

# Nature

Bluefield Solar Income Fund (BSIF)

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For professional investors only



## Why is nature relevant to renewable energy?

By their nature, wind and solar technologies are connected with the natural world, both through the power they harness from natural processes, such as the sun's irradiation and the wind, and the land they occupy for multiple decades. BSIF recognises the synergies between nature and climate change and is dedicated to delivering renewable energy whilst having regard for the natural environment, working to protect and, where possible, enhance nature across its portfolio.

The construction and operation of renewable infrastructure assets can impact the local environment, for example through land use change or disturbance to habitats and species. Working with its key service providers, BSIF endeavours to minimise its negative impacts where possible, and the collection of asset-level environmental data supports BSIF in monitoring any adverse environmental impacts over time. Through this engagement, BSIF also intends to identify opportunities to enhance biodiversity at its assets and, where appropriate, implement nature-based solutions that have the potential to support climate resilience as well as achieve wider co-benefits for local communities.

BSIF acknowledges that an integrated approach, involving collaborative efforts between stakeholders to monitor, assess and manage nature considerations at each stage of the investment lifecycle, will be key to making informed decisions regarding both trade-offs and positive outcomes for nature, and ultimately supporting the delivery of long-term value.



## Land use and land management

The renewable energy and agricultural sectors together play a vital, complementary role in achieving a more sustainable future. As with all infrastructure assets, renewable energy relies on the availability of suitable land. Whilst proximity to grid connection is crucial, planning policy requires developers to take account of other important elements, including potential environmental impacts and competing land uses. The new government has clearly stated that large-scale solar is crucial to achieving the UK's national energy security and decarbonisation ambition, whilst also being complementary to maintaining a resilient food system.

More broadly, the UK's latest Climate Risk Independent Assessment (CCRA3) highlighted that climate change already poses a risk to UK food production, and this risk will grow substantially over the next 30 to 60 years<sup>1</sup>. Renewable infrastructure, through its contribution to climate change mitigation, may in turn help reduce future losses to productive farmland. At the same time, some solar farms have the capability to coexist with agricultural activities, such as sheep grazing, enabling the land to be managed in a way that satisfies both agricultural and energy needs, and providing farmers with an opportunity to diversify their income.

BSIF recognises the importance of responsible land use and, working with its development partners, aims to avoid best and most versatile land where possible. During planning, environmental assessments are undertaken to assess and help minimise negative impacts to the surrounding environment. The results of these assessments inform the development of a landscape and environmental management plan (LEMP) or biodiversity management plan (BMP), which prescribes the ongoing management of the land across the operational phase of the investment lifecycle.

During recent years, BSIF has engaged its primary O&M provider, Bluefield Operations, to trial initiatives that enhance land management practices with the aim of better supporting nature. For example, conservation grazing is currently being introduced at Willows solar farm. Enhanced monitoring is also being conducted across selected sites to assess the impact of actions taken to support nature; most recently, this has included bird population surveys and herbicide usage tracking.



## Case Study: Conservation grazing at Willows Solar Farm

Conservation grazing is a land management technique which uses livestock to manage vegetation whilst aiming to retain habitats that are suitable for a wide range of wildlife<sup>2</sup>. Willows solar farm is a 7-hectare farm located in Staffordshire, comprising agricultural grasses that were originally managed through traditional sheep grazing. Bluefield Operations identified an opportunity to support biodiversity on site by planting a wildflower meadow and introducing a sustainable grazing regime.

To achieve the latter, the site has been divided into two areas using stock fencing, allowing sheep to be confined to the northern section of the site during spring and summer, so that the wildflower can flourish. Once the seeds have set, the sheep will be free to graze across the entire site, optimising its dual use. The careful timing and management of grazing encourages both nature and livestock to prosper together throughout the year.

## Case Study: Encouraging pollinators at Romsey Solar Farm

Pollination is a critical ecosystem service, from both the perspective of agricultural productivity and biodiversity. 75% of crop species, 35% of global crop production, and up to 88% of flowering plant species are dependent on insect pollinators to some extent<sup>3</sup>.

At Romsey Solar Farm, a 9.4-hectare site in Hampshire, an additional 3000m<sup>2</sup> area of wildflowers was sown by hand in spring 2024. With a mix of 14 native wildflowers, it is hoped the area will support a large range of pollinators, birds and mammals onsite. In addition, in the long-term, wildflower meadows have the potential to provide a range of ecosystem services such as habitat connectivity, carbon sequestration, improved soil structure, and can provide natural flood control<sup>4</sup>. The wildflower area will follow a traditional management technique for meadow, where the plants will be left over summer to set seed, followed by a hay cut and collect in late summer to help remove the high soil nutrient content from the previous land use. Ongoing monitoring will be conducted to ascertain whether the wildflowers have successfully established and inform additional planting across the site.

Acoustic monitoring is also being trialled by Bluefield Operations to determine the impact of the new wildflower area on the abundance of pollinators. Five devices are being used: four within the wildflower area, and one within the solar array. Should the trial indicate an increase in the abundance of pollinators within the wildflower areas, the addition of further wildflower areas across the site will be considered.

## Case Study: Informing land management through farmland bird surveys at Stow Longa

An ecological assessment in 2022 identified significant numbers of farmland birds at Stow Longa solar farm, a 5.3MW site spread across approximately 13 hectares in Cambridgeshire. Surrounded by expansive cropland, the site is delineated by a combination of new and existing hedgerows, which provide habitats for a variety of farmland birds. In 2023, BSIF commissioned additional assessments to establish how key bird species were using the solar site: either for breeding, foraging or passively. The species surveyed included Skylarks, Linnets, Yellowhammer and Corn Bunting, along with other farmland birds with Amber or Red Birds of Conservation Concern status. The assessments were undertaken by a university student researcher and Wychwood Biodiversity. A range of methodologies were used to gather data, such as nest searching with a thermal camera, breeding bird territory mapping and focal watches\*.

As a result of these assessments, changes in land management practices were recommended and subsequently implemented in 2024. For instance, a partial cut of vegetation was conducted on the site to manage growth and prevent shading, whilst leaving enough habitat intact to support ground-nesting birds and other wildlife. A hibernaculum has been installed to help provide more varied and additional habitat for invertebrates, which in turn is hoped to help support birds visiting the site by providing an increased food source.

Looking forward, ongoing monitoring is being undertaken to understand if the land management changes have had a positive impact on local bird populations. Four assessments took place in 2024, which found red listed species including linnets, yellowhammers and skylark were continuing to use the site. As the study is only in its second year, and it is the first year of the new management prescriptions, there is insufficient time (and data) to determine any changes to the numbers and diversity of birds visiting the site. However, the four new assessments add to an ongoing data set and will provide further insight into how the site can be managed to support local species.

*\*Focal watches are a monitoring technique involving observation of individual birds for specific periods of time to record behaviour that may indicate nest locations.*



## Assessing and enhancing nature

Building an ecological baseline is an essential part of making informed decisions around nature, to enable land management practices and enhancement initiatives to be designed which complement the local ecosystem. By leveraging a data-driven approach, adverse impacts can be recognised and managed, whilst the benefits of any positive changes can be quantified and evidenced. This approach aligns with regulations and frameworks such as the SFDR's PAI reporting and the Taskforce on Nature-related Financial Disclosures (TNFD), which advocate for increased transparency and reporting in relation to nature-related impacts, opportunities, dependencies and risks. It is important to note that creating positive ecological change is a gradual process requiring sustained monitoring and dedication; the long-term nature of BSIFs investments create a supportive environment to help achieve this.

On behalf of BSIF, Bluefield Operations have led assessments to gain a better understanding of the species present across the portfolio. This has included the calculation of biodiversity net gain and ecological assessments aligned to Solar Energy UK's guidance for monitoring biodiversity on solar farms<sup>5</sup>. These assessments provide an indication of the current biodiversity on the site, helping inform decisions relating to land management approach, whilst also identifying enhancement opportunities. It is important to note that nature enhancement efforts are highly dependent on the specific ecological characteristics of each location, and not every site is suitable for such initiatives.



## Case Study: West Raynham Solar Farm becomes the first site in the UK to receive Wild Power® Gold certification

In May 2024, West Raynham Solar Farm, a 50MW solar farm in Norfolk, was awarded inaugural gold certification from Wild Power®<sup>6</sup>. Wild Power® is an independent certifier providing tools and processes to help developers and operators measure, manage, monitor and report on their biodiversity efforts. A number of site-based improvements were identified and implemented between 2022-2024, resulting in West Raynham Solar Farm becoming the first site in the UK to receive Wild Power® gold certification.

Biodiversity and land management specialists from Bluefield Operations and Wychwood Biodiversity conducted an ecological survey which identified appropriate management improvements for the site. The existing measures and new additional features contributed to the site achieving its Wild Power® gold certification. The site already hosted approximately 40 acres of wildflower meadow with conservation grazing<sup>7</sup>, and five acres of young tree plantings. Enhancement work included increasing ecological data monitoring and availability, conducting an ecosystem services assessment, and installing additional microhabitats for protected species including birds, reptiles, and a maternity bat roost box.

Joe Arafa, Director Wild Power® said: “We are delighted to have issued the UK’s first Wild Power® certification to Bluefield’s West Raynham Solar Farm. We commend Bluefield for their work to enhance the biodiversity measures at the site and congratulate them for achieving Wild Power’s gold standard at West Raynham.”

## Case Study: Installing microhabitats for birds at Romsey Solar Farm

Ongoing ecological monitoring undertaken at Romsey Solar Farm, a 4.9 MW site in Hampshire, identified that one of the existing bird boxes hosted breeding barn owls with chicks. Camera traps installed across the site also identified a range of other species attempting to use the barn owl boxes, including tawny owls, kestrels, and stock doves. As a result, in spring 2024, Bluefield Operations installed an additional barn owl box, with a livestream camera to observe their behaviour. Species-specific boxes for kestrel and stock dove were also installed, with the aim of encouraging a greater variety of bird species to inhabit the site. Species-specific boxes for kestrel and stock dove were also installed, with the aim of encouraging a greater variety of bird species to inhabit the site.

## References

- <sup>1</sup> [United Kingdom Food Security Report 2021: Theme 2: UK Food Supply Sources](#)
- <sup>2</sup> [Graze with livestock to maintain and improve habitats](#)
- <sup>3</sup> [Widespread losses of pollinating insects in Britain](#)
- <sup>4</sup> [Realising co-benefits for natural capital and ecosystem services from solar parks: A co-developed, evidence-based approach](#)
- <sup>5</sup> [A Standardised Approach to Monitoring Biodiversity on Solar Farms](#)
- <sup>6</sup> [Wildpower.org](#)
- <sup>7</sup> [Solar Energy UK: Natural Capital Best Practice Guidance](#)







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