



WILTSHIRE CLIMATE ALLIANCE
ENERGY POLICY PAPER - JANUARY 2023
WCA warmly welcomes solar

Summary

Wiltshire is ideally suited for the generation of solar power. It is already a great success story for the county – contributing approximately £1 million a year to the local economy, cutting carbon emissions and making energy cheaper. However its future development in Wiltshire has recently been threatened by changes to government policy and continues to be limited by lack of grid capacity. Politicians and communities alike should support solar farms.

Background

Solar power is a cornerstone of both the government's Net Zero and Energy Security Strategies, expected to grow 5-fold as the UK moves to completely decarbonise its electricity grid by 2035. The newly-published Net Zero Review by Chris Skidmore MP highlights the huge economic benefits from the move to net zero; its recommendations include planning reforms to enable solar to be developed more easily, helping communities reap the benefits of cheaper low-carbon electricity.

Wiltshire's southerly location means that we have one of the highest levels of solar irradiation (sunlight) in the country, and with a large amount of space available to accommodate panels (almost 3,000 km² of farmland) we are ideally suited for generating solar power! To date Wiltshire has:

- 423MW ground-mount solar installed – equivalent to the consumption of approximately 100,000 households.
- 240 MW solar approved but not built yet.
- 164 MW currently in planning.

(Renewable Energy Planning Database, October 2022)

Globally, how we generate energy has the largest impact on carbon emissions. However, Wiltshire still only generates 6% of energy from renewables (*Wiltshire Council Climate Strategy, Feb 2022*) so there is a huge mountain to climb to reach the Council's target of net zero by 2030. With no wind generation in the county (and little in prospect, although a small relaxation in planning restrictions is currently under consultation), limited biogas and very few opportunities for hydro power, Wiltshire needs more solar to achieve that target.

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Comparative costs and energy security

The recent hike in power prices was mainly caused by the UK's reliance on the marginal cost of gas generation with global gas prices soaring following Russia's invasion of Ukraine. Solar, alongside wind, is one of the cheapest technologies for electricity generation. It is bringing down energy prices for everyone. The latest available prices for new generation (August 2022) are:

- Gas - £446/MWh
- Nuclear - £106/MWh
- Solar - £55/MWh
- Onshore wind - £50/MWh
- Offshore wind - £44/MWh

[\(Carbon Brief\)](#)

The UK government has set a target for the UK to fully decarbonise our electricity supply by 2035. Solar is a key technology in the [British Energy Security Strategy](#) which calls for a 5-fold increase in solar capacity, to 70 GW by 2035. With electricity demand forecast to triple (*Committee on Climate Change*) as we move away from fossil fuels for transport and heating, solar has the potential to contribute 17% to overall electricity generation by 2035.

Solar farms and agricultural land

Current solar planning policy already prioritises brownfield land and lower-quality agricultural land and encourages continued agricultural use and biodiversity enhancements. (*Planning Practice Guidance on renewable and low carbon energy, 2015*). Environment Secretary Therese Coffey and Department for Business, Energy and Industrial Strategy Secretary Grant Shapps recently confirmed the government is not proceeding with proposals mooted by Liz Truss' government that would ban solar projects from Grade 3b agricultural land; so, **planning policy remains unchanged**. There are no changes to solar planning policy proposed in the updates to the National Planning Policy Framework (NPPF) currently under consultation.



Research shows that to deliver the government's target of 70GW of solar by 2035 would require less than 0.5% of UK farmland, less than the amount taken up by golf courses.

[\(Solar Energy UK\)](#)

Solar farms are temporary, completely reversible developments, provide multiple other land uses and benefits and directly address climate change, which DEFRA has identified as the biggest threat to UK food

security. They are supported by the National Farmers Union and the Country Landowners Association. [Recent research from The Energy & Climate Intelligence Unit](#) showed that solar farms could save farmers up to £1 billion over two years in energy cost savings and revenues.

Advances in solar technology in the decade since it has been deployed in the UK mean that less land is now needed to generate the same amount of energy. These include: increased efficiency in materials; more efficient bifacial modules which absorb light from both sides; and tracker systems which follow the sun from east to west. Battery energy storage systems are also now increasingly co-located with solar further improving efficiency.

Ecological benefits of solar

Well-designed and managed solar farms contribute to a range of ecosystem services. They support sustainable agriculture, regulate air quality, mitigate flood risk, generate new habitats, and reduce carbon emissions. Solar farms that have been monitored regularly by ecologists show an increase over time in the local abundance and variety of plants, pollinators, birds, and other wildlife.

Since the Environment Act, 2021, all new developments in England must demonstrate a minimum Biodiversity Net Gain of 10% - solar farms usually achieve much more than this. Panels are set on posts with minimal disturbance to the ground, impacting just 1-2% of total land area. Typical ecological enhancements include:

- Establishing wildflower meadows and grasslands to create new habitats for ground nesting birds, butterflies and pollinators, which are also beneficial for neighbouring agriculture.
- Planting new trees and hedgerows for screening and biodiversity.
- Promoting wetland habitats and reducing local flood risk.
- Bird and bat boxes, hibernacula and beehives.
- Conservation sheep grazing for land maintenance.

Public attitudes to solar

A huge body of research shows that public support for solar is extremely strong. In regular BEIS polls solar consistently achieves support of 85-90% making it the most popular of any renewable energy technology. [Research carried out by Copper Consultancy on behalf of Solar Energy UK](#) shows that support for solar farms actually increases among people who live near them after they are built.

Rooftop solar

We strongly support solar on domestic, public and commercial rooftops – every little helps. However, retro-fitting to existing buildings is challenging, particularly as much of Wiltshire’s housing stock is old, roofs may face the wrong way, and the high costs make it inaccessible for many residents. With commercial buildings there can often be structural problems and issues with leases. Currently Wiltshire has less than 5MW of solar on rooftops. We would like to see national and local planning policies support the installation of solar on all new builds.

To get the same amount of energy from, say, a 50MW solar farm taking up 180 acres, you would need to install solar panels on 17,500 houses (average 3kWp array). Ground-mount solar achieves economies of scale, delivering power more cheaply than rooftop solar, and is essential to reach our climate change and energy security targets.

Grid capacity

Decades of under-investment by National Grid and the Distribution Network Operators who own and operate the power lines and infrastructure that carry electricity from where it is generated to where it is needed, mean new grid capacity is now severely constrained across the UK. In Wiltshire, there is no new grid capacity for renewable projects until well after 2030. Since we need to take immediate action to tackle the climate crisis, this is a huge problem, and without immediate action to tackle it, will perpetuate higher energy costs too.

Community benefits

Solar farm developers may offer a range of community benefits:

- 'In kind' benefits e.g. new footpaths and bridleways, community orchards, sites for apiaries, educational areas and information boards.
- Educational programmes such as funding for site visits and in-class resources.
- Community benefit funds for parish councils & community organisations, post-2015 typically up to £20,000 per annum, index-linked, for a 50MW project.
- Shared ownership and community investment which can increase local revenues by over £1 million for a 10% share in a 50MW project over its 40-year lifetime.
- Business rates to Wiltshire Council, c£100,000 a year for a 50MW project.
- Supporting farmers to become more economically robust and sustainable businesses.

For example, in 2021-22 Bradenstoke Solar Farm Community Benefit Fund awarded c.£20,000 to local projects such as improvements to Lyneham Village Hall and Cost of Living grants to various local community spaces. The previous year it paid out over £68,000 to community projects including substantial sums to keep community organisations afloat during the Covid crisis.

Government asks

To achieve the full potential of solar locally and in the UK, WCA is calling on local and national government to promote pro-solar policies and actions:

- Councillors should support solar farm planning applications where the officer is recommending approval.
- Division members should engage positively with solar developers proposing projects in their divisions to ensure they provide suitable community benefits and offer shared ownership, if that is of interest to the local community.
- MPs should support current planning policy for solar farms which already offers good protection against development in Areas of Outstanding Natural Beauty and on high-grade agricultural land.
- MPs should lobby for greater and faster investment from National Grid and Distribution Network Operators in upgrading grid capacity.
- MPs and councillors should lobby for solar to be mandatory on all new buildings both through national and local policy channels.

Developer asks

WCA is calling on solar developers to show responsible leadership following industry best practice:

- Engage meaningfully with local communities facilitating good communication, minimise negative impacts from solar projects and be flexible on design where possible.
- Commit to providing financial and benefits in kind for local communities.
- Maximise land uses with continued agriculture and natural capital enhancements.

Further reading

[Everything Under the Sun: Facts about Solar Energy](#)

[Solar Farms and Food Security](#)

[Natural Capital Best Practice Guidance for solar farms](#)

[Mission Zero](#)

[DEFRA's Food Security Report](#)