

PHOENIX SOLAR PARK



Outline Decommissioning and Restoration Plan

December 2023

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List of Abbreviations

AC	Alternating current
AOD	Above Ordnance Datum
DRN	Document Reference Number
km	kilometres
m	metres
mm	millimetres
PV	photovoltaic

1 Introduction

- 1 This document represents an outline decommissioning plan for the proposed Phoenix Solar Park. It should be noted that the solar park has a design life of the order of 40 years and in that time the approach to decommissioning and restoration of such projects will no doubt change. This document therefore provides high level details of a likely approach to any future works given current best practice.
- 2 Full details of the site location and its composition are included within Environmental Statement Volume 1; Chapter 6 (DRN BL001). Significant repetition is avoided within this document and therefore the following provides a high-level summary only.

1.1 Site Location & Key information

- 3 The Solar Park will be located approximately 0.7 kilometres (km) south east of Cosheston, and approximately 2.5 km north east of Pembroke. There are a small number of scattered houses in the vicinity of the proposed Solar Park site.
- 4 The location of the proposed Solar Park site is shown in Figure 1.1, and the site boundary (and indicative site layout) is shown in Figure 1.2. The proposed Solar Park site is centred at Ordnance Survey Grid Reference 201580, 203280. The proposed site comprises 3 fields, covering a total area of approximately 13.84 hectares (ha).
- 5 The site is flat for the most part, with a north-south slope which is more exaggerated in the northern part of the site. The site altitude varies from approximately 35 m Above Ordnance Datum (AOD) to approximately 20 m AOD.

1.2 The proposed solar park

- 6 The solar park and its key elements can be summarised as follows:

Table 1.1: Key Elements of Proposed Solar Park Project

Element of Proposed Scheme	Details
Approximate Number of PV Panels (PV Cells)	25,500
Panel Size	2210mm x 1200mm
Panel Angle	Up to 22 degrees
Number of Inverters	Up to 5
Number of Transformers	Up to 5
Inverter / Transformer Cabin Dimensions (m)	10.4 m (length) by 2.6 m (width), and 3.18 m (height).

Element of Proposed Scheme	Details
Control Building Dimensions (m)	7 m (length) by 3 m (width), and 4 m (height).
Perimeter Fence (m)	2.5 m (height)
Electrical Connection	The PV Cells will require interconnection within the proposed Solar Park site to Inverters that will convert the low voltage DC to low voltage AC. In turn, the Inverters will connect to Transformers that will convert the low voltage AC to higher voltage AC (33 kV) for export to the regional electricity grid. Electricity will be exported to the regional electricity grid via an underground cable to the existing Golden Hill 33 / 132 kV Substation located approximately 2.3 km to the south west. This is operated by National Grid Electricity Distribution (NGED), the local distribution network operator. Details of the off-site connection works are provided in Chapter 16.
Onsite Access Track	The onsite access track would be constructed from compacted stone or aggregate. The total length of the onsite access track will be approximately 865m.
Temporary Site Compound / Laydown Area	The Temporary Site Compound / Laydown Area would be approximately 1600 m², and would include an area of hard standing / gravel which will house a temporary office and welfare facility (including a port-a-loo). This Compound / Area will also be used for the parking of staff vehicles and the storage of construction equipment / vehicles / materials. An additional HGV turning area will also be incorporated into the designated compound area as shown in Figure 6.6.

1.3 Decommissioning

- 7 Compared to other power generation technologies, solar parks can be easily and economically decommissioned and removed from site at the end of their economic life

with the site returned to its original condition. There would be little or no trace that the Solar Park had occupied the site following decommissioning.

- 8 There are several aspects of the decommissioning phase which may have environmental effects. The main activities will comprise:
 - Removal of PV panels, inverter/transformer cabins and foundations, and associated equipment;
 - Reuse / recycling / disposal of the above; and
 - Removal of cable and ancillary structures.
- 9 These are presented in more detail in Table 1.2.
- 10 The decommissioning described above must take account of the environmental legislation and the technology available at the time. Notice will be given to the Local Planning Authority in advance of the commencement of the decommissioning work. Any necessary licences or permits would be acquired.
- 11 Wessex Solar Energy would develop a more detailed decommissioning plan at the appropriate time with the necessary works being undertaken in accordance with a Working Practices Procedure. The details of the Working Practices Procedure would be agreed not less than 12 months prior to decommissioning. We propose this would be the subject of a planning condition.
- 12 The first step of decommissioning would be to make the site safe for work in accordance with the normal safety procedures, such as the issue of permits to work. The Solar Park would be de-energised in conjunction with the network operator. Once the site is completely disconnected, it will be handed over to a competent contractor (or contractors) to complete the dismantling and demolition work. The lead contractor would produce safety and environmental management plans for the work.
- 13 It is considered likely that by the time of decommissioning most of the equipment will be at the end of its useful operating life and will be obsolete and unsuitable for further use. It will therefore need to be dismantled for recycling. Decisions on reuse of plant items, recycling of materials or the disposal to waste will be made at the time of decommissioning in the light of the technology then available, and environmental, economic and legislative restrictions/considerations. Unsalvageable material will be disposed of at a licensed landfill. A small crane would be required to dismantle the equipment.
- 14 The foundations would be removed to a depth of 1 m below grade or else entirely removed if required and the soil surface would be restored to its original condition. Disturbed areas would be re-vegetated as appropriate. Access tracks will be removed as part of the decommissioning works.
- 15 Disposal of all waste materials will only be via appropriate and authorised routes.
- 16 Decommissioning would be timed to minimise its environmental impact, for example by avoiding the bird breeding season.

- 17 The effects of decommissioning are similar to, or often of a lesser magnitude than, construction effects and are considered as such in the relevant Chapters of the Environmental Statement.

Table 1.2 Summary of key activities

Project Element	Removal Works	Disposal	Restoration
Solar Panels	All electrical connections and equipment will be disconnected. The solar panels shall be removed from the mounting frame and temporarily stored onsite for disposal.	Disposal shall comply with manufacturer's instructions. Many manufacturers offer schemes for reuse or disposal, these should be utilised if available. Prioritise reuse, if not possible then recycle.	Excavations will be backfilled, using soil sourced on site, using appropriate soil management techniques. If necessary the soil will be tilled to mitigate for any compaction.
Solar Panel Mounting Frame	The mounting frame shall be dismantled and its component parts temporarily stored onsite for disposal.	Many manufacturers offer schemes for reuse or disposal, these should be utilised if available. The materials of mounting frames are widely recyclable.	The soil shall be reseeded with suitable native species, in order to integrate the newly restored soil into the future land-use.
Below ground supports	The below ground supports shall be removed in their entirety, and temporarily stored onsite for disposal.		
Electrical equipment from within the inverter/transformer cabins and control building	All electrical connections and equipment will be disconnected. Equipment and components shall be removed. Structures shall be dismantled and removed from foundations.	Components shall be taken to an appropriate facility for recycling.	Excavations will be backfilled, using soil sourced on site using appropriate soil management techniques. If necessary the soil will be tilled to mitigate for any compaction.

Cabin and control building Foundations	Concrete foundations shall be removed in their entirety, excavating as required.	Concrete and any other foundation materials shall be taken to an appropriate facility for recycling and disposal as appropriate.	The soil shall be reseeded with suitable native species, in order to integrate the newly restored soil into the future land-use.
Cabling (above and below ground)	All electrical connections and equipment will be disconnected. The cables will be excavated and removed from the ground in their entirety.	The cables shall be taken to an appropriate facility for recycling.	
Internal Access Tracks	The access tracks shall have the crushed stone and any underlying geotextile excavated. The materials shall be separated and temporarily stored onsite prior to disposal.	Materials shall be taken to appropriate facilities for recycling and/or reuse.	Excavations will be backfilled, using soil sourced on site using appropriate soil management techniques. If necessary the soil will be tilled to mitigate for any compaction. The soil shall be reseeded with suitable native species, in order to integrate the newly restored soil into the future land-use.
Security Cameras	The cameras and pillars shall be removed, and the foundations excavated in their entirety.	Materials shall be reused or taken to a recycling facility as appropriate.	
Fencing and Security Cameras	The fencing will be dismantled. The fencing and camera pillars will be	The fencing and camera components shall be recycled. Any electrical	

	removed in their entirety.	components of the security cameras themselves will be reused. Where this is not possible they will be recycled or disposed of appropriately.	
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