRA has been developed in consultation with the Environment Agency and Lead Local Flood Authority as statutory consultees (under the 2008 Act).

1.11 Transport Assessment

1.11.1.1 A separate Transport Assessment (TA) has been submitted with the application (Appendix B of Chapter 13 of the ES, **Document Reference 6.2.13**), which assesses the impacts of the Project on the transport network including consideration of network capacity. The amenity and safety of transport network users are considered in the ES Traffic and Transport chapter (**Document Reference 6.2.13**). The scope of both these documents reflects the output of the pre-application consultation process with the local highway authority, NLC, as well as National Highways (formerly Highways England) who are responsible for the strategic highway network in the area (namely, the M180 / M181).

1.12 Water Framework Directive

1.12.1.1 The Project had been scoped for compliance with the Water Framework Directive (WFD) through inclusion of a WFD Screening Assessment submitted with the Scoping Report and consultation with the Environment Agency. However, following further design iterations, it was established that the extension to the wharf at Flixborough Wharf is not necessary for the successful delivery of the Project.

1.12.1.2 During further consultation post-Scoping, it was agreed with the Environment Agency that the wharf extension was the only element of the Project which triggered the requirement for a WFD compliance assessment on the basis that no other WFD water bodies could be affected. As such, following this consultation, and confirmation that no WFD water bodies would be affected by construction or operation of the Project, it has been concluded that a WFD compliance assessment is not required for the Project.

1.13 Habitats Regulations Assessment

1.13.1.1 Habitats Regulations Assessment (HRA) is a distinct process, required under the Conservation of Habitats and Species Regulations 2017 (the

Habitats Regulations). The Project, as for many projects considered under the Nationally Significant Infrastructure Project (NSIP) regime, requires both an EIA and HRA.

1.13.1.2 A separate Habitats Regulations Assessment is provided for the Project (**Document Reference 5.9**). The HRA report considers whether the Project, alone or in combination with other plans or projects, is likely to have an adverse effect on any European designated sites.

1.13.1.3 The approach to the HRA follows Planning Inspectorate Advice Note 10 (November 2017, version 8) (AN10). The scope of the HRA has been advised through consultation with statutory consultees but will ultimately be confirmed by the Secretary of State, as the competent authority for the purposes of the Habitats Regulations.