

What is a solar farm?

A solar farm comprises a series of solar panels on pole mounted tables that form solar arrays. Additional equipment such as transformers, inverters, fencing, and a small substation, etc. would also be installed in order to connect the solar farm into the local electricity grid.

Solar panels convert sunlight into electricity, which is then exported directly into the electricity network. In order to maximise electricity production, fixed panels face south, and are at an angle to maximise the energy collected from sunlight. On some sites panels can track the sun and are oriented north-south so the panels can pivot from east to west.

Why do we need solar farms?

The UK has a target of Net Zero emissions by 2050 which requires an urgent need to decarbonise our energy system. Solar power is now the cheapest form of new energy generation, can be deployed relatively quickly, and with a low impact on the land.

What benefit will locals gain? Cheaper power prices?

The costs of solar power have fallen sharply and it is now the cheapest form of new electricity generation both globally and in the UK. Therefore, solar contributes overall to a lowering of power prices across the country. It is not yet possible for local sales of electricity direct from solar farms, although there is legislation going through parliament at the moment that may make this possible in future.

We offer a voluntary community benefit fund of £350 per MW - on a 49.9MW solar farm this could equate to £17,500 a year for the lifetime of the solar farm which could be up to 35 years. The funds are to be spent locally on environmental and social projects. We are also offering an educational fund for local school visits and workshops to inspire the younger generation.

Another benefit is the increase in biodiversity - our solar farms are designed to enhance biodiversity and allow wildlife to flourish.

How will the solar farm be funded if not by subsidy?

The withdrawal of government subsidies for solar farms in 2017 led to a pause in development of new projects. However, improvements in technology and falling costs mean that, in the right conditions and at an appropriate scale, ground-mount solar farm projects can now be viable without subsidy.

Is there security lighting?

No - only emergency lighting at the substation compound which will only be used in case of emergencies (likely less than once a year).

Do solar farms produce any noise?

Solar farms are very quiet. It is only the inverters which make a slight noise and they only do so during operational hours (when it is sunny) so do not make any noise at night. This noise at a 10m distance can be comparable to an air conditioning unit and usually dissipates entirely after around 100m.

Do solar installations pose a health risk?

No - solar is a passive technology which doesn't produce any harmful by-products. All electrical equipment we use meets the Electromagnetic Compatibility (EMC) Directive and are CE marked.

Will the solar farm cause disruption to local traffic?

After the solar farm is built, which usually takes 12 - 16 weeks, there is very little maintenance and therefore vehicular activity is minimal. A traffic management plan will be produced for the construction of the solar farm and a contact number will be made available for local residents to call should they have any issues.

What sort of fencing do you use?

A typical rural deer fence is used for security. Small openings in the fence allow small mammals including badgers to enter the site. The location of these will be determined by an ecologist where the most commonly used animal tracks are found. Deer and larger mammals are excluded as due to their size they could damage themselves and the infrastructure.

How can a solar farm improve biodiversity?

Typically, new hedgerows will be planted for screening and areas of the site will be sown with a native meadow and wildflower mix which provides an excellent habitat for birds and invertebrates. Existing trees and hedgerows are also all preserved as much as possible.

How many solar farms have you built and operated?

Our operational projects include the Carlam Hill Solar Park near Hull, and battery storage facilities in Lockleaze (North Bristol), Wolverhampton and Nevendon (Basildon). Our partner company ibvogt manage 45 projects in the UK.

What local jobs will the farm provide?

Analysis by the Solar Trade Association suggests that a solar farm of this size would provide 15 full time jobs equivalent through the supply chain. Locally there will be job opportunities during construction and also contractors from outside the area will use local facilities such as shops, cafes etc. Local contractors may also be used for maintenance.

Can panels be recycled?

99% of the solar panels are made of glass, silica (aka sand), aluminium, steel, copper and plastic wiring, which are largely recyclable with a good salvage value. As such some have a recycling efficiency of up to 96%.

Every solar panel company (importer or manufacturer) in the UK must join a Producer Compliance Scheme (PCS), such as the Government-approved [PV CYCLE](#). This ensures that all solar panels are collected and recycled properly. Any damaged modules from various projects will be stored at a central location until we have a certain quantity and then we employ a certified company to remove the modules from site and taken to be disposed of within the PV Cycle network.

How much generation is needed to offset the carbon produced from the manufacturing process?

For a 49.9MW site it would take approximately 1.1 years to pay off the energy debt from the manufacturing process.

There are several academic studies which show this.

The Intergovernmental Panel on Climate Change (IPCC) also considered lifecycle emissions within their Working Group 3, Fifth Assessment Report (IPCC, 2014). It is the IPCC studies which inform the UN Convention on Climate Change. Their report determined that *'a range of technologies can provide electricity with less than 5% of the lifecycle GHG emissions of coal power: wind, solar, nuclear, and hydropower in suitable locations. In the future, further reductions of lifecycle emissions on these technologies could be attained through performance improvements and as a result of a cleaner energy supply in the manufacturing of the technologies.'*

Will the solar farm cause an increase in flooding?

No. A flood risk assessment is carried out as part of our assessments. The panels have small gaps in between to allow the rain water to drip through, dispersing the surface water run off more evenly. A well managed and healthy grass sward beneath the panels allows the water to be absorbed into the ground. Swales may also be included to help alleviate any existing surface water.