
EAST YORKSHIRE SOLAR FARM

East Yorkshire Solar Farm
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Environmental Statement

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Table of Contents

18.	Summary of Significant Environmental Effects	18-1
18.1	Introduction.....	18-1
18.2	Summary of Significant Effects.....	18-1
18.3	Likely Significant Residual Environmental Effects	18-8

Tables

Table 18-1.	Summary of significant residual effects during construction of the Scheme.....	18-2
Table 18-2.	Summary of significant residual effects during operation of the Scheme	18-4
Table 18-3.	Summary of significant residual effects during decommissioning of the Scheme.....	18-6

18. Summary of Significant Environmental Effects

18.1 Introduction

- 18.1.1 This chapter of the Environmental Statement (ES) summarises the significant residual effects of the Scheme. Residual effects are defined as those effects that remain following the implementation of embedded and additional mitigation measures. Residual effects and mitigation measures are discussed in full in the relevant technical **Chapters 6 to 16, ES Volume 1 [EN010143/APP/6.1]**.
- 18.1.2 Each technical chapter contains detailed consideration of both the beneficial and adverse residual effects identified as likely to arise from the Scheme. The criteria applied to define the significance of residual effects are defined within **Chapter 5: Environmental Impact Assessment Methodology, ES Volume 1 [EN010143/APP/6.1]**, with further detail provided within the individual technical chapters. Where technical chapters have deviated from this standard methodology, this is explained in the respective chapters and justification for the reason provided (for example to align with industry-standard guidance for that discipline).
- 18.1.3 The Environmental Impact Assessment (EIA) for the Scheme has been undertaken in parallel with the design process and development of the embedded and additional measures mitigation identified within **Chapters 6 to 16, ES Volume 1 [EN010143/APP/6.1]**. A number of measures have been implemented within the design of the Scheme to reduce adverse environmental effects. These are illustrated on **Figure 2-3: Indicative Site Layout, ES Volume 3 [EN010143/APP/6.3]**.
- 18.1.4 The significant residual effects listed within the technical chapters of this ES (**ES Volume 1, Chapters 6 to 16 [EN010143/APP/6.1]**) are described with reference to the scale of effect (i.e., moderate or major) and whether this is significant or not, and the nature of the effect (i.e., adverse, negligible or beneficial).

18.2 Summary of Significant Effects

- 18.2.1 A summary of the identified significant residual effects for each topic are presented in **Table 18-1** (construction), **Table 18-2** (operation), and **Table 18-3** (decommissioning). Negligible and minor (adverse and beneficial) effects (i.e., not considered significant effects) are not included in the following tables.

Table 18-1. Summary of significant residual effects during construction of the Scheme

Description of resource / receptor and effect	Sensitivity (Value)	Description of Impact	Residual Effect
6. Climate Change			
No significant residual effects on climate change are predicted during the construction of the Scheme.			
7. Cultural Heritage			
No significant residual effects on cultural heritage are predicted during the construction of the Scheme.			
8. Ecology			
No significant adverse residual effects on ecology are predicted during the construction of the Scheme.			
9. Flood Risk, Drainage and Surface Water			
No significant residual effects on flood risk, drainage and surface water are predicted during the construction of the Scheme.			
10. Landscape and Visual Amenity			
Viewpoint 1, 3, 5, 6, 7, 14 and 19 – Residents; Viewpoint 4 and 22– Public Rights of Way (PRoW) users; Viewpoint 11 – Residents and PRoW users; and Viewpoint 29 – Recreational users	High	Short-term prominent change to the composition of the view.	Moderate adverse <i>Significant</i>
Viewpoint 10a and 10b– PRoW / Road users; and Viewpoint 21 – Residents / PRoW users	High / Medium	Short-term prominent change to the composition of the view.	Moderate adverse <i>Significant</i>
11. Noise and Vibration			
Residential receptors: R43, R45, R46	Not applicable	Temporary noise emissions should evening/ night Horizontal Directional Drilling (HDD) activities (NGA3) occur.	<i>Significant</i>

Description of resource / receptor and effect	Sensitivity (Value)	Description of Impact	Residual Effect
12. Socio Economics and Land Use			
No significant residual effects on socio economics and land use are predicted during the construction of the Scheme.			
13. Transport and Access			
Road links – Link 15 (B1228 between B1230 and Brind Lane junctions)	Low	Increase in construction traffic and Heavy Goods Vehicles (HGV) traffic (medium-term, temporary)	Moderate adverse <i>Significant</i>
14. Human Health			
No significant residual effects on human health are predicted during the construction of the Scheme.			
15. Soils and Agricultural Land			
No significant residual effects on soils and agricultural land are predicted during the construction of the Scheme.			
16. Other Environmental Topics			
No significant residual effects are predicted during the construction of the Scheme on air quality; glint and glare; ground conditions; major accidents and disasters; telecommunications; television reception and utilities; materials and waste; and electric and electro-magnetic fields.			

Table 18-2. Summary of significant residual effects during operation of the Scheme

Description of resource / receptor and effect	Sensitivity (Value)	Description of Impact	Residual Effect
6. Climate Change			
Global Atmosphere	High	Avoidance of Greenhouse Gas (GHG) emissions from fossil fuel electricity generation arising during operation of the Scheme	Beneficial <i>Significant</i> (permanent)
7. Cultural Heritage			
No significant residual effects on cultural heritage are predicted during the operation of the Scheme.			
8. Ecology			
No significant residual effects on ecology are predicted during the operation of the Scheme.			
9. Flood Risk, Drainage and Surface Water			
No significant residual effects on flood risk, drainage and surface water are predicted during the operation of the Scheme.			
10. Landscape and Visual Amenity			
Landscape Character – LCA 5A and Landscape Character – LCA 5B	Low	Long-term prominent change to key characteristics within LCA 5A – Year 1 and Year 15 Long-term prominent change to key characteristics within LCA 5B – Year 1	Moderate adverse <i>Significant</i>
Viewpoint 3, 5, 14 and 19 – Residents; Viewpoint 4 – PRow users; Viewpoint 11 – Residents and PRow users; and Users of the long-distance Howden 20 walking route	High	Long-term prominent change to the composition of the view – Year 1	Moderate adverse <i>Significant</i>

Description of resource / receptor and effect	Sensitivity (Value)	Description of Impact	Residual Effect
Viewpoint 10a and 10b – PRoW / Road users	High / Medium	Long-term prominent change to the composition of the view for PRoW / road users - Year 1	Moderate adverse <i>Significant</i>

11. Noise and Vibration

No significant residual effects on noise and vibration are predicted during the operation of the Scheme.

12. Socio Economics and Land Use

No significant residual effects on socio economics and land use are predicted during the operation of the Scheme.

13. Transport and Access

No significant residual effects on transport and access are predicted during the operation of the Scheme.

14. Human Health

No significant residual effects on human health are predicted during the operation of the Scheme.

15. Soils and Agricultural Land

No significant residual effects on soils and agricultural land are predicted during the operation of the Scheme.

16. Other Environmental Topics

No significant residual effects on air quality; glint and glare; ground conditions; major accidents and disasters; telecommunications; television reception and utilities; materials and waste; and electric and electro-magnetic fields are predicted during the operation of the Scheme.

Table 18-3. Summary of significant residual effects during decommissioning of the Scheme

Description of resource / receptor and effect	Sensitivity (Value)	Description of Impact	Residual Effect
6. Climate Change			
No significant residual effects on climate change are predicted during the decommissioning of the Scheme.			
7. Cultural Heritage			
No significant residual effects on cultural heritage are predicted during the decommissioning of the Scheme.			
8. Ecology			
No significant residual effects on ecology are predicted during the decommissioning of the Scheme.			
9. Flood Risk, Drainage and Surface Water			
No significant residual effects on flood risk, drainage and surface water are predicted during the decommissioning of the Scheme.			
10. Landscape and Visual Amenity			
Viewpoint 1 – Residents; Viewpoints 10b and 22– PRow users; and Viewpoint 29 – Recreational users; and <u>Users of the long-distance Howden 20 walking route</u>	High	Short-term prominent change to the composition of the view for residents.	Moderate adverse <i>Significant</i>
Viewpoint 21 – Residents / PRow users	High / Medium	Short-term prominent change to the composition of the view for residents and PRow users.	Moderate adverse <i>Significant</i>
11. Noise and Vibration			
No significant residual effects on noise and vibration are predicted during the decommissioning of the Scheme.			
12. Socio Economics and Land Use			

Description of resource / receptor and effect	Sensitivity (Value)	Description of Impact	Residual Effect
No significant residual effects on socio economics and land use are predicted during the decommissioning of the Scheme.			
13. Transport and Access			
Road links – Link 15 (B1228 – between B1230 and Brind Lane junctions)	Low	Increase in decommissioning and HGV traffic (medium-term, temporary)	Moderate adverse <i>Significant</i>
14. Human Health			
No significant residual effects on human health are predicted during the decommissioning of the Scheme.			
15. Soils and Agricultural Land			
No significant residual effects on soils and agricultural land are predicted during the decommissioning of the Scheme.			
16. Other Environmental Topics			
No significant residual effects on air quality; glint and glare; ground conditions; major accidents and disasters; telecommunications; television reception and utilities; materials and waste; and electric and electro-magnetic fields are predicted during the decommissioning of the Scheme.			

18.3 Likely Significant Residual Environmental Effects

18.3.1 The residual effects (i.e., those that remain following implementation of mitigation measures), which are categorised as moderate or major and therefore considered to be 'likely significant environmental effects', are summarised below.

Construction

18.3.2 During the construction of the Scheme, there is the potential for significant adverse residual effects on several visual receptors. Although significant, most of these impacts will be temporary, due to the transient nature of the construction works.

18.3.3 Additionally, there is the potential for significant adverse transport effects on Link 15 (B1228 between B1230 and Brind Lane junctions) as a result of a 6% increase in construction traffic.

18.3.4 There is also potential for significant adverse effects at three residential receptors (R43, R45, R46) due to temporary noise emissions during the evening or night from possible HDD activities, should these not be able to be scheduled for daytime hours for whatever reason. These effects are considered unlikely to occur, but the assessment accounts for a worst-case scenario.

18.3.5 The environmental management and mitigation measures have been included within the **Framework Construction Environmental Management Plan [EN010143/APP/7.7]**. This includes commitments and mitigation measures proposed throughout the ES across all topic areas, as set out in **Chapters 6 to 16** of the **ES [EN010143/APP/6.1]**.

Operational Scheme

18.3.6 The Scheme is predicted to have some significant adverse landscape and visual amenity effects during Year 1 of operation. This reflects the views of the Scheme without the benefit of additional planting that is proposed as part of the embedded mitigation.

18.3.7 The Year 15 operational effects are considered to be not significant following the maturity of the screening planting (as shown in the **Framework Landscape and Ecological Management Plan [EN010143/APP/7.14]**), although the effect on the landscape character area Howden to Bubwith Farmland (LCA 5A) is considered to remain significant at Year 15.

18.3.8 The operation of the Scheme will have a significant beneficial effect on climate (greenhouse gases) due to the nature of the Scheme (renewable energy) by displacing the needs for other forms of conventional energy generation that would emit greenhouse gases. The Scheme would have a carbon payback period of only 3 years and there would be 5.5 million tonnes carbon dioxide equivalent (CO_{2e}) avoided by the Scheme over 40 years operation.

18.3.9 The Applicant is committed to achieving a minimum 10% BNG for all three metrics of biodiversity net gain (habitat units, hedgerow units and watercourse units) and the Scheme is predicted to result in a net gain of over

80% for habitat units based on the current design (**Biodiversity Net Gain Assessment [EN010143/APP/7.11]**).

- 18.3.10 The environmental management and mitigation measures have been included within the **Framework Operational Environmental Management Plan [EN010143/APP/7.8]**. This includes commitments and mitigation measures proposed throughout the ES across all topic areas, as set out in **Chapters 6 to 16** of the **ES [EN010143/APP/6.1]**.

Decommissioning

- 18.3.11 A worst-case approach has been taken to the prediction of decommissioning traffic, assuming that it will have the same effects as during construction. This is likely to overestimate the actual effects, which are expected to be shorter duration and lower magnitude. The decommissioning phase is therefore expected to lead to significant adverse effects on Link 15 (B1228 between B1230 and Brind Lane junctions) because of an increase in traffic.
- 18.3.12 The presence of construction plant and machinery during decommissioning has the potential for significant adverse effects on several residential and recreational visual receptors. These effects are lower/fewer compared to construction on the account of the reduction in views of the Site provided by the proposed vegetation planting which would have reached maturity.
- 18.3.13 The environmental management and mitigation measures have been included within the **Framework Decommissioning Environmental Management Plan [EN010143/APP/7.9]**. This includes commitments and mitigation measures proposed throughout the ES across all topic areas, as set out in **Chapters 6 to 16** of the **ES [EN010143/APP/6.1]**.