



Proposed Solar PV Project

Alvington Solar Farm

Land at Court Lane,
Alvington,
Gloucestershire,
GL15 6PL





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High Street
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GL16 8HG

RE: Proposed Solar PV Project at Land at Court Lane, Alvington, Gloucestershire, GL15 6PL

Dear Sir or Madam,

Under Section 6 of The Town and Country Planning (Environmental Impact Assessment) Regulations 2017, I am writing to formally request a Screening Opinion to determine the requirement for an Environmental Impact Assessment (EIA) to accompany a planning application for a proposed solar farm on the land forming part of Land at Court Lane, Alvington, Gloucestershire, GL15 6PL.

As required under this regulation, please find enclosed a site location plan, a description of the physical characteristics and location of the proposed development, and a description of the possible effects of the proposed development on the environment. Upon receipt of the screening opinion, we intend to provide a comprehensive pre-application planning submission to:

- Request an assessment on whether there seem reasonable prospects of gaining planning permission.
- Enquire about any potential issues such as the visual impact, traffic movements or site design; working towards solving these at the earliest possible point; working, in particular with the Council to ensure that any other matters are controlled via appropriate conditions.

Please do not hesitate to contact me if you have any queries.

Yours faithfully,

Steven Williams
Assistant Project Developer
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Proposed Solar PV Project

On the Land at Court Lane, Alvington, Gloucestershire, GL15 6PL

Site Details

The 67-acre site, referred to as Alvington Solar Farm, is located at 51.699308286, -2.56538794264 (Latitude, Longitude); approximately 0.9km east of Woolaston; 3km southwest of Lydney; 4.21km North of Shepperdine; and approximately 6.3km west of Berkeley, on a mix of pastoral and arable land. The solar farm location is shown in Figure 1 below.

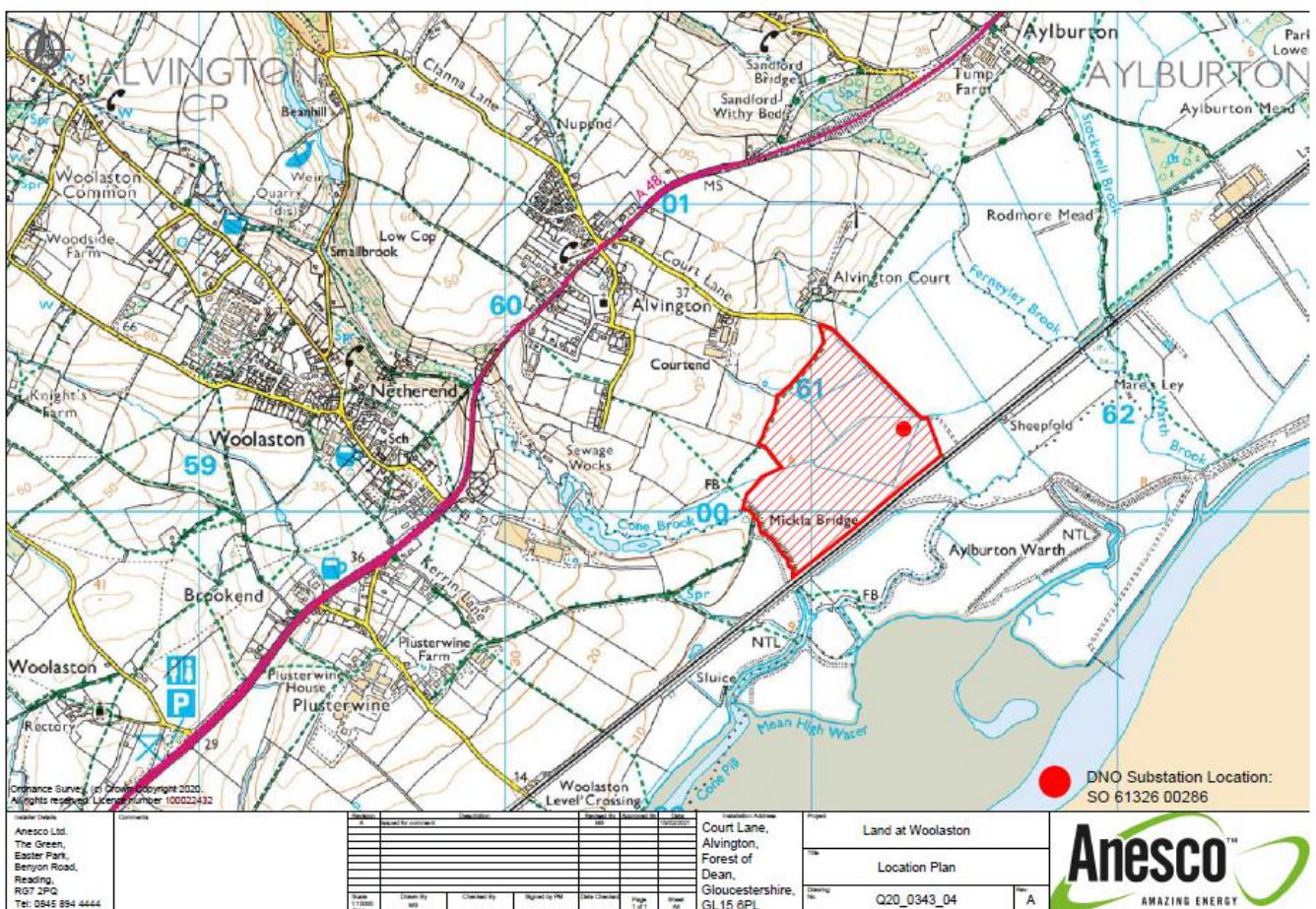


Figure 1: Site Location Plan

Proposed Activity

It is our intention to submit a planning application for the development of a Photovoltaic (PV) Solar Farm capable of generating approximately 18.72 Megawatts (MW) of electricity for 40 years. This would have the capacity to power around 4,859 average homes, and result in an approximate saving of 4,301 tonnes of carbon dioxide (equivalent) emissions per annum¹.

¹ Based on energy yield simulation, UK grid carbon intensity of 231.04gCO₂/kWh (BEIS 2020) and average UK domestic electricity consumption of 3,831kWh/yr (BEIS 2019).

A solar farm is comprised of the following components:

- An array of solar PV panels, cabling, and panel mounting frames. The PV panels will be made of non-reflective dark blue glass and silicon designed to absorb daylight and convert it into electricity. The panels will be fixed to aluminium or steel mounting frames at a tilt angle of 15-20 degrees. Standardly, the panels will be elevated approximately 0.9m above the ground and have a height of no greater than 2.67m. However, given the presented flood risk, there is scope for the panels to be raised slightly to mitigate this risk. If so, details on this will be provided at a later date within the planning application.



Figure 2: Example of rows of solar panels on mounting frames

Inverters

An **inverter** is required to convert the direct current (DC) electricity generated by the PV panels into alternating (AC) for the grid. The inverters are mounted discretely onto the back of the array. There will be approximately 90 inverters mounted onto the back of the arrays.



Figure 3: Inverters mounted onto the back of the solar arrays.

Low Voltage (LV) Switchgear and Transformers

Low Voltage (LV) Switchgear and Transformers are to step up the low voltage from the inverters to a high voltage required to connect the solar farm to the high voltage grid network. A total of 8 LV cabins each with an open-air transformer will be installed within the arrays.



Figure 4: Typical LV Switchgear with Transformer

The LV cabins are typically 2.2m high, 2.6m long and 1.2m wide and are painted green. The transformers are generally 2.1m high, 2.4m long and 2m wide. At an overall height lower than that of the solar array itself, these structures are not easily visible.

High Voltage (HV) switchgear

- High Voltage (HV) switchgear is required to accumulate all the HV cables from the transformers before connecting to the grid network.
- Before connection to the grid, the Distribution Network Provider (DNO) requires an Intake Substation with various protection settings to protect the grid from any faults that the solar farm may cause. This intake substation will be built in compliance with building materials approved by the local planning authority.

Security system

- A security system is required to prevent both unauthorised access into the solar farm, which is an energy generation system, and to protect the solar farm. This will consist of a 2m high deer fence installed within the site demise and a security beam system installed around the fence perimeter. The security beams will be approximately 1.2m off the ground and will employ laser technology so no artificial lighting will be required.

Transport and Construction

The construction of the site will take approximately 26-30 weeks, based on a six-day working week (08:00 to 18:00 hours Monday to Friday, and 08:00 to 14:00 hours on Saturdays) dependent on weather conditions. The solar panels and other components will be delivered to site using 16.5-metre-long articulated HGVs. Deliveries will be spread evenly throughout the construction. Approximately 20 large vehicles per megawatt are anticipated to bring the panels and other infrastructure to the site. All other traffic will be construction staff traffic.

Once constructed, access to the solar farm will typically generate 10 – 20 visits per year by engineers for maintenance works in Anesco transit vans. Maintenance will include maintaining hedgerows and mowing the grass twice a year. There will be no onsite office or permanent staff on the site.

The proposed development will have a relatively low impact on the existing ground conditions and will not have significant foundation or infrastructure requirements. It is intended that the solar farm will have a lifespan of 40 years. At the end of its operational life, the infrastructure will be removed from the site, and the field will be returned to its previous condition.

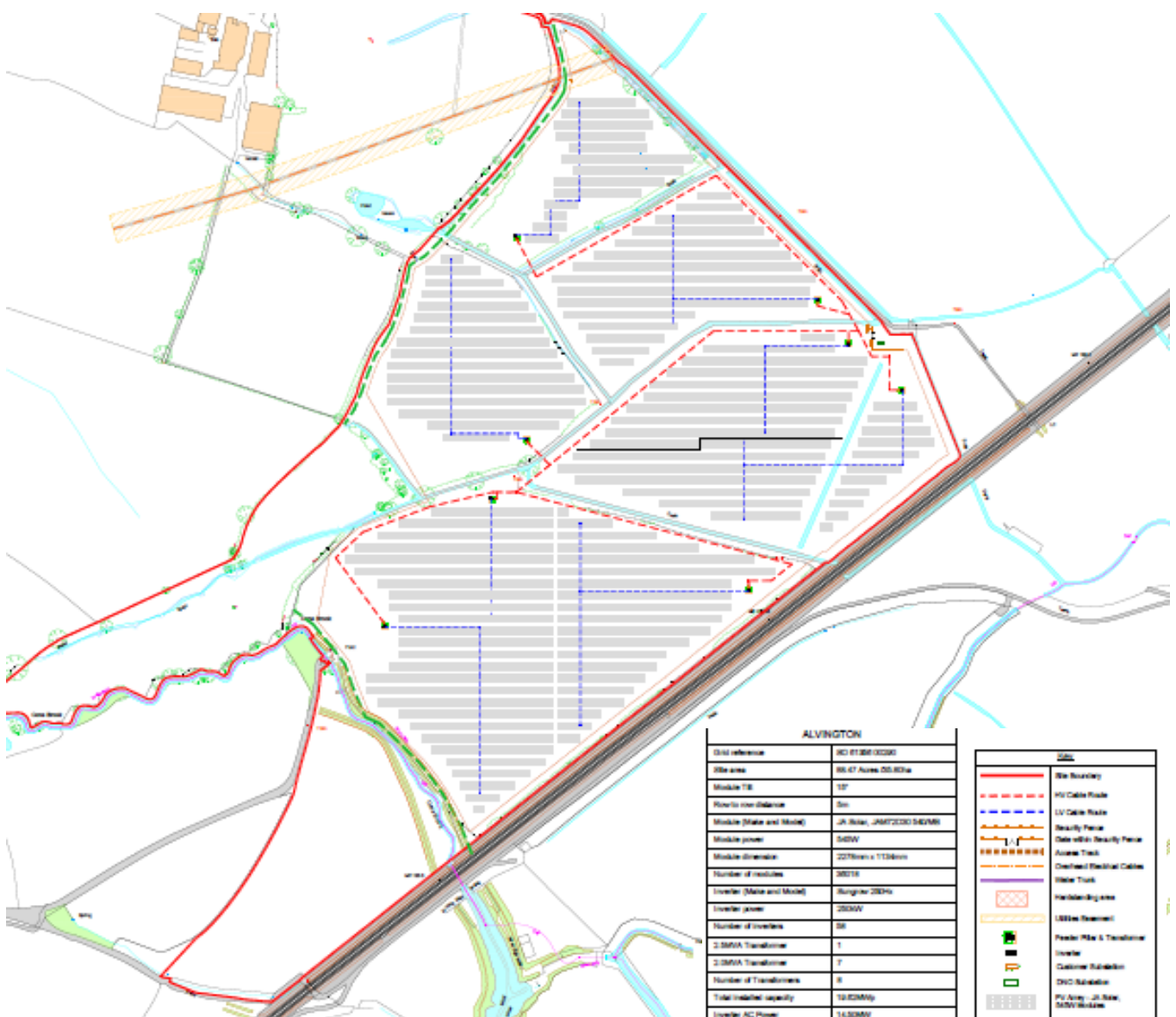


Figure 5: Initial Solar PV Site Layout

Site Location

The site is not located in any environmentally sensitive areas, conservation areas, SSSI (site of special scientific interest) or other statutory or non-statutory ecological, landscape or heritage designation.

Some of the site is located within a Flood Risk Zone 3 and will require further assessment prior to planning submission. Accordingly, a detailed flood risk assessment will be completed to support the full planning application. Any associated internal drainage board will also be consulted as part of the mitigation strategy and solar PV system design. This will be submitted alongside the full planning application.

The closest scheduled monument is the 'Village Cross at Aylburton' that sits approximately 1.5km northeast of the boundary of site. The next closest scheduled monument is 'Roman Villa 550m south-west of Woolaston station' situated approximately 1.9km southwest of the site. This is followed by 'Tower keep castle on Little Camp Hill' and 'Camp Hill promontory fort and Romano-British temple' that both sit approximately 2.2km northeast of site. There are no other further scheduled monuments within 2.5km of the site.

The nearest feature of historic designation is the Grade II listed building 'Mickla Bridge' situated 50m west of the site boundary. The next closest feature of historic designation is the Grade II listed building 'Alvington Court' that sits approximately 0.3km to the north of the boundary of site. Following this, Grade II listed buildings 'Severn Lodge', 'Church of St Andrew', 'Old Parsonage and Marden' and 'Duncastle Farmhouse, The Snug and The Cider Press' are all situated approximately 0.7km northwest of the site boundary. Additionally, 'Colne Mill House' (Grade II), '1 and 2, Tudor Cottages' (Grade II) and 'Swan House Tea Room' (Grade II) are positioned 0.8km west of the site boundary. There are no further historic features recorded within 1km of the site.

An agricultural land classification (ALC) survey will be carried out for confirmation of land grade and will accompany the full application.

There are multiple footpaths passing along the borders of the site. One footpath passes from the east through Alvington Court, while another passes north up Court Lane, whereby these intersect at the northern boundary of the site. This footpath then continues south, along the southwest boundary of the site, before splitting northwest (towards Alvington) and southeast (towards Mickla Bridge). Appropriate screening will be planted, or enhanced, to minimise visual impact from these. There are no further public rights of ways, or byways located near the site.

In addition to any necessary infill and hedgerow planting, Anesco will also plant wildflower meadow seed mix throughout the site and carry out a 40-year habitat management plan, to improve the biodiversity of the site and the local area.

Environmental Impact Assessment

The proposal has been considered against The Town and Country Planning (Environmental Impact Assessment) Regulations 2017.

Under the EIA regulations an EIA is automatically required for Schedule 1 developments. The proposed solar farm development does not fall within any of the categories set out in Schedule 1 of the regulations.

Development is classified as a Schedule 2 development, if it falls within a category of development listed in Schedule 2 and meets one of the relevant criteria or exceeds one of the relevant thresholds set out in Schedule 2, or is located in a sensitive area. It is considered that the proposal falls within category (3)(a) for 'industrial installations for the production of electricity, steam and hot water (unless included in Schedule 1)', and, given the site area exceeds 0.5ha, the proposal is classed as a Schedule 2 development.

Schedule 2 developments require an EIA if the specific proposal is considered to have significant effects on the environment given its location, characteristics, and size. As the site exceeds 0.5ha in size it is considered appropriate to screen the proposal with the Local Planning Authority to determine whether there are any significant effects likely to arise from the proposal.

The screening process should consider the development proposal against the criteria and thresholds which are included within the EIA Regulations in determining whether or not an EIA is required to accompany the application. Schedule 3 of the EIA Regulations sets out criteria to inform screening under the following headings:

- The characteristics of the development;
- The location of the development; and
- The types and characteristics of the potential impact.

Development Characteristics

The nature of the development is described above. Once constructed, the solar farm will constitute a passive operation, with no emissions and very limited onsite activity. As the panels do not form a continuous hard surface as a building would, vegetation will continue to grow under and between the panels and there will be very little change to site run-off.

Taking into account the criteria in paragraph 1 Schedule 3 of the EIA Regulations, it is considered that:

- The development is limited in size, being approximately 67 acres in area;
- There is limited scope for cumulative impacts with other developments;
- The scheme will make good use of the natural resources, through the conversion of solar energy into electricity, with a generation capacity of 18.72 MW of electricity, and would not involve the use of any non-renewable resources during its operation;
- The development will not generate any waste during operation, aside from any required replacement of components;
- The solar farm will not generate any pollution or nuisances due to the clean, static nature of the technology involves; and
- The risk of any accidents is very low, and restricted to construction and maintenance activities, which will be covered by health and safety plan.

The proposal will provide enough energy to power approximately 4,859 average homes, making a valuable contribution to the energy requirements of the local area. Adding to the renewable energy capacity of the UK is important to meeting national energy objectives; however, the scale of the proposed development means that its relative importance does not exceed the local context.

Environmental Impacts

Following the temporary impacts associated with construction, the solar farm development will have little to no impacts on the environment. The panels are passive in nature, and do not result in any emissions, their main impact is the change in the visual appearance of the subject site, and as noted above it is considered that site will not incur any adverse impacts on the surrounding area.

When asserting the suitability of a site for a solar PV development, Anesco looks at a number of criteria, as set below:

- Suitability of the site for operating a Solar Farm:
 - Site size
 - Irradiation levels and potential energy yield
 - Site orientation
 - Topography
 - Shading
 - Access
- Grid Connection Issues:
 - Proximity of a suitable connection (overhead line or substation) with available capacity
 - Ease of accessing electricity connection point.
 - Available capacity of grid connection point
- Planning Issues:
 - Visibility of site
 - Neighbouring properties
 - Flood risk
 - Agricultural land grading
 - Sensitive areas
 - Flora and Fauna

The solar farm will not result in any hazardous impacts, and it does not involve any unusually complex technologies. Solar PV is one of the least technically complex and lowest impact energy generation methods available.

It is important to note that this solar farm would be classified as a 40-year temporary development and following the removal of the panels and associated infrastructure at the end of the solar farm life, the land will return back to its original condition. The solar farm will not impact directly on soils or lead to their permanent loss; to the contrary, the use of site for a solar farm will allow soils to rest and regenerate as fallow land.



The planning application will be accompanied by a number of technical impact assessments, which will identify mitigation measures where these are considered necessary.

We are keen to work closely with local residents to obtain their views and opinions of the proposed development as part of the planning process, and to identify beneficiaries for community benefit schemes.

Summary

We consider this to be a suitable location for this type of development given that the site is located away from landscape, ecological, conservation areas and any heritage designations. Any environmental effects arising from the proposed development will be addressed with supporting documentation in the formal planning application.

Having reflected on the regulations, including Schedule 2 and 3, we consider that the proposed development does not constitute an EIA development and that the submission of an Environmental Statement is not required as no significant effects are likely (or can be avoided with appropriate mitigation that will be discussed in the planning application and accompanying assessments).