



Scotland England Green Link 2 - English Onshore Scheme

Environmental Statement:
Volume 2

Chapter 19: Summary of Assessment

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For: National Grid Electricity Transmission

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19. Summary of Assessment

This chapter of the Environmental Statement (ES) summarises the results of the potential significant residual effects of the construction and operation of the English Onshore Scheme components of Scotland England Green Link 2 (SEGL2).

19.1 Summary of Significant Residual Effects by Local Planning Authority

19.1.1 Introduction

This section of the chapter summarises the likely significant residual effects of the English Onshore Scheme, divided by LPA and project component. As detailed in **Chapter 3: Description of the English Onshore Scheme**, the reasonable worst-case scenario has been assessed, including the construction programme scenario and design parameters. Effects have been assessed for the construction and operation of the English Onshore Scheme, where appropriate.

Table 19-3 summarises the significant residual environmental effects of the English Onshore Scheme that have been identified, following implementation of the embedded mitigation (mitigation by design) and project specific mitigation measures that will be implemented during the construction/installation of the English Onshore Scheme and its operation (as detailed in **Chapters 7 to 16** of this ES), where relevant. Minor or negligible (not significant) residual effects are not referenced in this table.

19.1.2 East Riding of Yorkshire Council

Route Sections 1 (Landfall to Bainton), 2 (Bainton to Market Weighton) and 3 (Market Weighton to River Ouse) fall entirely within East Riding of Yorkshire Council (ERYC). The route sections of the English Onshore Scheme within ERYC comprise approximately 67 km of the underground DC cable route, and associated temporary infrastructure only. Therefore no effects are anticipated within ERYC from construction or operation of the converter station.

Table 19-1 presents a summary of the results of this EIA, based on significant effects reported for each specialist topic within Sections 1 to 3 of the English Onshore Scheme (i.e. within ERYC).

Table 19-1: Summary of significant residual effects within ERYC (Route Sections 1 to 3)

Topic	Proposed DC Cable Route	
	Temporary	Permanent / Operational
Ecology and Nature Conservation	X	X
Landscape and Visual Amenity	X	X
Archaeology and Cultural Heritage	O*	O*
Geology and Hydrogeology	X	X
Hydrology and Land Drainage	X	X
Agriculture and Soils	X	X
Noise and Vibration	O	X
Traffic and Transportation	X	X
Socio-economics, Recreation and Tourism	X	X
Waste and Materials	X	X
Cumulative Effects	X	X

Key: X= no significant impacts recorded; O= one or more significant impacts recorded

*temporary residual significant effects are recorded on the impact to setting of built heritage assets; permanent residual significant effects are recorded on the permanent loss of archaeological resources during the installation of the DC cable.

19.1.2.1 Proposed DC Cable Route

As highlighted in **Table 19-1**, no significant residual temporary, permanent or operational effects from the proposed DC cable were found in the assessments of Ecology and Nature Conservation, Landscape and Visual Amenity, Geology and Hydrogeology, Hydrology and Land Drainage, Traffic and Transportation, Socio-economics, Recreation and Tourism and Waste and Materials disciplines.

Where potentially significant residual effects have been identified by disciplines these are summarised in the sub-section below.

Archaeology and Cultural Heritage

The construction of the underground HVDC cable trench, as well as associated works such as haul routes and construction compounds, has the potential to result in permanent effects arising from the loss of buried archaeological features within the planning application boundary. Many of the features have the potential to be of regional interest and medium heritage value and the loss of their archaeological and historical interest would constitute a significant adverse effect. These receptors include:

- AECOM113: Field 8. Possible square barrow (Moderate adverse effect, significant);
- MHU4112: Fields 39-42. Iron Age/Roman enclosure, trackways, and possible settlement (Moderate adverse effect, significant);
- MHU8124: Field 92. Ring ditch. Possible burial mound (Moderate adverse effect, significant);
- MHU22143: Fields 111, 113, and 114. Iron Age field systems, enclosures, and trackways (Moderate adverse effect, significant);
- AECOM057: Field 120. Aircraft crash site (Moderate adverse effect, significant);
- MHU6567: Field 122. Iron Age/Roman field systems/settlement (Moderate adverse effect, significant);
- MHU10895: Field 129. Iron Age/Roman ladder settlement (Moderate adverse effect, significant);
- AECOM006: Field 130. Possible Bronze Age round barrow (Moderate adverse effect, significant);
- AECOM058: Field 130. Possible square barrow and ditch (Moderate adverse effect, significant);
- AECOM007: Fields 135 & 136. Roman road and roadside settlement (Moderate adverse effect, significant);
- MHU63, MHU7347, MHU10864, & AECOM032: Fields 142-145. Roman road and settlement with associated field system (Moderate adverse effect, significant);
- MHU1128 & MHU1161: Fields 158, 159, 161, & 162. Iron Age and Roman enclosures, field systems, pottery production, and possible iron working (Moderate adverse effect, significant); and
- MHU3198: Field 179 and 180. Iron Age and Roman settlement and enclosures (Moderate adverse effect, significant).

The operational scheme would not result in significant adverse effects to archaeological assets.

With regard to the setting of designated and non-designated heritage assets the baseline research has identified all assets within a defined 500 m study area where there is the potential for the construction of the English Onshore Scheme (including the cable trench and construction compounds) to result in impacts through change to the setting and significance of heritage assets. The assessment concluded that temporary construction activities would result in significant effects to seven heritage assets, generally in locations where the cable trench and construction compounds are located together within the rural agricultural setting of farms and settlements. These effects would generally remain for the duration of the construction period and would cease once the development is complete and operational. These receptors include:

- Hutton Conservation Area (Moderate adverse (temporary), significant);
- 1161006: Church of St Peter (Moderate adverse (temporary), significant);
- 1162211: Church of St Mary & the Virgin (Major adverse (temporary), significant);

- 1084139: Old Vicarage (Moderate adverse (temporary), significant);
- 1309733: Old School and Master's House (Moderate adverse (temporary), significant);
- 1031352: Common Farmhouse (Moderate adverse (temporary), significant); and
- 1083339: Barn at Common Farm (Moderate adverse (temporary), significant).

Noise

Construction noise levels have been estimated based on data in BS 5228-1. At this stage a worst-case assessment has been undertaken based on typical construction activities. Potentially significant effects would be mitigated by adopting best practicable means and enforcement of actions included in the CEMP. As significant effects are short-term and temporary, provision of information containing the timings and duration of construction activities can allow residents of affected to accept higher noise levels. As such, noise during the construction phase is assessed as being, at worst, **Moderate adverse (significant)**.

19.1.3 Selby District Council

Route Section 4 (River Ouse to Drax Substation) falls entirely within Selby District Council (SDC). The section of the English Onshore Scheme within SDC comprises approximately 2 km of the underground DC cable route, the Converter Station site and approximately 500 m of AC cable connections to the existing Drax 400 kilovolt (kV) Substation.

Table 19-2 presents a summary of the results of this EIA, based on significant effects reported for each specialist topic within Route Section 4 of the English Onshore Scheme (i.e. within SDC).

Table 19-2: Summary of significant residual effects by topic within SDC (Route Section 4)

Topic	Proposed DC Cable Route		Proposed Converter Station	
	Temporary	Permanent / Operational	Temporary	Permanent / Operational
Ecology and Nature Conservation	X	X	X	X
Landscape and Visual Amenity	X	X	O	O
Archaeology and Cultural Heritage	X	X	X	X
Geology and Hydrogeology	X	X	X	X
Hydrology and Land Drainage	X	X	X	X
Agriculture and Soils	X	X	X	X
Noise and Vibration	O	X	O	X
Traffic and Transportation	X	X	X	X
Socio-economics, Recreation and Tourism	X	X	X	X
Waste and Materials	X	X	X	X
Cumulative Effects	X	X	X	X

Key: X= no significant impacts recorded; O= one or more significant impacts recorded

19.1.3.1 Proposed DC Cable Route

As highlighted in **Table 19-2**, no significant residual temporary, permanent or operational effects from the proposed DC cable were found in the assessments of Ecology and Nature Conservation, Landscape and Visual Amenity, Archaeology and Cultural Heritage, Geology and Hydrogeology, Hydrology and Land Drainage, Agriculture and Soils, Traffic and Transportation, Socio-economics, Recreation and Tourism and Waste and Materials disciplines.

Where potentially significant residual effects have been identified by disciplines these are summarised in the sub-section below.

Noise and Vibration

Construction noise levels have been estimated based on data in BS 5228-1. At this stage a worst-case assessment has been undertaken based on typical construction activities. Potentially significant effects would be mitigated by adopting best practicable means and enforcement of actions included in the CEMP. As significant effects are short-term and temporary, provision of information containing the timings and duration of construction activities can allow residents of affected to accept higher noise levels. As such, noise during the construction phase is assessed as being, at worst, **Moderate adverse (significant)**.

19.1.3.2 Converter Station

As highlighted in **Table 19-2**, no significant residual temporary, permanent or operational effects from the proposed DC cable were found in the assessments of Ecology and Nature Conservation, Geology and Hydrogeology, Hydrology and Land Drainage, Traffic and Transportation, Socio-economics, Recreation and Tourism and Waste and Materials disciplines.

Where potentially significant residual effects have been identified by disciplines these are summarised in the sub-section below.

Landscape and Visual Amenity

The construction of the converter station will result in **Moderate adverse** effects for those receptors in close proximity to the converter station construction site (represented by Viewpoints 10 and 11). All other receptors with views of the construction of the converter station will experience Minor adverse or Negligible effects which are not significant.

Once operational **Moderate adverse** and **significant effects** will remain for the receptors in close proximity to the converter station site (represented by Viewpoints 10 and 11) where, despite the substantial industrial backcloth and context to the view, the proposed converter station will become the new focus and a prominent new structure within the view. At Viewpoint 10 the impact will be **Major adverse** at year 1 of operational prior to the establishment of further planting, this will reduce to Moderate adverse when this is better established, However, from all other viewpoints including those within 1 km of the converter station site, **Minor adverse** or **Negligible (not significant)**, residual effects will result.

Noise and Vibration

Construction noise levels have been estimated based on data in BS 5228-1. At this stage a worst-case assessment has been undertaken based on typical construction activities. Potentially significant effects would be mitigated by adopting best practicable means and enforcement of actions included in the CEMP. As significant effects are short-term and temporary, provision of information containing the timings and duration of construction activities can allow residents of affected to accept higher noise levels. As such, noise during the construction phase is assessed as being, at worst, **Moderate adverse (significant)**.

Table 19-3: Summary of Significant Residual Environmental Effects across the English Onshore Scheme

Development stage	Receptor	Description of Potential Impact	Classification of effect prior to mitigation	Mitigation/ enhancement (if identified)	Classification of residual effect after mitigation
Chapter 8: Landscape and Visual Amenity					
Route Section 4 – SDC					
Construction	Viewpoint 10	Medium term visual effects experienced by Wren Hall and recreational users of the local PRoW network as a result of the converter station, compound and underground DC cable route construction.	Moderate (significant)	Measures to reduce the magnitude of this effect have been adopted through routeing of the DC cable and the siting of the converter station adjacent to existing infrastructure. Other measures which may reduce the potential magnitude further include the reinstatement of the working width as soon as practicable after cable installation; and the use of HDD installation methods at the crossing of Wren Hall Lane to retain vegetation and provide some further screening of views. However it is noted that the scale of the development is such that no mitigation is likely feasible in reducing these potentially significant effects from near by visual receptors.	Moderate Adverse (significant)
	Viewpoint 11	Medium term visual effects experienced by residential properties on the settlement edge of Drax Village and recreational users of the local PRoW network as a result of the converter station, compound and underground DC cable route construction.	Moderate (significant)		Moderate Adverse (significant)
Permanent	Viewpoint 10	The converter station will appear as a prominent addition in foreground views of recreational and residential receptors, seen against the backdrop of Drax Power Station.	Major (year 1); Moderate (year 15)	Measures to reduce the magnitude of this effect have been adopted through the siting of the converter station adjacent to existing infrastructure, as well as the retention and enhancement of existing screening vegetation where possible. However it is noted that the scale of the development is such that no mitigation is likely feasible in reducing these potentially significant effects from near by visual receptors.	Major Adverse (significant; year 1); Moderate Adverse (significant; year 15).
	Viewpoint 11	The converter station will appear as a noticeable addition in midground views of recreational and residential receptors seen against the backdrop of Drax Power Station.	Moderate (year 1); Moderate (year 15)		Moderate Adverse (significant; year 1); Moderate Adverse (significant; year 15)

Development stage	Receptor	Description of Potential Impact	Classification of effect prior to mitigation	Mitigation/ enhancement (if identified)	Classification of residual effect after mitigation
Chapter 9: Archaeology and Cultural Heritage					
Route Section 1 – ERYC					
Construction	AECOM113. Field 8. Possible square barrow.	Direct physical impacts during construction resulting in loss of archaeological deposits/features.	Major Adverse	Limited evaluation trenching to characterise deposits/define depth, followed by full excavation and recording, or strip, map, and sample.	Moderate Adverse
	MHU4112. Fields 39-42. Iron Age/Roman enclosure, trackways, and possible settlement		Major Adverse		Moderate Adverse
	MHU8124. Field 92. Ring ditch. Possible burial mound.		Major Adverse		Moderate Adverse
	Hutton Conservation Area	Temporary change to setting during construction	Moderate Adverse (temporary)	Consideration in the use and layout of the construction compounds in relation to the setting of heritage assets.	Moderate Adverse (temporary)
	1161006 Church of St Peter		Moderate Adverse (temporary)		Moderate Adverse (temporary)
	1162211 Church of St Mary & the Virgin		Major Adverse (temporary)		Major Adverse (temporary)
	1084139 Old Vicarage		Moderate Adverse (temporary)		Moderate Adverse (temporary)
	1309733 Old School and Master's House		Moderate Adverse (temporary)		Moderate Adverse (temporary)

Development stage	Receptor	Description of Potential Impact	Classification of effect prior to mitigation	Mitigation/ enhancement (if identified)	Classification of residual effect after mitigation
Route Section 2 – ERYC					
Construction	MHU22143. Fields 111, 113, and 114. Iron Age field systems, enclosures, and trackways.	Direct physical impacts during construction resulting in loss of archaeological deposits/features.	Moderate Adverse	Limited evaluation trenching to characterise deposits/define depth, followed by full excavation and recording, or strip, map, and sample.	Moderate Adverse
	AECOM057. Field 120. Aircraft crash site.		Moderate Adverse		Moderate Adverse
	MHU6567. Field 122. Iron Age/Roman field systems/settlement.		Moderate Adverse		Moderate Adverse
	MHU10895. Field 129. Iron Age/Roman ladder settlement.		Moderate Adverse		Moderate Adverse
	AECOM006. Field 130. Possible Bronze Age round barrow.		Major Adverse		Moderate Adverse
	AECOM058. Field 130. Possible square barrow and ditch.		Major Adverse		Moderate Adverse
	AECOM007.		Major Adverse		Moderate Adverse

Development stage	Receptor	Description of Potential Impact	Classification of effect prior to mitigation	Mitigation/ enhancement (if identified)	Classification of residual effect after mitigation
	Fields 135 & 136. Roman road and roadside settlement.				
Route Section 3 -ERYC					
Construction	MHU63, MHU7347, MHU10864, & AECOM032. Fields 142-145. Roman road and settlement with associated field system.	Direct physical impacts during construction resulting in loss of archaeological deposits/features.	Moderate Adverse	Limited evaluation trenching to characterise deposits/define depth, followed by full excavation and recording, or strip, map, and sample.	Moderate Adverse
	MHU1128 & MHU1161. Fields 158, 159, 161, & 162. Iron Age and Roman enclosures, field systems, pottery production, and possible iron working.		Major Adverse		Moderate Adverse
	MHU3198/AECOM026. Field 179 and 180. Iron Age and Roman settlement and enclosures.		Major Adverse		Moderate Adverse
	1031352 Common Farmhouse	Temporary change to setting during construction	Moderate Adverse (temporary)	Consideration in the use and layout of the construction compounds in relation to the setting of heritage assets.	Moderate Adverse (temporary)
	1083339 Barn at Common Farm		Moderate Adverse (temporary)		Moderate Adverse (temporary)

Development stage	Receptor	Description of Potential Impact	Classification of effect prior to mitigation	Mitigation/ enhancement (if identified)	Classification of residual effect after mitigation
Route Section 4 – SDC					
Construction	AECOM016. Field 214. Possible enclosure.	Direct physical impacts during construction resulting in loss of archaeological deposits/features.	Moderate Adverse	Limited evaluation trenching to characterise deposits/define depth, followed by full excavation and recording, or strip, map, and sample.	Minor Adverse
Chapter 13: Noise and Vibration					
Route Section 1 – ERYC					
Construction	Rec23 (residential property)	Noise emissions due to works associated with the development of access roads and construction compounds	Major (significant)	Further detailed assessment and assignment of locally-specific measures as outlined CEMP once the contractor is appointed. This may include consideration of the plant and machinery operated within this location, works durations and/or activity-specific measures to limit or reduce noise emissions. Noise emissions during work will be monitored and an active dialogue will be established between the Contractor(s), Applicant and the local residents so they are aware of planned works.	Moderate Adverse (significant)
Route Section 4 – SDC					
Construction	Rec60 and Rec62 (residential property)	Noise emissions due to works associated with the development of access roads and construction compounds	Major (significant)	Further detailed assessment and assignment of locally-specific measures as outlined CEMP once the contractor is appointed. This may include consideration of the plant and machinery operated within this location, works durations and/or activity-specific measures to limit or reduce noise emissions. Noise emissions during work will be monitored and an active dialogue will be established between the Contractor(s), Applicant and the local residents so they are aware of planned works.	Moderate Adverse (significant)

19.2 Summary of Cumulative Effects

A cumulative assessment has been undertaken of both intra-project and inter-project effects. Intra-project effects have considered the impact of multiple environmental topics on the same receptor (i.e. the potential for a combined impact of increased disturbance (such as noise) and reduced visual amenity on walkers and visitors. Inter-project effects have considered the potential cumulative impacts from the simultaneous development of the English Onshore Scheme with other projects or activities that are both reasonably foreseeable in terms of delivery and are geographically located in a position where environmental impacts could act together to create an effect on a receptor that is more (or less) significant overall than the effect of individual developments alone. A systematic review of projects either already within or known to soon enter the planning system were reviewed by each of the specialists to determine potential cumulative impacts.

Whilst there is the potential for combined effects at some receptors during the construction and operational phases, it is considered that the significance of combined effects would be no greater than the significance of any individual effect; the mitigation measures and commitments identified in the Outline CEMP and the embedded mitigation measures built into the English Onshore Scheme design remain appropriate and no further measures are proposed because of the combined effects assessment. While cumulative effects are not identified as significant, NGET are committed to working with other developers in the region to coordinate construction activities and reduce potential cumulative effects of construction related disturbance as far as reasonably possible.

The impact assessment has concluded that construction of the English Onshore Scheme in combination with the Marine Scheme, will not result in any intra-project cumulative effects.

19.3 Conclusions

The EIA of the English Onshore Scheme has been undertaken in accordance with the requirements of the Town and Country Planning (EIA) Regulations 2017 as well as taking account of the scoping opinion and feedback provided by the LPAs, statutory consultees and other interested parties. The objective of the EIA has been to identify and assess the English Onshore Scheme's effects on the environment and whether these may be significant or not. A significant adverse effect is not necessarily one that would make the English Onshore Scheme unacceptable, nor is a significant beneficial effect necessarily one that would make the English Onshore Scheme acceptable. The purpose of identifying the likely significant effects (both adverse and beneficial) is to ensure that all parties in particular decision makers are aware of the Scheme's effects so that they may be considered alongside other material considerations in determining the applications for planning permission.

Through a systematic approach taking account of its statutory duties NGET has considered environmental factors alongside technical and economic factors from the outset. As described in chapter 2 of this Environmental Statement that has included considering environmental factors through the Strategic Proposal and Options Identification and Selection stages of NGET's approach to project development and following these steps identifying and assessing the Scheme's likely significant effects through the EIA and embedding mitigation in its design. This approach has prevented or reduced a number of environmental effects including potentially significant effects. However, given the scale of the English Onshore Scheme significant effects cannot be completely reduced and some will remain following mitigation.

As reported in the Environmental Statement some significant effects such as noise or impacts on the setting of heritage features will occur during construction of the English Onshore Scheme and so while they may be significant they will be temporary lasting for the duration of construction only. Some permanent significant effects have also been identified including on archaeological assets which could be impacted by installation of the underground cable and on visual amenity as a result of the converter station. With regard to potentially significant effects on archaeological assets as far as possible these will be avoided by micro-routing within the proposed Limits of Deviation (LoD) but where they cannot be avoided mitigation has been proposed so that assets to may be recorded, analysed and preserved as appropriate. With regard to visual amenity potentially significant effects have been identified on visual receptors in proximity to the proposed converter station, however, these views will be seen in the context of the existing Drax Power Station which exerts a significant influence on visual amenity within the locality.

NGET has incorporated the majority of mitigation measures within the design of the English Onshore Scheme for which planning permission is being sought as well as committed to the implementation of various mitigation measures during its construction and operation. Should planning permission for the English Onshore Scheme be granted NGET will work with their appointed contractors to further reduce the English Onshore Scheme's environmental effects as far as possible in the final design and construction methods. This approach will ensure that the actual effects of the English Onshore Scheme will be no greater than the likely effects, significant or not, identified and assessed in this Environmental Statement.

