

Swallett Energy Park

Site information

Site location and overview

The project consists of a solar farm with the option to add co-located battery storage, placed on 115 acres (46.5 hectares) of land south of the M4 motorway between the B4069 and the Swindon to Chippenham railway line, to the north-west of the village of Dauntsey Lock.

The project will include the solar farm, battery storage system and associated infrastructure all within the land boundary. There will then be a short section of buried cable between the site and Lyneham substation which will run approximately 750m in the B4069. A total of approximately 100 acres (40.5 ha) of land will be required for the development. We are undertaking consultation and environment assessment to determine the most suitable land for development.

Project information

The solar farm will have an export capacity of up to 30MWp, which is the equivalent to the annual electricity usage of approximately 9,400 homes in Wiltshire.

The battery storage facility will have a capacity of up to 23MW and will occupy less than 1 acre. It will provide 2-hour duration of electricity export per discharge, this is the same as powering approximately 5,800 homes in Wiltshire per charge.



The solar farm will generate electricity equivalent to the average annual consumption of around 9,400 homes.

Development components

> Photovoltaic Panels

Each panel will be approximately 2.2m x 1.1m x 5cm.

> Mounting System

The mounting system comprises upright galvanised steel posts which are screwed or pushed into the ground and an aluminium support frame which is bolted together. The complete assembly including the modules will be angled to face south. The lower part of the assembly will be 0.7m off the ground while the top of the assembly will be up to 3m high. The system is designed to be 'reversible' leaving only small holes to be back filled when removed upon the completion of the project.

> Inverters

Inverters are required to convert the direct current (DC) generated by the photovoltaic modules to grid compatible alternating current (AC).

> Substation connection

Proximity to the Lyneham substation in Dauntsey Lock means that the distance of cabling to the point of connection is short, requiring less groundwork to place the buried cable.

> Fencing

We are proposing a 'deer fence' (wooden post and metal mesh) up to 2.4m in height around the solar farm. The point of connection and battery storage compound would have a painted palisade fence at a height of 2.5m.

> CCTV

We propose installing CCTV cameras on the site. The cameras will be located inside the site and will point inwards. Typically installed at a height of 3m at the solar farm and 4m at the point of connection and battery storage compound.

Construction

> Timing

Works will commence upon gaining the necessary planning and grid connection approvals.

> Construction access

The site access route will be via an existing agricultural entry point, upgraded to meet the needs of the new purpose. The route to site will be from the M4, then via the B4122 which joins the B4069, which heads east towards the site access point.

> Site preparation

This will involve the preparation of the site to receive the delivery of equipment. This may involve the construction of a temporary access track and will involve the preparation of areas for the storage of equipment and the housing of temporary pre-fabricated site offices.

> Layout & construction

The locations for the uprights will be identified using GPS to ensure accuracy. Uprights will be screwed or pushed into ground to avoid the use of concrete foundations. The mounting framework will then be assembled by hand. The solar PV panels also fixed to frame, again by hand. Shallow trenches will be excavated between the panels, the inverters and the substation position. Cables will be laid in the trenches and back filled.

> Restoration

All areas subject to temporary works including some access tracks and other temporary infrastructure, would be reinstated to a condition in keeping with the quality of the areas before works commenced. All construction waste (largely comprising packaging) will be disposed of in accordance with local regulations.

> Local contractors

Local contractors will be used as far as possible in the construction process.

Operation

The solar farm will begin to generate electricity following commissioning and being connected to the grid. The photovoltaic panels will continue to generate electricity for a project lifespan of 40 years after which all infrastructure would be decommissioned and removed from the site. The batteries will be available to import and export electricity for the same 40 year period.

The site will be monitored remotely and will not require any permanent staff to be located on site. The proposed development requires low maintenance and as such there will be infrequent visits to service the installation.

To ensure agricultural practices continue the grass in and around the solar array will be grazed by sheep and the soils taken out of intensive agricultural practice and allow to rest and naturally improve. Proposals for substantial biodiversity net gain will also be included through habitat enhancement and creation, primarily by removing the land from intensive agriculture and replacing it with species rich grassland and creating new wildflower areas and woodland.

Biodiversity improvements

Wildflowers planted to improve habitat for pollinators, including under the overhead lines

Bird and bat boxes will be installed in areas of mature trees across the site, exact locations informed by our ecological consultant.

Switching intensive arable farmland for species rich grassland around the panels to be grazed by sheep, retaining agricultural purpose alongside renewable energy

Existing hedgerows will be enhanced where necessary, including gapping up and strengthening certain locations using native species. This will ensure greater connectivity through green corridors.

Reptile hibernacula and log piles to be located over the site in field margins.

Areas of new native species woodland will be planted to provide screening of views from certain residential properties and for longer term biodiversity.



Solar panels

Mounting frames

Battery containers

Deer fencing

exagen