
EAST YORKSHIRE SOLAR FARM

**East Yorkshire Solar Farm
EN010143**

Environmental Statement

**Volume 2, Appendix 6-2: Climate Change Risk Assessment
Document Reference: EN010143/APP/6.2**

Regulation 5(2)(a)
Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009

November 2023
Revision Number: 00

2009

BOOM-POWER.CO.UK

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1. Introduction

- 1.1.1 This appendix presents the results of the Climate Change Risk Assessment (CCRA) for the construction, operation (including maintenance) and decommissioning phases of the Scheme in the form of a Climate Change Risk Assessment table. It should be read in conjunction with **Chapter 6: Climate Change, ES Volume 1 [EN010143/APP/6.1]**.
- 1.1.2 The time-period for the initial risk rating of each phase of the Scheme reflects the period of the obtained climate change projection data (e.g. projections for 2020-2049 cover the estimated 24 month construction period of 2025-2027).

1.2 Climate Change Risk Assessment

- 1.2.1 Tables 1-3 present the climate change risks associated with each phase of the Scheme, from construction through operation (including maintenance) to decommissioning. Future climate projections have been reviewed and the sensitivity of assets have been examined, before commenting on the adequacy of the embedded climate change mitigation measures (as presented in Section 6.6 of **Chapter 6: Climate Change, ES Volume 1 [EN010143/APP/6.1]**) built into the Scheme.
- 1.2.2 Identified climate variables are given a significance rating, based upon the likelihood of an impact occurring to the Scheme and the anticipated consequences. This includes consideration of embedded mitigation measures.

Table 1. Construction Phase Climate Change Risk Assessment

Risk ID	Climate Variable	Risk Identification				Risk Assessment				Significance
		Risk Statement	Type of risk	Project receptors	Impact type	Planned Controls	Initial risk rating (RCP8.5 2020-2049)			
							Likelihood	Consequence	Risk rating	
1	Extreme rainfall events	Surface water flooding and standing water	Direct	Physical structures	Asset damage	Temporary drainage systems will be developed to prevent runoff, identifying all land drains and water features at the Site. Infrastructure flood resilience detailed in Chapter 9: Flood Risk, Drainage, and Water Environment, ES Volume 1 [EN010143/APP/6.1] and is secured through the Framework Surface Water Drainage Strategy (Appendix 9-4, ES Volume 2 [EN010143/APP/6.2]) .	Low	Low	Low	Not Significant
2	Extreme rainfall events	Working on-site in dangerous conditions	Direct	Workforce	Safety and health	Contractors will monitor weather forecasts and receive Environment Agency's flood alerts and plan works accordingly with internal methodologies to manage workers and resources in extreme weather conditions such as storms, flooding. Health and safety plans are to be in place. These mitigation measures are secured in the Framework Construction Environmental Management Plan (CEMP) [EN010143/APP/7.7] .	Negligible	Low	Low	Not Significant
3	Decrease in annual rainfall	None considered for risk identification due to likelihood of hazard	Indirect	All receptors	All impact types	None required	Unlikely	Low	Low	Not Significant
4	Increase in summer temperature	Risk of overheating to workers	Direct	Workforce	Health and safety	Contractors will monitor weather forecasts and plan works accordingly in response to any extreme weather as mitigation secured through the Framework CEMP [EN010143/APP/7.7] .	Negligible	Very Low	Negligible	Not Significant
5	Increase in summer temperature	Increase damage to infrastructure	Direct	Physical structures	Asset damage	Contractors will monitor weather forecasts and plan works accordingly to manage resources in response to any extreme weather as mitigation secured through the Framework CEMP [EN010143/APP/7.7] .	Negligible	Very Low	Negligible	Not Significant

Risk ID	Climate Variable	Risk Identification				Risk Assessment				Significance
		Risk Statement	Type of risk	Project receptors	Impact type	Planned Controls	Initial risk rating (RCP8.5 2020-2049)			
							Likelihood	Consequence	Risk rating	
6	Increase in annual temperature	Risk of overheating to workers	Direct	Workforce	Safety and health	Contractors will monitor weather forecasts and plan works accordingly in response to any extreme weather as mitigation secured through the Framework CEMP [EN010143/APP/7.7] .	Negligible	Low	Low	Not Significant
7	Decrease in summer rainfall	None considered for risk identification due to likelihood of hazard	Indirect	All receptors	All impact types	None required	Negligible	Very Low	Negligible	Not Significant
8	Increase to winter rainfall	Viability of and access to sites (such as heavy rain resulting in surface water flooding of local roads, sources of power supply, or inundation of sites)	Direct	All receptors	Safety and health	Contractors will monitor weather forecasts and receive Environment Agency's flood alerts and plan works accordingly to manage extreme weather conditions such as storms, flooding as mitigation secured through the Framework CEMP [EN010143/APP/7.7] . Infrastructure flood resilience detailed in Chapter 9: Flood Risk, Drainage, and Water Environment, ES Volume 1 [EN010143/APP/6.1] .	Negligible	Very Low	Negligible	Not Significant
9	Increase in heatwaves	Increased heat stress/heat exhaustion for workers	Direct	Workforce	Safety and health	Contractors will monitor weather forecasts and plan works accordingly, managing workers in extreme weather as mitigation secured through the Framework CEMP [EN010143/APP/7.7] .	Negligible	Low	Low	Not Significant
10	Wildfire risk	Risk to workers over dry periods	Direct	Workforce	Safety and health	Contractors will monitor weather forecasts and plan works accordingly, managing workers in extreme weather as mitigation secured through the Framework CEMP [EN010143/APP/7.7] .	Low	Low	Low	Not Significant
11	Sea level rise	None considered	Indirect	All receptors	All impact types	None required	Negligible	Very Low	Negligible	Not Significant

Table 2. Operation Phase Climate Change Risk Assessment

Risk ID	Climate Variable	Risk Identification				Risk Assessment				Significance
		Risk Statement	Type of risk	Project receptors	Impact type	Planned Controls	Initial risk rating (RCP8.5 2050-2079)			
							Likelihood	Consequence	Risk rating	
12	Extreme rainfall events	Surface water flooding and standing water	Direct	Physical structures	Asset damage	Drainage arrangements to attenuate surface water runoff and minimise flood risk to the Scheme location and surrounding areas, as well as infrastructure flood resilience, is discussed within Chapter 9: Flood Risk, Drainage, and Water Environment, ES Volume 1, ES Volume 1 [EN010143/APP/6.1] and secured through the Framework Surface Water Drainage Strategy (Appendix 9-4, ES Volume 2 [EN010143/APP/6.2]) .	Low	Moderate	Low	Not Significant
13	Extreme rainfall events	Deterioration of structures or foundations due to soil moisture levels	Direct	Physical structures	Asset damage	Drainage arrangements to attenuate surface water runoff and minimise flood risk to the Scheme location and surrounding areas is discussed within Chapter 9: Flood Risk, Drainage, and Water Environment, ES Volume 1, ES Volume 1 [EN010143/APP/6.1] and are secured through the Framework Surface Water Drainage Strategy (Appendix 9-4, ES Volume 2 [EN010143/APP/6.2]) . Infrastructure flood resilience detailed in Chapter 9: Flood Risk, Drainage, and Water Environment, ES Volume 1, ES Volume 1 [EN010143/APP/6.1] .	Low	Low	Low	Not Significant
14	Extreme rainfall events	Working on-site in dangerous conditions	Direct	Workforce	Safety and health	Contractors will monitor weather forecasts and receive Environment Agency's flood alerts and plan works accordingly with internal methodologies to manage workers and resources in extreme weather conditions such as storms, flooding as secured through the Framework Operational Environmental Management Plan (OEMP) [EN010143/APP/7.8] .	Low	Low	Low	Not Significant
15	Decrease in annual rainfall	Drought risk	Direct	Workforce	Safety and Health	Contractors will monitor weather forecasts and extreme weather conditions to manage workers in	Low	Low	Low	Not Significant

Risk ID	Climate Variable	Risk Identification				Risk Assessment				Significance
		Risk Statement	Type of risk	Project receptors	Impact type	Planned Controls	Initial risk rating (RCP8.5 2050-2079)			
							Likelihood	Consequence	Risk rating	
						extreme weather events, secured in the Framework OEMP [EN010143/APP/7.8] .				
16	Decrease in annual rainfall	Drought risk potentially impacting landscape	Indirect	Physical structures, materials	Asset damage	Regular maintenance activities carried out by the contractor will provide the opportunity to monitor asset performance and condition as mitigation secured through the Framework OEMP [EN010143/APP/7.8] .	Negligible	Low	Low	Not Significant
17	Increase in summer temperature	Damage to materials	Direct	Materials, plant, and machinery	Asset damage	Contractors will monitor weather forecasts and plan works accordingly to manage any extreme weather conditions as mitigation secured through the Framework OEMP [EN010143/APP/7.8]	Low	Moderate	Low	Not Significant
18	Increase in summer temperature	Overheating of electrical equipment	Direct	Physical structures	Asset damage	Operational staff will monitor weather forecasts and plan works accordingly in response to extreme weather conditions as mitigation secured through the Framework OEMP [EN010143/APP/7.8] . Infrastructure is designed to tolerate hot conditions so will not be impacted.	Negligible	Low	Low	Not Significant
19	Increase in winter temperature	Operational efficiency	Direct	Physical structures	Asset use	Improvements in panel efficiency due to warmer weather.	Negligible	Very Low	Negligible	Not Significant
20	Increase in annual temperature	Risk of overheating to workers	Direct	Workforce	Safety and health	Contractors will monitor weather forecasts and plan works accordingly as mitigation secured through the Framework OEMP [EN010143/APP/7.8] .	Low	Moderate	Low	Not Significant
21	Decrease in summer rainfall	None considered	Indirect	Physical structures	Asset damage	None required	Negligible	Very Low	Negligible	Not Significant
22	Increase to winter rainfall	Viability of and access to sites (such as heavy rain resulting in surface water flooding of local roads, sources of	Direct	All receptors	Safety and health	Contractors will monitor weather forecasts and receive Environment Agency's flood alerts and plan works accordingly to respond to extreme weather such as storms, flooding as a tertiary mitigation measure.	Low	Moderate	Low	Not Significant

Risk ID	Climate Variable	Risk Identification				Risk Assessment				Significance
		Risk Statement	Type of risk	Project receptors	Impact type	Planned Controls	Initial risk rating (RCP8.5 2050-2079)			
							Likelihood	Consequence	Risk rating	
		power supply, or inundation of sites)				Infrastructure flood resilience detailed in Chapter 9: Flood Risk, Drainage, and Water Environment, ES Volume 1, ES Volume 1 [EN010143/APP/6.1] and secured through the Framework Surface Water Drainage Strategy (Appendix 9-4, ES Volume 2 [EN010143/APP/6.2]) .				
23	Increase in heatwaves	Damage to materials	Direct	Materials	Asset damage	Contractors will monitor weather forecasts and plan works accordingly in response to any extreme weather as mitigation secured through the Framework OEMP [EN010143/APP/7.8] .	Low	Low	Low	Not Significant
24	Increase in heatwaves	Increased heat stress/heat exhaustion for workers	Direct	Workforce	Safety and health	Contractors will monitor weather forecasts and plan works accordingly with internal methodologies to manage workers and resources in extreme weather conditions such as storms, flooding as mitigation secured through the Framework OEMP [EN010143/APP/7.8] .	Low	Moderate	Low	Not Significant
25	Sea level rise	Increased sea level rise can impact the frequency and duration of flooding from all sources (e.g., tidal, fluvial, surface water, artificial sources, groundwater, and drainage infrastructure)	Indirect	Physical structures	Asset damage	The design of the Scheme incorporates the climate change projections required by the Environment Agency to ensure that potentially increased surface water flows are accounted for and managed across the lifetime of the Scheme. Chapter 9: Flood Risk, Drainage, and Water Environment, ES Volume 1, ES Volume 1 [EN010143/APP/6.1] provides more detail, and a Flood Risk Assessment (Appendix 9-3, ES Volume 2 [EN010143/APP/6.2]) is submitted as part of the DCO.	Negligible	Low	Low	Not Significant

Table 3. Decommissioning Phase Climate Change Risk Assessment

Risk ID	Climate Variable	Risk Identification				Risk Assessment				Significance
		Risk Statement	Type of risk	Project receptors	Impact type	Planned Controls	Initial risk rating (RCP8.5 2050-2079)			
							Likelihood	Consequence	Risk rating	
26	Extreme rainfall events	Surface water flooding and standing water	Direct	Physical structures	Asset damage	Drainage arrangements to attenuate surface water runoff and minimise flood risk to the Scheme location and surrounding areas, as well as infrastructure flood resilience, is discussed within Chapter 9: Flood Risk, Drainage, and Water Environment, ES Volume 1 [EN010143/APP/6.1] and are secured through the Framework Surface Water Drainage Strategy (Appendix 9-4, ES Volume 2 [EN010143/APP/6.2]) .	Low	Moderate	Low	Not Significant
27	Extreme rainfall events	Working on-site in dangerous conditions	Direct	Workforce	Safety and health	Contractors will monitor weather forecasts and receive Environment Agency's flood alerts and plan works accordingly with internal methodologies to manage workers and resources in extreme weather conditions such as storms, flooding as a mitigation measure secured through the Framework Decommissioning Environment Management Plan (DEMP) [EN010143/APP/7.9] .	Low	Low	Low	Not Significant
28	Decrease in annual rainfall	None considered	Direct	Workforce	Safety and health	None required	Negligible	Very Low	Negligible	Not Significant
29	Increase in winter temperature	None considered	N/A	All receptors	All impact types	None required	Negligible	Very Low	Negligible	Not Significant
30	Increase in annual temperature	Risk of overheating to workers	Direct	Workforce	Safety and health	Contractors will monitor weather forecasts and plan works accordingly, managing workers in extreme weather as a mitigation measure secured through the Framework DEMP [EN010143/APP/7.9] .	Low	Moderate	Low	Not Significant
31	Decrease in summer rainfall	None considered	Indirect	All receptors	All impact types	None required	Negligible	Very Low	Negligible	Not Significant
32	Increase to winter rainfall	Viability of and access to sites (such as heavy rain resulting in surface water	Direct	All receptors	Safety and health	Contractors will monitor weather forecasts and receive Environment Agency's flood alerts and plan works accordingly, managing workers and resources in response to extreme weather conditions such as storms,	Negligible	Low	Low	Not Significant

Risk ID	Climate Variable	Risk Identification				Risk Assessment				Significance
		Risk Statement	Type of risk	Project receptors	Impact type	Planned Controls	Initial risk rating (RCP8.5 2050-2079)			
							Likelihood	Consequence	Risk rating	
		flooding of local roads, sources of power supply, or inundation of sites)				flooding as a mitigation measure secured through the Framework DEMP [EN010143/APP/7.9] .				
33	Increase in heatwaves	Increased heat stress/heat exhaustion for workers	Direct	Workforce	Safety and health	Contractors will monitor weather forecasts and plan works accordingly, managing workers in response to extreme weather as a mitigation measure secured through the Framework DEMP [EN010143/APP/7.9] .	Low	Moderate	Low	Not Significant
34	Increased wildfire risk	Potential danger to decommissioning workers on site over dry periods	Direct	Workforce	Safety and health	Contractors will monitor weather forecasts and plan works accordingly, managing workers in response to extreme weather as a mitigation measure secured through the Framework DEMP [EN010143/APP/7.9] .	Low	Moderate	Low	Not Significant
35	Sea level rise	Increased sea level rise can impact the frequency and duration of flooding from all sources (e.g., tidal, fluvial, surface water, artificial sources, groundwater, and drainage infrastructure)	Indirect	Workforce, access to the Site	Asset damage	The design of the Scheme will incorporate the climate change projections required by the Environment Agency to ensure that potentially increased surface water flows are accounted for and managed across the lifetime of the Scheme. Chapter 9: Flood Risk, Drainage, and Water Environment, ES Volume 1 [EN010143/APP/6.1] provide more detail, and a Flood Risk Assessment (Appendix 9-3, ES Volume 2 [EN010143/APP/6.2]) is submitted as part of the DCO.	Low	Low	Low	Not Significant

[Notes: N/A = Not Applicable.]

Abbreviations

Abbreviation	Definition
CCRA	Climate Change Risk Assessment
CEMP	Construction Environmental Management Plan
DCO	Development Consent Order
DEMP	Decommissioning Environmental Management Plan
ES	Environmental Statement
OEMP	Operational Environmental Management Plan