Blog: Following the sun: how solar supports farming, food security and the rural economy

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The UK's solar-powered future

2025 was a significant year for solar in the UK. After two years of work, the Government and Solar Energy UK published the Solar Roadmap. The Roadmap is intended to help triple the capacity of solar around the UK, as part of the objective of delivering a clean power system by 2030.

The need could not be more pressing: fossil-fuelled energy markets are keeping bills high, while the impact of climate change is growing. Hosepipe bans, crop failure and flooding all show how varied and severe the challenges are.

The Solar Roadmap also provides welcome recognition of the links between climate change, nature, and land use. This is an important topic, and there is a growing body of evidence on renewable energy and land use, including spatial mapping of solar farms, and the benefits they provide to farmers, food security, and nature.

These multifunctional benefits make solar farms a highly effective use of land. Crucially, even with the three-fold increase in total solar deployment the Solar Roadmap calls for, deploying this will still leave 99.6% of the UK's agricultural land (on which solar is usually sited) free for other uses.

Solar is therefore an important part of the solution to supporting agriculture, keeping British farmers in business, and enhancing nature. Drawing on the new evidence available, we explore these topics below.

Supporting agriculture

Solar can directly support food production, for example through agrivoltaics. An agrivoltaic site is one where solar power generation operates alongside farming, making 'dual use' of the land. At NextEnergy Group, one of our commitments is to manage 30% of the land under our control through a dual-use regime by 2030. We are making progress: for example, in the UK, where around 50% of our portfolio is already rotationally grazed by sheep, and in Italy, where we are building the largest agrivoltaic project developed to date. On a grazed site the power plant produces clean energy, local farmers are provided with pasture for their animals, and the sheep themselves are protected from the weather by the solar panels.

We are also exploring crop production on a solar farm itself: at one of our sites in cider country in the south-west of England, we are establishing a 'step-over' apple orchard, with miniature fruit trees planted directly between the solar arrays. The project is a pilot, and we intend to process the apples – which are a heritage variety native to the UK – for juice, jams or other dried fruit products.

Supporting farmers

Solar farms can further support traditional farming through economic diversification. This is important because farming is a challenging industry, and farms which go out of business cannot grow crops. By providing a secure rental income – and incentivising the establishment of new companies to support their maintenance and operations – solar is therefore helping to safeguard landowners and farming businesses, meaning they can be passed on to the next generation and so support the UK's food security.

At NextEnergy Capital (NEC), we have direct experience of this: for example, at our Llanwern Solar Farm in South Wales, where local farming brothers Alex and Dan Price launched a business supporting maintenance of the site. The Price brothers are not alone, with their story repeated around the country, and solar provides broader support to the economy by creating jobs in construction, operations, and landscape management, as well as the transport, legal, planning, environmental and financial sectors.

Supporting nature

Solar farms can significantly improve the range and quality of natural habitats on site, and in turn the flora and fauna they support. In England, planting and other landscape improvements have been a legal requirement since the adoption of its world-leading Biodiversity Net Gain approach in 2024. But the benefits of solar farms extend beyond the sites themselves, since they can provide refuges and links between different habitats, helping wildlife to move through the wider landscape.

These benefits are already being documented, with research from the RSPB and the University of Cambridge and Lancaster University describing the potential support solar farms can provide to birds and pollinator species such as bumblebees, and the industry carrying out sector-wide ecological monitoring. Frameworks such as the SPIES tool can also provide decision support to enhance ecosystem services.

As well as supporting agriculture and farmers, solar can also support the soil itself. This is because good farming practice has long rotated land in and of out use, to allow it to rest, or remain fallow. Solar farms may provide the same benefit: free from the disturbance caused by ploughing, and the use of fertilisers and pesticides. The latest research is exploring how solar farms may also be able to support carbon sequestration.

The key to delivering these benefits is to integrate nature into all aspects of the project lifecycle, from development through to construction and operations. Responsible solar investors around the country are working to do that, and at NEC we are committed to clear assessment of the impact. This is why, in addition to participating in the Finance & Investment in Nature Positive Energy initiative, we are an early and voluntary adopter of robust international sustainability frameworks, including the Taskforce on Nature-related Financial Disclosures (TNFD).

TNFD requires extensive action to identify, evaluate, mitigate and report on nature-related risks. In support of this, in 2025 NextEnergy Group published a dedicated Nature Strategy – one of the first in the electricity generating sector – and NEC reported on its progress in its first combined International Sustainability Standards Board (ISSB) and TNFD-aligned Sustainability and ESG Report for the year ended 31 December 2024.

Making every hectare count

Solar farms are already making a significant contribution to addressing climate change: NEC's existing global portfolio powered the equivalent of more than half a million homes in 2024.

Beyond clean power, solar farms provide direct financial support to help safeguard the future of British farming. They can take soils out of intensive management, and create habitats which are vital to the broader ecosystem that underpins the health of the countryside. The emerging potential for agrivoltaics also provides the opportunity to grow food or support animal husbandry directly on site. All of this supports food security, and solar also comes with a positive economic impact: renewable energy is affordable, increases energy independence, and creates local jobs.

Land and nature policy should therefore be coordinated to maximise these benefits. Planning and consenting processes should apply clear, consistent policy tests and give appropriate weight to climate mitigation and the UK's nature, clean energy and food security objectives. This includes recognising the multifunctional value of land and avoiding rigid classifications. Shaping integrated policy so that it supports solar projects that demonstrate strong nature-positive outcomes is one of the most effective things the Government can do to support the UK's nature, clean energy and food security objectives. As always at NEC, we look forward to continuing our engagement with the Government and other stakeholders on this topic.