

Shout from the rooftops:

delivering a common sense solar revolution

Executive summary and recommendations

May 2023



The
countryside
charity

Executive summary

The accelerating climate emergency poses the single greatest threat to the countryside. Without urgent action, iconic features of our landscapes, including English oak trees and our rare chalk streams, could be lost from many places, throwing the survival of much of our best loved wildlife into doubt.

At the same time, the increased risk of severe flooding caused by climate change threatens both rural communities and our food security. Recent research by CPRE, the countryside charity, shows that more than 60% of England's finest agricultural land is within areas at the highest risk of flooding.¹ For these and many other reasons, it is essential for the countryside that over the coming decade we cut our carbon emissions. Critically, we need to complete the transition from reliance on fossil fuels to a new era of renewable energy.

Yet, despite the urgent need to exploit the best opportunities to generate the renewable energy our country needs, we have a vast and largely untapped resource: roofs. Along with surface car parks, roofs provide space to generate solar-powered electricity, very close to where it is needed. Making the best possible use of solar on roofs and car parks is a solution that will enjoy almost universal support.

By contrast, greenfield ground-mounted schemes done poorly can cause harm, provide little benefit to rural communities and become bogged down in contentious planning disputes. This briefing looks both at the potential of rooftop renewables and at the interventions needed to deliver them.

To better understand the full potential of rooftop solar energy in this country, CPRE commissioned experts at the University College London (UCL) Energy Institute to undertake an independent review of the land use implications of meeting targets, drawn from a series of well-established net zero greenhouse gas emission scenarios. Using this data, UCL has produced assessments of the total energy that could be generated from solar photovoltaic (PV) panels on rooftops across England as well as the land area that may be required for wind, ground-mounted solar and biomass in England in net zero scenarios.

Key findings

- Although ground-mounted solar projects will be needed in the short term to hit national decarbonisation, installing solar panels on new buildings, existing large warehouse rooftops and other land such as car parks, could provide at least 40-50 gigawatts (GW) of low carbon electricity, contributing more than half of the total national target of 70GW of solar energy by 2035.
- Longer term to 2050, and with further investment, there is potential for up to 117GW of low carbon electricity to be generated from roofs and other developed spaces, reducing the need for greenfield ground-mounted solar in the medium to long term.
- Meeting national solar energy targets through ground-mounted schemes alone could require between 0.9-1.4% of the land in England, covering as much as 1,800 square kilometres/ 180,000 hectares of our countryside – an area larger than the size of Greater London (157,000ha).

¹ CPRE, [Building on our food security](#) (2022)

Recommendations



A number of barriers stand in the way of delivering a rooftop solar revolution. Many of these can be addressed through policy and regulation, making the most efficient use of the opportunities available.

To achieve a rooftop revolution and reach the target of 70GW of solar by 2035, CPRE is urging the government to take action in the following policy areas:

1 Develop a national rooftop solar target

Commit to a new target of ensuring that at least 40GW of the national target for 70GW of solar by 2035 is delivered through the lowest cost opportunities for rooftop solar installations, on new builds, commercial buildings and car parks.

2 Protect landscapes

Properly manage the potential impacts of solar development in the countryside by:

- a. Introducing a land use framework to establish how the overall needs for built development, carbon sequestration, energy and infrastructure, food security and nature recovery should be integrated and planned for.
- b. Revising national and local planning policy to set clearer overall policy principles for determining ground-mounted solar PV

applications, following a sequential ‘roof first’ approach. This should prioritise opportunities to install solar panels on suitable brownfield land and avoid best and most versatile agricultural land and other land used by active, viable and sustainable farm businesses. It should also make greenfield solar permissions much more exceptional and time-limited and require provisions for multi-functional benefits and achieving best practice standards for landscape and natural capital.

3 Planning regulations

Amend planning regulations and the Future Homes Standard so they state that:

- a. Local authorities should, working with parish and town councils (following the example of Kendal Town Council) and other community groups, carry out audits of potential roof and other developed spaces that can be used for solar panel installations. This can be done through amending existing brownfield land register regulations, which currently look at developed land suitable for additional new housing.



b. Solar PV or thermal panels on suitably orientated roofs should be a standard expectation for all new buildings, including homes.

c. Conversions and major external changes to existing buildings should require full planning permission (in other words, removing permitted development rights) unless they bring the building up to the Future Homes Standard or equivalent.

d. Planning permission should not be granted for commercial or public car parking spaces unless they also provide solar energy generation.

4 Financial support

Develop a holistic set of market-based actions to kickstart the rooftop revolution for homeowners, landlords, small businesses and community energy projects including:

a. Government backed low-cost loans for domestic and commercial rooftop solar installations as well as small-scale community support to encourage a step change in installation rates.

b. Upgrades to the Smart Export Guarantee to ensure higher minimum tariffs are available

to homeowners and businesses selling electricity from rooftop solar installations to reduce payback periods and improve investment viability.

5 Community energy

Update national planning and energy policies to encourage best practice in community engagement and empower rural communities to set out where and how new renewable energy schemes can be incorporated in the countryside. This should build upon the Community Energy Visioning process, pioneered by CPRE and the Centre for Sustainable Energy in recent years.

6 Grid capacity

Work with Ofgem to require Distribution Network Operators across the country to invest in local grid capacity to better accommodate increased generation from solar and heat pumps. This should deliver new connections in a timelier manner and ensure that businesses and property owners interested in installing solar panels on their rooftops are quoted reasonable and proportionate connection costs and timescales.

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