

# **Factsheet**

## **Solar Farms and Agricultural Land**

June 2024



## About Us

As an established trade association working for and representing the entire solar and energy storage value chain, Solar Energy UK represents a thriving member-led community of over 400 businesses and associates, including installers, manufacturers, distributors, large-scale developers, investors, and law firms.

Our underlying ethos has remained the same since our foundation in 1978 – to be a powerful voice for our members by catalysing their collective strengths to build a clean energy system for everyone's benefit.

Our mission is to empower the UK solar transformation. Together with our members, we are paving the way for solar to deliver 70GW by 2035 by enabling a bigger and better solar industry.



SEUK would like to thank Dr Jonathan Scurlock, Chief Adviser, Renewable Energy and Climate Change, National Farmers' Union of England and Wales (NFU), for help in drafting this factsheet.

## Solar Farms and Agricultural Land

This note sets out the considerations that should be given to assessing the impacts of solar farms on agricultural land, both in policy and practical terms. This is intended to be a useful factual guide for Local Planning Authorities in their decision making.

### Introduction

Ground mounted solar farms are considered to represent a key part of the UK's Energy Security and Net Zero Strategy. This includes an ambition for a fivefold increase in solar by 2035, up to 70GW. Powering Up Britain (2023) recognises that "we need to maximise deployment of both ground and rooftop solar to achieve our overall target. Ground-mount solar is one of the cheapest forms of electricity generation and is readily deployable at scale". Importantly, such an increase in solar capacity would result in just 0.3% of land within the UK being occupied by solar farms.

While policy directs ground mounted solar farms to areas of previously developed or lower grade agricultural land, where such opportunities exist, it also recognises that land type should not be the overriding factor governing site suitability. This is particularly relevant as areas of poorer quality land are often constrained for other reasons such as absence of suitable grid access, flood risk, terrain difficulties or the land simply being unavailable for development. This means that solar farms are predominantly located on agricultural land.

Given the temporary and fully reversible nature of solar farm developments, which do not lead to the loss or deterioration of underlying soil quality, and can be maintained in agricultural use, the use of agricultural land will not compromise our national agricultural resource and ultimately will provide diversification for farming businesses seeking to respond to the volatile impacts of Brexit and the Ukraine conflict.

This note covers the following areas:

- Policy context
- Locational requirements
- Impacts during construction
- Impacts during operation
- Solar farms and food security
- Relevant planning decisions

### Policy Context

The National Planning Policy Framework (NPPF) sets out at paragraph 180(b) that the economic benefits of Best and Most Versatile Agricultural Land (BMVAL) should be recognised. Footnote 62 of the NPPF, referred to in paragraph 181, advises that where significant development of agricultural land is involved, poorer quality land should be used in preference. The footnote then continues to outline how the availability of land used for food production should be considered alongside other considerations when deciding what sites are most appropriate for development.

The concept of "Best and Most Versatile" land is based on the agricultural land classification (ALC) scheme. The scheme is used to grade agricultural land: BMVAL is excellent to good quality land in grades 1, 2, and 3a.

The revised NPS for Renewable Energy Infrastructure, EN-3, (Jan 2024<sup>1</sup>) outlines how solar and agriculture can be complementary.

1. The National Policy Statements for energy infrastructure, are a material consideration in the determination of planning applications for such infrastructure under the TCPA 1990

The NPS EN-3 states that land type should not be a predominating factor in determining the suitability of a site for solar development. By consequence, a developer must instead identify why the use of BMVAL is necessary and then whether it is possible or feasible, when taking into account other material planning considerations, to locate the scheme on poorer over higher grade agricultural land. Paragraph 2.10.30 of the revised EN-3' (published November 2023 and came into force 17 January 2024) is clear that the use of Grade 1, 2 and 3a land for solar development is not prohibited.

For schemes that could potentially affect BMVAL land in excess of 20 hectares (ha) Natural England are a statutory consultee and should be relied upon to make an informed judgement as to whether a proposed development would result in unnecessary loss of BMVAL.

***“Renewable energy production is a core part of the NFU’s net zero plan and solar projects often offer a good diversification option for farmers. However, there is a need to strike a balance between food security and climate ambitions. Planning guidance states that, wherever possible, large scale solar farm development should be located on lower quality agricultural land, avoiding the most productive and versatile soils.” NFU.***

### Locational Requirements

The location of energy projects is dictated by the availability of a viable grid connection. They cannot simply be located anywhere and areas of search for available land will naturally be restricted to a specified distance (which varies depending on the cost of the grid connection and scale of the project, amongst other things) from substations and powerlines with sufficient capacity to accept the incoming power. The nature of solar farms means that they are distributed generation and as such they can connect into local distribution networks at lower voltages to help meet local needs and net zero objectives.

In terms of land-use, each local area will be subject to different constraints. Some Local Authorities are predominantly urban with limited land available for renewable energy projects, whilst others will be predominantly rural with high portions of higher quality agricultural land. This means that in some areas, there is no opportunity to avoid developing on BMVAL land.

While developers should still seek to use lower grade land, other constraints also need to be considered such as flood risk or complex terrain, or whether there simply isn't a large enough area of land available to allow a viable development to come forward.

In the case of previously developed or brownfield land, such land is usually small scale and already allocated within local development plans for other development types that would result in permanent loss of soils such as residential or commercial development. Rooftops are generally small scale compared to solar farms, still have grid connection considerations and are not consistent with the large-scale deployment needed to meet net zero targets.

### Potential Impacts During Construction and Decommissioning

Unlike most forms of development which are permanent and/or have much more widespread disturbance during construction, installation of a solar farm causes minimal long-term damage to soils if appropriately managed during construction.

While solar farms do cover large areas, the actual area of soil that is disturbed is very small, typically less than 2% of the total site area. Of the area that is disturbed, most of this is the access track which is limited only to access the inverters and substations.

These buildings require foundations but these are typically small scale. In all cases, the land will not be 'lost' but will be restored at the decommissioning phase.

Construction itself can cause localised disturbance to soil from vehicle movements throughout the site, particularly in wet conditions. However, soils quickly recover and can be remediated following construction.

Importantly, construction is short term and temporary in duration and through adoption of a Construction Environmental Management Plan, construction activities can be controlled to ensure that the site is built to take into consideration any potential impacts on soils; for example, careful storage and replacement of topsoil and subsoil when laying cable trenches.

At the end of the solar farm's operational period, given the simple construction/decommissioning techniques associated with solar farms, all infrastructure can be easily removed and agricultural activities recommenced. This decommissioning is typically secured through a condition. In terms of a development type, solar farms are very much reversible and temporary.

### Potential Impacts During Operation

As stated in the previous section, ALC grade will not be impacted following construction of a solar farm as soil removal does not comprise part of the construction programme, and any localised disturbances are remedied within 1-2 years of the site coming into operation. Typically solar farms are subject to a Landscape and Environmental Management Plan (LEMP) which requires the ground beneath and around the panels to be seeded and managed to promote biodiversity through mowing or grazing, as well as typically avoiding the use of pesticides, herbicides, and fertilizers whilst the solar farm is operational. Grazing by small livestock is often used to keep the grass low and continue an agricultural use during the project lifetime.

On sites which were subject to intensive arable cultivation, soils may recover with improved health and importantly more carbon storage.

The UK Food Security Report 2021 [Defra, 2021] notes that whilst producing wheat is an efficient way to produce calories, it has a significant environmental impact "due to the lack of biodiversity in conventional grain fields, damage to soil through ploughing, environmental harms caused by fertilisers and pesticides, and the oil use embedded in fertilisers and field operations".

Furthermore, solar farms provide diversification for landowners, by adding an index-linked, consistent income stream to their business that is not dependent on agriculture. It provides longer-term security against volatility in wholesale food commodity markets and yields, offering support to their wider farming business/ operations.

### Solar Farms and Food Security

Government policy does not specifically encourage food production, although the 2022 government response to the independent Food Strategy Review included a commitment to broadly maintain the current level of food output.

Currently solar farms occupy less than 0.1% of the UK's land. To meet the government's net zero target, the Climate Change Committee estimates that we will need 90GW of solar by 2050 (70GW by 2035), which would mean solar farms would at most account for approximately 0.6% of UK land – less than the amount currently occupied by golf courses.

The UK Government Food Security Report, published in December 2021, also implies that solar farms do not in any way present a risk to the UK's food security. The report is explicit and states: "The biggest medium to long term risk to the UK's domestic production comes from climate change and other environmental pressures like soil degradation, water quality and biodiversity." The report quantifies this risk, noting that under a medium emissions scenario, climate change could reduce the proportion of BMVAL from a baseline of 38.1% to 11.4% by 2050, a 70% reduction.

Importantly, there is no current planning policy requiring landowners of BMVAL to use it solely for food production – rather, it is described as the most flexible, productive and efficient land for food and non-food crops. Other land uses include feed crops for animals, biofuel production, and there are other policy measures which could take the land out of food production in favour of an alternative use. On this basis, food security does not have material weight in the determination of a planning application.

## Relevant Planning Decisions

### **Bramley (APP/H1705/W/22/3304561)**

In the appeal decision for the solar farm at Bramley, Hampshire, the Inspector, noting that 53% of the site was of BMVAL, noted (para 58) "The agricultural land would not be permanently or irreversibly lost, particularly as pasture grazing would occur between the solar panels. This would allow the land to recover from intensive use, and the soil condition and structure to improve. The use of the soils for grassland under solar panels should serve to improve soil health and biodiversity and the proposed LEMP, which could be secured by a condition attached to any grant of planning permission, includes measures to improve the biodiversity of the land under and around the panels".

### **Scruton (APP/G2713/W/23/3315877)**

The appeal decision at Scruton considered the matter of food security in great detail. The Council refused the scheme on the basis of the impact on agricultural land. The Inspector found that the majority of the land was not BMVAL, but that even if it was, it wouldn't be "lost", and neither the development plan nor national policy prevented the use of such land. The Council's case at the hearing was that the loss of productivity of the land for the 40 year duration of the scheme was objectionable, but the Inspector noted that "the specific way agricultural land is used is not a matter that is subject to planning controls...Given this, the fact that the proposal would limit the ability to carry out any arable farming does not, in my opinion, mean that it results in the loss of agricultural land when it can still be used for other agricultural uses. Furthermore, current government schemes actually encourage farmers to take land out of production and put it to grass, meadows, or trees for carbon capture."

The Inspector recognised the scarcity of grid connections nationally. The proposed development would make a valuable contribution to achieving local and national renewable energy goals as well as achieving a substantial biodiversity net gain. In their decision, the inspector also noted:

- Agricultural use could continue during the operational phase (para 20)
- There would likely be improvements to soil health from being rested from intensive arable use (para 21)
- A change from arable to grassland use is not a matter subject to planning controls (para 22)
- There would not be temporary or permanent loss of BMVAL (para 25)
- The proposals (in this case of 65 ha) would not be detrimental to the nation's food security (para 26)



### Longfield (EN 010118)

In the Nationally Significant Infrastructure Project decision at Longfield Solar Farm of 26th June 2023, the Secretary of State agreed with his Examining Authority that the use of 150 ha of BMV, as part of a larger site, should be ascribed "a small amount of negative weight in the planning balance" (para 4.59). It was concluded that about 6 ha would be lost, and the rest would be lost temporarily. There would be no jeopardising of "the UK's food security either now or in the future" (para 4.57).

### Conclusions

Planning policy seeks to direct solar farm development away from higher grade agricultural land where there is land that has been previously developed or is of lower quality. However, given the locational constraints required for development of solar farms, such an objective is not always possible, especially when considering other environmental considerations and availability of land.

Importantly, the construction and operation of a solar farm will not lead to the long-term degradation or loss of soils. Instead, the solar farm may give intensively farmed land the opportunity to recover and carbon to be stored over the operational life of the project. Opportunities for biodiversity enhancements and continued livestock grazing further add to the benefits during this period.

While there will be the loss of arable production on some higher quality land, this will not impact on the UK's food security and in any event is not considered to be a material matter for the planning system.





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