FENWICK SOLAR FARM

Fenwick Solar Farm

EN010152

Environmental Statement

Volume I Chapter 16: Summary of Environmental Effects

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Table of Contents

Tables

16. Summary of Environmental Effects

16.1 Introduction

16.1.1 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 mitigation measures. Residual effects and mitigation measures are discussed in full in the relevant technical chapters in **ES Volume I Chapters 6** to **14 [EN010152/APP/6.1]**.

16.1.2 Each technical chapter contains detailed consideration of both the beneficial and adverse effects identified as likely to arise from the Scheme. The criteria applied to define the significance of residual effects are presented within **ES Volume I Chapter 5: Environmental Impact Assessment Methodology [EN010152/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).

16.1.3 The Environmental Impact Assessment (EIA) for the Scheme has been undertaken in parallel with the design process and development of the embedded and additional mitigation identified within **ES Volume I Chapters 6** to **14 [EN010152/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 the indicative design for the **ES Volume II Figure 2-3: Indicative Site Layout Plan [EN010152/APP/6.2]**. The significant residual effects listed within the technical chapters (**ES Volume I Chapter 6** to **14 [EN010152/APP/6.1]**) of this ES 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).

16.2 Summary of Significant Effects

16.2.1 A summary of the identified significant residual effects for each topic are presented in Table 16-1 (construction phase), Table 16-2 (operation and maintenance phase), and Table 16-3 (decommissioning phase). Negligible and minor (adverse and beneficial) effects (i.e. not considered significant effects) are included within each technical chapter but are not specifically included in the following tables.

Table 16-1: Summary of Significant Residual Effects during the Construction Phase of the Scheme

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
6. Climate Change				
No significant residual effects on climate change are predicted during the construction phase of the Scheme.				
7. Cultural Heritage				
Fenwick Hall moated site [1012459].	High	Change to setting of the asset.	Long-term (for the lifespan of the Scheme) (reversible upon decommissioning).	Moderate adverse **significant**.
Thorpe in Balne moated site, chapel and fishpond [1012111] and Grade II* listed remains of Chapel [1286631].	High	Change to setting of the asset.	Temporary (short-term) during the construction phase of the Grid Connection Corridor.	Moderate adverse **significant**.
Moderate adverse **significant** cumulative effects were identified (long-term, for the lifespan of the Scheme) in the form of additional impact to the Grade II listed: (1) Barn and granary (at Riddings Farm) [NHLE 1151610] immediately to northwest of Lily Hall; and (2) Dovecote and attached outbuilding on west side of farmyard at Riddings Farm [NHLE 1151611] through cumulative erosion of functional and historical setting of the farmstead's buildings.				

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
8. Ecology				
No significant residual effects on Ecology are predicted during the construction phase of the Scheme.				
9. Water Environment				
No significant residual effects on the water environment are predicted during the construction phase of the Scheme.				
10. Landscape and Visual Amenity				
Landscape Receptors				
Landscape character – Landscape Character Area (LCA) F2	Medium-High	Change to character.	Short-term and temporary	Moderate adverse **significant**.
Landscape character – Local Landscape Character Area (LLCA) 01, 03, 05, 08, 09	Low to High	Change to character.	Short-term and temporary	Moderate adverse **significant**.
Landscape character – LLCA 02	Low	Change to character.	Short-term and temporary	Major adverse **significant**.
Visual Receptors				
Visual amenity – residents to the north of Lawn Lane, east of Moss, Lilac Cottage, Jet Hall Farm, Sunrise Cottage and the Old School, of West End	Medium	Change to visual amenity.	Short-term and temporary	Moderate adverse **significant**.

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
Cottage, South Fork, Desiderata, Lowgate Bungalow, Linton House Farm and and Glebe House.				
Visual amenity – people walking on PRoW within the Solar PV Site, to the immediate south of the Solar PV Site and along the Grid Connection Corridor	Medium	Change to visual amenity.	Short-term and temporary	Moderate adverse **significant**.
11. Noise and Vibration				
No significant residual effects on noise and vibration are predicted during the construction phase of the Scheme.				
12. Socio-Economics and Land Use				
No significant residual effects on socio-economics and land use are predicted during the construction phase of the Scheme.				
13. Transport and Access				
Road links 10, 11,12,13 and 14	Medium	Increase in construction traffic.	Medium-term and temporary	Moderate adverse **significant**.
Road link 9	High	Increase in construction traffic.	Medium-term and temporary	Major adverse **significant**.

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
Road links 10, 11,12 and 13.	Medium to High	Severance of communities, NMU amenity, fear and intimidation, Road vehicle driver and passenger delay.	Short-term and temporary	Moderate adverse **significant**.
Road link 9	High	Severance of communities and driver delay	Medium-term and temporary	Major adverse **significant**.
Road link 9	Medium	NMU amenity and fear and intimidation	Medium-term, temporary	Moderate adverse **significant**.

14. Other Environmental Topics

No significant residual effects on other environmental topics are predicted during the construction phase of the Scheme.

Table 16-2: Summary of Significant Residual Effects during the Operation and Maintenance Phase of the Scheme

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
6. Climate Change				
Overall Greenhouse Gas (GHG) emissions	High	The Scheme's operation and maintenance phase indirectly causes a reduction in atmospheric GHG concentration compared to the without-project baseline and aligns with a trajectory towards net zero.	Long-term and permanent	Beneficial **significant**
7. Cultural Heritage				
Fenwick Hall moated site [1012459].	High	Changes to setting of the asset. The impact of the introduction of	Long-term (for the lifespan of the Scheme) (reversible upon	Moderate adverse **significant**.

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
		the physical form and appearance of the Scheme at construction will result in a continued effect on the setting of this asset through the operational and maintenance phase.	decommissioning).	
8. Ecology				
No significant residual effects on Ecology are predicted during the operation and maintenance phase of the Scheme.				
9. Water Environment				
No significant residual effects on the water environment are predicted during the operation and maintenance phase of the Scheme.				
10. Landscape and Visual Amenity				
Landscape character				
Landscape character – LCA F2	Medium-High	Change to character	Long-term and temporary	Moderate adverse **significant** (Year 1).

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
Landscape character – LLCA 01, 02, 03, 05	Low to High	Change to character	Long-term and temporary	Moderate adverse **significant** (Year 1).
Landscape character – LLCA 02	Low-Medium	Change to character	Long-term and temporary	Moderate adverse **significant** (Year 15).
Visual Receptors				
Visual amenity – residents to the north of Lawn Lane and of Lilac Cottage, Jet Hall Farm, Sunrise Cottage, the Old School, West End Cottage, South Fork, Desiderata, Lowgate Bungalow and Linton House Farm.	Medium	Change to visual amenity.	Long-term and temporary	Moderate adverse **significant** (Year 1).
Visual amenity – people walking on PRoW within the Solar PV Site	Medium	Change to visual amenity.	Long-term and temporary	Major adverse **significant** (Year 1).
Visual amenity – people walking on PRoW along the River Went to the north of the Solar PV Site and on PRoW to the immediate south of the Solar PV Site.	Medium	Change to visual amenity.	Long-term and temporary	Moderate adverse **significant** (Year 1).

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
Visual amenity – residents of Jet Hall Farm in winter only.	Medium	Change to visual amenity.	Long-term and temporary	Moderate adverse **significant** (Year 15).
Visual amenity – people walking on PRoW within the Solar PV Site during winter only.	Medium	Change to visual amenity.	Long-term and temporary	Major adverse **significant** (Year 15).
Visual amenity – people walking on PRoW within the Solar PV Site during summer only.	Medium	Change to visual amenity.	Long-term and temporary	Moderate adverse **significant** (Year 15).
11. Noise and Vibration				
No significant residual effects on noise and vibration are predicted during the operation and maintenance phase of the Scheme.				
12. Socio-Economics and Land Use				
No significant residual effects on socio-economics and land use are predicted during the operation and maintenance phase of the Scheme.				
13. Transport and Access				
No significant residual effects on transport and access are predicted during the operation and maintenance phase of the Scheme.				
14. Other Environmental Topics				
No significant residual effects on other environmental topics are predicted during the operation and maintenance phase of the Scheme.				

Table 16-3: Summary of Significant Residual Effects during the Decommissioning Phase of the Scheme

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
6. Climate Change				
No significant residual effects on climate change are predicted during the decommissioning phase of the Scheme.				
7. Cultural Heritage				
All long-term (for the lifespan of the Scheme) 'reversible' effects reported during the construction and operational and maintenance phases will be removed during the decommissioning of the Scheme. All long-term (for the lifespan of the Scheme) 'reversible' effects have been assessed as being adverse. The removal of the cause of this effect, by means of the removal of any above ground components of the Scheme during decommissioning, would result in no effect to cultural heritage assets. No additional significant effects are considered likely through decommissioning over and above those already identified relating to the presence of the Scheme infrastructure within an asset's setting.				
8. Ecology				
No significant residual effects on ecology are predicted during the decommissioning phase of the Scheme.				
9. Water Environment				
No significant residual effects on the water environment are predicted during the decommissioning phase of the Scheme.				
10. Landscape and Visual Amenity				
Landscape character				
Landscape character – LLCA 02	Low to Medium	Change to character.	Short-term and temporary	Major adverse **significant**.
Landscape character – LLCA 03	Low to Medium	Change to character.	Short-term and temporary	Moderate Adverse **significant**.

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
Visual receptors				
Visual amenity – residents of Jet Hall Farm.	Medium	Change to visual amenity.	Short-term and temporary	Moderate adverse **significant**.
Visual amenity – people walking on PRoW within the Solar PV Site.	Medium	Change to visual amenity.	Short-term and temporary	Major adverse **significant**.
Visual amenity – people walking on PRoW to the immediate south of the Solar PV Site.	Medium	Change to visual amenity.	Short-term and temporary	Moderate adverse **significant**.
11. Noise and Vibration				
No significant residual effects on noise and vibration are predicted during the decommissioning phase of the Scheme.				
12. Socio-Economics and Land Use				
No significant residual effects on socio-economics and land use are predicted during the decommissioning phase of the Scheme.				
13. Transport and Access				
As the decommissioning phase is planned to commence 40 years after final commissioning and expected to result in less traffic than the construction phase (and over a shorter period), decommissioning is expected to lead to effects that are no worse than during construction. The decommissioning phase has therefore not been specifically modelled and the effects and mitigation for construction are considered applicable for decommissioning and represent a worst case scenario.				

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect

14. Other Environmental Topics

No significant residual effects on other environmental topics are predicted during the decommissioning phase of the Scheme.

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