Solar farms: A factsheet by the Solar Trade Association

What is a solar farm?

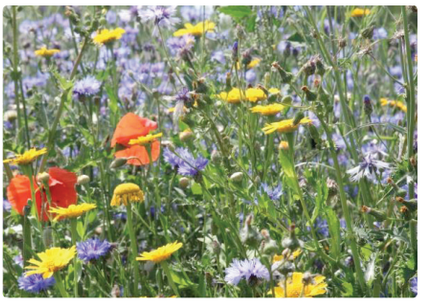
Solar farms, or solar parks, are the large-scale application of solar photovoltaic (PV) installations used to generate electricity. They often cover large areas of land (between 1 and 100 acres) and therefore they are usually developed in rural locations. Approximately 25 acres of land is required for every 5 megawatts (MW) of installation, enough to power 1,515 homes[1].

Solar farms go through a rigorous planning procedure to get approval. This takes into account the suitability of the site, any potential impact on the locality and relevant renewable energy targets.

The UK needs solar power to meet the 15% EU renewable energy targets by 2020, but it also creates investment and local green jobs, whilst reducing the reliance on overseas fossil fuel imports. As this valuable and rapidly deployable sector grows, solar will help businesses to manage their electricity costs while reducing their carbon emissions, and will provide a choice about where you obtain your power.

The Department of Energy and Climate Change (DECC) considers that solar PV could contribute up to 20 gigawatts (GW) of generating capacity by 2020 if costs continue to fall towards grid parity. To support this at the large scale, solar farms are eligible for financial incentives under the Renewables Obligation (RO) scheme. Systems under 5MW can choose between the RO and the Feed-in Tariff Scheme (FITs).

[1] Based on average annual consumption figures for a house of 3,300 kWh of electricity (source DECC, Ofgem).



Some facts about solar farms

1. They generate electricity locally and feed into the local electricity grid using a free source of energy (the sun) to generate electricity on bright cloudy days as well as in direct sunlight.
2. For every 5MW installed, a solar farm will power 1,515 homes for a year and save 2,150 tonnes of CO_2.
3. They represent time-limited, reversible land use and provide an increased, diversified and stable source of income for landowners.
4. They may have dual purpose usage with sheep or other animals grazing between rows, and can help to support biodiversity by allowing small animals access to otherwise fenced-off land, with bird and insect fodder plants and wildflowers sown around the modules.
5. If 10,000MW of solar was installed on the ground, it would only use 0.1% of UK land area, whilst being able to generate enough electricity for over 3 million homes.
6. There are no moving parts, and maintenance is minimal.
7. There is no by-product or waste generated, except during manufacturing or dismantling.
8. They have lower visual and environmental impacts than other forms of power generation.
9. Renewables give the customer the choice of buying green electricity and reduce reliance on scarce fossil fuels.

Questions and answers about solar farms

1. Do solar farms compete with food production? Solar farms are generally installed on brown field sites (e.g. disused airfields) or on areas that have been ranked under the Agricultural Land Classification as lower grade land, where the development of profitable food crops is unlikely. As such, they allow land owners to diversify their income, while animal grazing between the rows of installed panels is still possible or alternative practices such as bee keeping and pheasant rearing.
2. What impact do solar farms have on the UK landscape? A solar farm is normally granted planning permission for 25 years, after which it is required to be dismantled, unless it is granted an extension due to a re application at the end of term. A solar farm does not change the zoning classification of the land. A typical 5 MW solar farm could be dismantled and removed within weeks. The UK has 59m acres of land, 45m is in agricultural production, 11m in arable production of which up to 250k acres is proposed for growing biogas crops and 865k acres for perennial energy crops like willow and miscanthus. 10GW of solar would only use 60k acres or 0.1% of UK land area.
3. What is the impact of a solar park on property prices? To date there is no evidence to suggest that solar parks negatively affect property prices. With appropriate screening, the visual impact of a solar farm is negligible. It does not generate noise, and has commonly been accepted by the general public.
4. Will a site interfere with existing equipment? A solar farm does not emit energy radiation and therefore cannot interfere with equipment such as mobile phones, heart monitors, pace makers, hearing aids, or TV reception.
5. Do solar farms emit noise? There is hardly any noise emitted from a solar farm. Solar PV technology does not use any moving parts, and in many cases nature and solar complement each other, with insects, sheep and small wild animals living side by side. There are a number of 'inverters' on solar farms to convert DC into AC and these machines do emit a humming sound, but they are housed in sound-proofed boxing, making them unlikely to be heard.
6. Are CCTV cameras often used? While CCTV cameras are often used to secure solar farm projects, the cameras in solar farms are fixed - mounted to face inwards into the solar park and not outside.
7. Do solar farms emit any light? There are no visible lights on solar parks. Security lighting, as used for railway lines, generally uses only infra-red light.
8. Will the security fencing surrounding solar farms make them look industrial? Security fences are designed to protect the investment made within the solar farm and their construction, design, colour and height are all stipulated by the local planning authority in the decision notice. They are generally no more than 2.5 metres in height (8 ft 2 in, about one-third higher than a tall man).
9. Are there any increased flood risks? Flood risk does not usually increase with the installation of solar farms. The risk of flooding is influenced by factors such as an increase in surface area, a change in the composition of the ground surface, climate change, low levels of investment in flood mitigation maintenance, and building in flood plains. Developers may offer flood mitigation as part of their solar farm proposal. These measures include the use of modest/removable hard standing material which aims to avoid soil compaction during construction.
10. Will solar farms cause any glint or glare? Solar panels are designed to absorb light and not to reflect light. They pose little risk of glint or glare, and solar panels have been installed on Gatwick Airport, alongside major roads and beside sports car raceways such as the 'Top Gear' test track.

2nd Floor
25 Eccleston Place
London SW1W 9NF

Tel: 020 7925 3575
Twitter: @thesolartrade
www.solar-trade.org.uk