
FENWICK SOLAR FARM

Preliminary Environmental Information Report

Volume I Chapter 16: Summary of Environmental Effects

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16. Summary of Environmental Effects

16.1 Introduction

- 16.1.1 This chapter of this Preliminary Environmental Report (PEIR) 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 **PEIR Volume I Chapters 6 to 14**.
- 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 **PEIR Volume I Chapter 5: Environmental Impact Assessment Methodology**, 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 **PEIR Volume I Chapters 6 to 14**. 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 PEIR Report, **PEIR Volume II Figure 2-3: Indicative Site Layout Plan**.
- 16.1.4 The residual effects listed within the technical chapters (**PEIR Volume I Chapters 6 to 14**) of this PEIR are described with reference to the scale of effect (for example minor, 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), Table 16-2 (operation), and Table 16-3 (decommissioning). 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.
- 16.2.2 The conclusions are based on preliminary information and may be revised for the ES for the DCO Application in light of further baseline information or in response to design changes and consultation feedback. In some cases, the assessment is necessarily conservative at this stage and may therefore overestimate the impact and identify significant effects where none may occur. The information presented below reflects a preliminary point in time and thus the assessment findings are subject to change and confirmation.

Table 16-1: Summary of Significant Preliminary Effects (Construction)

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 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).	Moderate adverse significant .
Thorpe in Balne moated site, chapel and fishpond [1012111] and Grade II* listed remains of Chapel [1286641].	High	Change to setting of the asset.	Short-term and temporary	Moderate adverse significant .
The preliminary assessment of effects has identified potential physical impacts to assets [MSY5651] [MSY13204] [MSY13205] [MSY13206] [MSY5554] and potential buried archaeological remains, located within the Site. Whilst there is unlikely to be significant residual effects identified, the results of evaluation surveys are required to confirm the value of potential archaeological remains and the potential for significant residual effects cannot be ruled out at this stage.				
8. Ecology				
Wrancarr Drain and Braithwaite Delves LWS	Medium	The construction of the Grid Connection Corridor for the Scheme is predicted to directly impact upon habitats within this LWS, although the exact	Short-term and temporary	Potential for moderate adverse significant effect .

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
Trumfleet Pit LWS	Medium	<p>construction methods within this area and habitats affected (as a result of limited survey information at the time of writing this PEIR) are yet to be defined.</p> <p>The construction of the Grid Connection Corridor for the Scheme is predicted to directly impact upon habitats within this LWS, although the exact construction methods within this area and habitats affected (as a result of limited survey information at the time of writing this PEIR) are yet to be defined.</p>	Short-term and temporary	Potential for moderate adverse significant effect .
Trumfleet Pond LWS	Medium	<p>The construction of the Grid Connection Corridor for the Scheme is predicted to directly impact upon habitats within this LWS,</p>	Short-term and temporary	Potential for moderate adverse significant effect .

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
		although the exact construction methods within this area and habitats affected (as a result of limited survey information at the time of writing this PEIR) are yet to be defined.		
Neutral grassland	Medium	Permanent loss of this habitat within the Site.	Long-term (for the lifespan of the Scheme)	Potential for moderate adverse significant effect .
Running water	Medium	The construction of the Scheme is predicted to temporarily impact upon running water habitats (where non-intrusive crossings are not possible) which in turn will lead to temporary fragmentation of running water, although the exact construction methods are not fully defined.	Short-term and temporary	Potential for moderate adverse significant effect .

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
Hedgerows	Medium	Construction activities are predicted to result in the potential for the loss of small sections of hedgerow as a result of the Grid Connection Corridor, fences and access routes. Whilst the extent of any loss of this habitat is currently unknown, the majority of hedgerows across the Site will be avoided and any replanting required has been embedded within the Scheme design for creation of hedgerows. However, it is noted that this may take time to develop.	Short-term and temporary	Potential for moderate adverse significant effect .
Ground-nesting birds	Minimum importance of Low	There will be habitat loss across the Solar PV Site which will lead to the loss of habitat used by ground-nesting birds.	Medium-term and temporary (until mitigation habitats establish fully with successful recruitment into the local population during subsequent breeding seasons)	Potential for moderate adverse significant effect .

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
9. Water Environment				
No significant residual effects on the water environment are predicted during the construction of the Scheme.				
10. Landscape and Visual Amenity				
<i>Landscape Receptors</i>				
Landscape character – Landscape Character Area (LCA) F2, E2	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.
<i>Visual Receptors</i>				
Visual amenity – residents to the north of Lawn Lane, the east of Moss, Lilac Cottage and Jet Hall Farm, of West End Cottage, Desiderata, Lowgate Bungalow and Linton House Farm.	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
Visual amenity – people walking on PRow within the Site, north of the Site and south of the Site.	Medium	Change to visual amenity.	Short-term and temporary	Major adverse significant .
11. Noise and Vibration				
No significant residual effects on noise and vibration are predicted during the construction of the Scheme.				
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 10, 11,12,13 and 14	Medium	Increase in construction traffic.	Short-term and temporary	Moderate adverse significant .
Road link 9	High	Increase in construction traffic.	Short-term and temporary	Major adverse significant .
Road links 9, 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 links 9, 10,11,12 and 13.	Medium to High	Road user and pedestrian safety	Short-term and temporary	Further assessment required at ES stage for Links 9,10,11,12

Description of Resource/Receptor and Effects	Sensitivity (Value)	Description of the Impact	Duration	Residual Effect
				and 13, therefore potential for significant effects exists.
14. Other Environmental Topics				
No significant residual effects on other environmental topics are predicted during the construction of the Scheme.				

Table 16-2: Summary of Significant Preliminary Effects (Operation and Maintenance)

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 operational phase indirectly causes a reduction in atmospheric GHG concentration compared to the without-Scheme baseline and aligns with a trajectory towards net zero.	Long-term and permanent	Beneficial significant
7. Cultural Heritage				
Fenwick Hall moated site [1012459].	High	Change to setting of the asset. The impact of the introduction of 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 phase.	Long-term (for the lifespan of the Scheme).	Moderate adverse significant .
8. Ecology				

Fish	Minimum importance of Medium	There are potential effects on fish from electromagnetic fields (EMF) from Grid Connection Cables buried beneath watercourses, which could impede movement and disrupt feeding behaviour. As the depth of the Grid Connection Cables is expected to be 1.5 m beneath the bed of any watercourse, there is the potential for effects of EMF during the operation and maintenance phase, but the potential for these to occur will be determined following further survey and characterisation of the fish populations in relevant watercourses.	Long-term and permanent	Potential for moderate adverse significant effect .
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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).
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		Change to character	Long-term and temporary	Moderate adverse significant (Year 15).
<i>Visual Receptors</i>				
Visual amenity – residents to the north of Lawn Lane, of West End Cottage, Desiderata, Lowgate Bungalow and.	Medium	Change to visual amenity.	Long-term and temporary	Moderate adverse significant (Year 1).
Visual amenity – people walking on PRow within the Site, north of the Site and south of the Site.	Medium	Change to visual amenity.	Long-term and temporary	Major adverse significant (Year 1).
Visual amenity – residents of Jet Hall Farm in winter.	Medium	Change to visual amenity.	Long-term and temporary	Moderate adverse significant (Year 15).
Visual amenity – people walking on PRow within the Site during winter and summer.	Medium	Change to visual amenity.	Long-term and temporary	Major adverse significant (Year 15).
Visual amenity – people walking on PRow north of	Medium	Change to visual amenity.	Long-term and temporary	Major adverse significant (Year 15).

the Site and south of the Site during winter only.

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

The impact of additional development-generated traffic on the surrounding road network during the construction and decommissioning phases is anticipated to be the most significant stage of the Scheme, with the operation and maintenance phase anticipated to create much less traffic.

Therefore, as predicted traffic levels owing to the operation and maintenance phase are low, operation and maintenance effects are therefore expected to be negligible.

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 Preliminary Effects (Decommissioning)

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 of the Scheme.				
7. Cultural Heritage				
All long-term (for the lifespan of the Scheme) 'reversible' effects reported during the construction and operational phase 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 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. Water Environment				
No significant residual effects on the water environment are predicted during the construction of the Scheme.				
10. Landscape and Visual Amenity				
<i>Landscape character</i>				
Landscape character – LLCA 02, 09 and LCA F2	Low to Medium	Change to character.	Short-term and temporary	Moderate adverse significant.
<i>Visual receptors</i>				

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 Site.	Medium	Change to visual amenity.	Short-term and temporary	Major adverse significant.
Visual amenity – people walking on PRow north of the Site and south of the 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 of the Scheme.

12. Socio-Economics and Land Use

No significant residual effects on socio-economics and land use are predicted during the decommissioning 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.

14. Other Environmental Topics

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



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