

# THE CASE FOR REFORM OF SOLAR ENERGY PLANNING GUIDANCE

John Constable

The Global Warming Policy Forum





## **Contents**

|  |     |
|--|-----|
| About the author                       | iii |
| Summary                                | iv  |
| Introduction                           | 1   |
| Details                                | 1   |
| Is agricultural land loss significant? | 4   |
| Government review of planning guidance | 5   |
| Recommendation                         | 5   |
| Notes                                  | 6   |
| About the Global Warming Policy Forum  | 8   |

## **About the author**

Dr John Constable is the energy editor of the Global Warming Policy Forum.

## Summary

This paper recommends a change to planning guidance to increase protection for certain categories of agricultural land. The paper argues that food production, particularly for domestic consumption, should be a government priority, and that large solar farms should be discouraged on all farmland except in very special circumstances.

## Key points

- Current guidance in the planning system relating to ground-mounted solar projects is around ten years old and obsolete.
- Guidance relating to solar power does not give ordinary agricultural land – categories Agricultural Land Classification Grade 3b and below – its due weight in the planning balance, even though such land is preferred for some purposes and valuable, both for reasons of food production, reduction of food miles, and the associated carbon footprint.
- The lack of protection for such land constitutes a loophole in the system, since developers find it relatively easy to secure permission to change the use of large areas of land from agricultural to industrial; consequently there is a strong trend towards mega-scale solar projects, some covering thousands of acres.
- Solar industry data suggests that almost 8000 MW of large-scale, ground-mounted solar capacity has entered development in the UK since January 2019, with 1000 MW arising in just one month, September 2020. These projects will occupy approximately 30,000 acres or more of agri-



cultural land. At a recent Royal Society conference, a speaker from DEFRA observed that renewables targets would require the conversion of 21% of British farmland to bioenergy and solar generation. That is obviously unwise.

- This pressure adds significantly to the existing pressures reducing quantities of agricultural land: about 100,000 acres per year is being lost to farming, raising concerns about the medium-term levels of food imports required to support a rising population.
- Brexit and the pandemic have illustrated the fragility of food supply chains, a concern that is exacerbated by climate change itself, which could impede food imports.
- Recent parliamentary questions reveal that the strong trend towards very large solar projects is not yet appreciated by government.
- The recent Energy White Paper (December 2020) announced a welcome review of all the National Policy Statements, which could address the problem, but the schedule for the reform is not sufficiently rapid to provide a timely remedy.

### **Recommendation**

An interim ministerial statement that gave proper weight to the value of agricultural land would assist decision-makers, both at the local-authority and the national infrastructure planning levels, to reach balanced decisions in the public interest.





## Introduction

A key planning guidance document relating to farmland and energy projects, National Policy Statement EN-1 (2011), is outdated and needs revision to protect the public interest. This revision should discourage speculative conversion of productive agricultural land to solar generation as a preliminary to other industrial and commercial development. Such conversion has already been observed on a very large scale (thousands of acres per site).

The guidance in EN-1 is not just weak, but actively prevents decision-makers from giving the value of standard and poorer land (Grades 3b and below in the official Agricultural Land Classification system) any significant weight in the planning balance, when in fact it is valuable for reasons of food security. This document further notes active planning proposals exploiting the loophole, comments on the public interest in the land lost to agriculture, and suggests a revision to deal with the matter.

## Details

Decision-makers in the planning system, including the Infrastructure Planning Commission, rely on advice contained in National Policy Statements (NPS). In relation to energy, there are six of these documents, introduced on 19 July 2011:<sup>1</sup>

- EN-1 (Overarching Energy Strategy)
- EN-2 (Fossil Fuels)
- EN-3 (Renewable Energy)
- EN-4 (Oil and Gas Supply and Storage)
- EN-5 (Electricity Networks)
- EN-6 (Nuclear Power).

While the age of this guidance suggests that a general review would be timely, we shall here concentrate on one matter only: a problematic paragraph in EN-1, which offers a loophole for speculative developers to use solar applications to secure change of land use from agricultural to industrial, and to do so on a very large scale. This loophole is being exploited in the wild and should be closed as soon as possible.

The relevant text is:

5.10.15: The [decision-maker] should ensure that applicants do not site their scheme on the best and most versatile agricultural land without justification. It should give little weight to the loss of poorer quality agricultural land (in grades 3b, 4 and 5), except in areas (such as uplands) where particular agricultural practices may themselves contribute to the quality and character of the environment or the local economy.

This wording affords little protection even to better grades of land, and all but completely removes protection from the everyday Grades of 3b and below.

Given the age of the document, this is to a degree understandable. At the time of publication in 2010/11, a large solar site, for example, would have comprised under 30 acres, and before then the maximum

installed capacity was approximately 5 MW, the ceiling for the Feed-in Tariffs, through which almost all solar developers sought support. The authors of the document would probably have felt that small parcels of land, even of better quality, could reasonably be used for energy generation.

But since publication of EN-1, landowners and their agents have been actively exploiting the opportunity it presents, and the largest operational site is now of 72 MW, implying a land take of approximately 300 acres. There is a strong suspicion that the principal commercial motivation for such schemes is that of the landowner, who achieves the conversion of a large parcel of agricultural land to industrial status, opening it up for flexible commercial development in the future, after the solar scheme is decommissioned in whole or in part.

The problem is not yet appreciated by government. Recent parliamentary questions put to ministers have revealed that BEIS does not keep track of the issue:<sup>2</sup> when asked in December 2020 what estimates the department had made of solar development on land of various agricultural grades, both consented and in process, Mr Kwarteng, then Minister of State for Energy, replied that 'We have not made any estimate'.

It is not difficult, however, to find sufficient information in the public domain to form a view of the order of magnitude of the development pipeline. Prominent examples of large-scale solar include:

- the consented 890-acre Cleve Hill project on grazing marsh in Kent;<sup>3</sup>
- the 1500–3000-acre Sunnica proposal in Suffolk, which is currently nearing submission;<sup>4</sup>
- the Little Crow project on 560 acres near Scunthorpe;<sup>5</sup>
- the Longfield scheme, which is located on approximately 1400 acres near Chelmsford.<sup>6</sup>

Apart from these readily visible schemes, there is a larger pipeline of projects in development, which are not yet easily detected. Solar industry analysts have been reporting a significant rise in activity over the last few years. For example, the commercial data providers Solar Power Portal reported in March 2019 that:

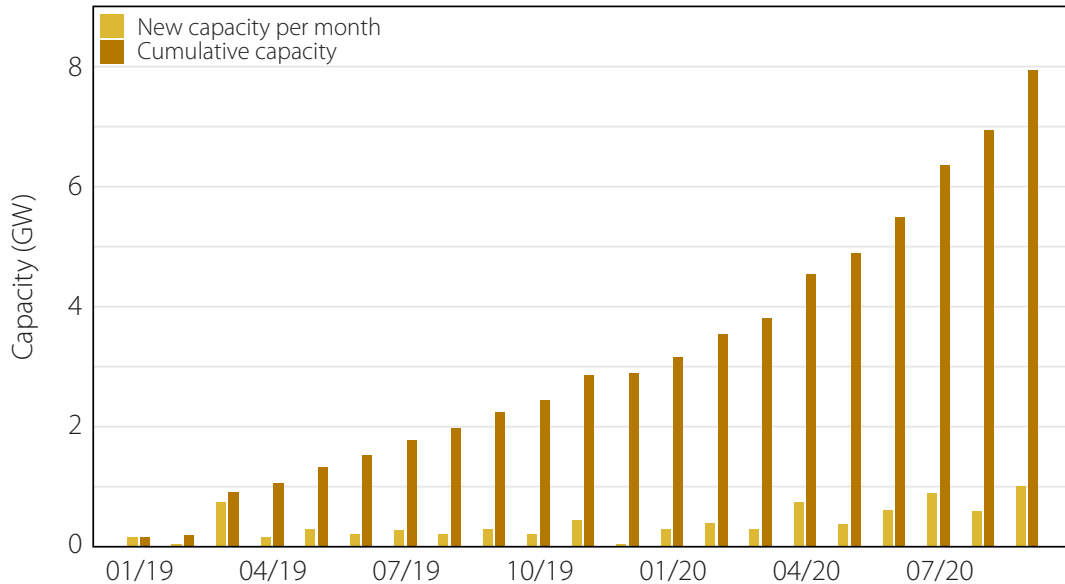
During the past 18 months, the UK has seen over 2.5 GW of new solar farm sites being screened in the UK, with former market-leaders Lightsource BP joining the list of speculative developers in the past six months with more than 250 MW of capacity at early stages of development including a ~100 MW combo site location in the East Midlands.<sup>7</sup>

The Lightsource BP sites are under 50 MW in capacity and are public knowledge.<sup>8</sup> It is unlikely that these are the core of the market, which is probably represented by Cleve Hill and the other proposals listed above.

More recent industry press reports confirm this concern. The Solar Power Portal reported in November 2020 that:

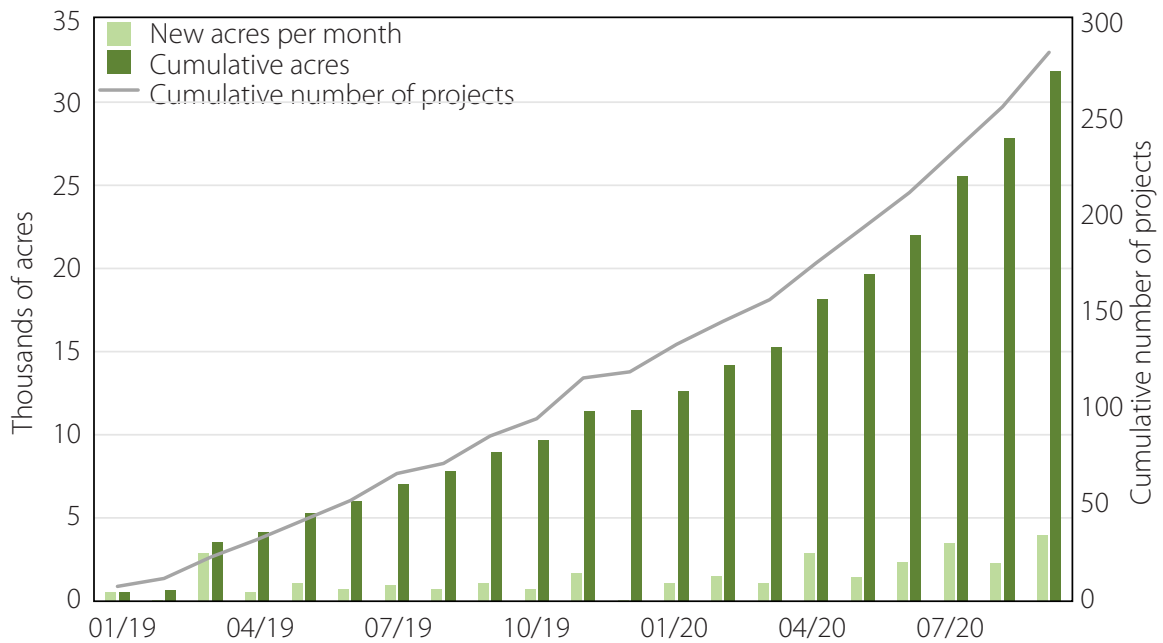
During September 2020, over 1 GW of new large-scale solar sites were added to the large-scale ground-mounted pipeline, across 28 new locations. This is a new monthly record for capacity being added to the pipeline...Over the past six months, a massive 4 GW of new sites has been scoped or put into full application across the UK. This is massive on all counts...<sup>9</sup>





**Figure 1: Growth in the development pipeline**

New large-scale ground-mounted solar photovoltaic capacity growth, January 2019 to September 2020. Source: Calculated and redrawn from data published by the Solar Power Portal.<sup>11</sup>



**Figure 2: Land requirement**

Approximate land area required for the development pipeline for new large-scale ground-mounted solar photovoltaic generation (left-hand axis) and cumulative number of sites (right-hand axis). Source: Calculated and redrawn from data published by the Solar Power Portal.<sup>12</sup>

These points are illustrated in Figure 1, which is redrawn from data published by the Solar Power Portal relating to the development pipeline for new large-scale ground-mounted solar photovoltaic. This data can be re-drawn to represent the land areas involved, using an assumption of approximately four acres per megawatt of capacity. This is shown in Figure 2, alongside the cumulative number of sites involved.

Analysis of this data suggests a clear underlying trend towards larger sites, with the mean size of projects in 2019 being somewhat under 100 acres, and since that time well over 100 acres. As noted, the largest schemes now exceed 1000 acres.

## **Is agricultural land loss significant?**

It should be noted at the outset that land in Grade 3b (and below) is not worthless. It is defined as being capable of producing moderate yields, especially of cereals. It can produce high yields of grass, and in some areas may be ideal for specialist root crops. Good agricultural practice can make Grade 3b land more productive. Even Grade 4 land can be valuable for grass and occasional arable crops, for example cereals and forage crops; where land has been graded as 4 because it is dry, irrigation provides a ready remedy.

The loss of such agricultural land on the scales described above, with some 30,000 acres or more currently facing proposals for solar photovoltaic, adds to the existing trend to withdraw land from agricultural production. The UK currently has approximately 14.8 million acres of arable land, the lowest level since 1945. In the decade 2009–2019, the arable area fell by about 740,000 acres, and the area of land lost to agriculture currently stands at about 99,000 acres per year. The area facing solar development is a highly significant increment to an already undesirable trend.

The UK is approximately 61% self-sufficient in food production, and 75% self-sufficient in indigenous food types. However, this relatively reassuring picture is put into doubt by the decline in agricultural area under cultivation and by population growth, which adds approximately 400,000 people to feed each year. On these assumptions, within twenty years the UK will be feeding a population that is considerably larger, but from an arable land base that has shrunk by 13%. This would imply an import dependency of about 50% or more.

It is also true that while some of the impacts of climate change on agricultural productivity will be positive, some will not. It is estimated in the Energy White Paper, for example, that even if there are no further temperature increases, some 15% of the UK's land resource will be classified as poor, and even if the Paris Agreement objective of restricting temperature rises to 1.5°C is achieved, food production will still be reduced. Given global population growth and climate change impacts, imports to supply falling production in the UK cannot be guaranteed.

The obvious conclusion is that it would be prudent for the UK to at least maintain current levels of land under cultivation, and probably to increase it. Conversion of agricultural land to solar photovoltaic generation on the scales described above is not in the public interest; it is therefore a matter of pressing concern that the planning guidance available to decision-makers does not correctly reflect the value of agricultural land.

## **Government review of planning guidance**

The Energy White Paper published on 14 December 2020 contains important information relevant to planning guidance and promises a review of the National Policy Statements.<sup>10</sup> This review could address the solar loophole identified above and allow decision-makers to give appropriate weight to agricultural land of ordinary but still important quality. However, the timetable outlined in the white paper is not sufficiently rapid to provide prompt assistance. Many of the projects described above would require decisions before the revised guidance became relevant, and much land could be lost to agricultural use, with corresponding harm to the public interest.

## **Recommendation**

In the interim, one possible way of obtaining a timely correction to the obsolete guidance would be for the BEIS to issue a written ministerial statement, or similar intervention, ahead of the formal review of planning guidance, to compel decision-makers to give proper weight to all land grades in the planning system.

Legal advice should be taken as to how to revise the advice in EN-1 so that decision-makers can give appropriate weight to the value of even lower grades of land, bearing in mind that such land can be more valuable for certain purposes than high-grade land. As a draft recommendation, the following text may be suggested as a revision to paragraph 5.10.15:

5.10.15: The [decision-maker] should ensure that applicants do not site their scheme on agricultural land, of any Agricultural Land Classification grade, without adequate justification, bearing in mind the importance of domestic food production both in the context of climate change and leaving the European Union. It should give appropriate weight even to the loss of agricultural land in Grades 3b, 4 and 5, bearing in mind that such land is particularly suitable for certain agricultural practices that may themselves contribute to the quality and character of the environment and the local and national economies.

## Notes

1. <https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure>.
2. <https://members.parliament.uk/member/449/writtenquestions#expand-1270937>.
3. <https://infrastructure.planninginspectorate.gov.uk/projects/south-east/cleve-hill-solar-park/>.
4. <https://infrastructure.planninginspectorate.gov.uk/projects/eastern/sunnica-energy-farm/>.
5. <https://infrastructure.planninginspectorate.gov.uk/projects/yorkshire-and-the-humber/little-crow-solar-park/>.
6. <https://infrastructure.planninginspectorate.gov.uk/projects/eastern/longfield-solar-farm/>.
7. [https://www.solarpowerportal.co.uk/news/plans\\_emerge\\_for\\_500mw\\_solar\\_storage\\_site\\_in\\_the\\_uk](https://www.solarpowerportal.co.uk/news/plans_emerge_for_500mw_solar_storage_site_in_the_uk).
8. <https://www.lightsourcebp.com/uk/proposed-projects/>.
9. [https://www.solarpowerportal.co.uk/blogs/over\\_1gw\\_of\\_new\\_solar\\_farms\\_added\\_to\\_uk\\_pipeline\\_during\\_september](https://www.solarpowerportal.co.uk/blogs/over_1gw_of_new_solar_farms_added_to_uk_pipeline_during_september).
10. <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future>.
11. [https://www.solarpowerportal.co.uk/blogs/over\\_1gw\\_of\\_new\\_solar\\_farms\\_added\\_to\\_uk\\_pipeline\\_during\\_september](https://www.solarpowerportal.co.uk/blogs/over_1gw_of_new_solar_farms_added_to_uk_pipeline_during_september).
12. [https://www.solarpowerportal.co.uk/blogs/over\\_1gw\\_of\\_new\\_solar\\_farms\\_added\\_to\\_uk\\_pipeline\\_during\\_september](https://www.solarpowerportal.co.uk/blogs/over_1gw_of_new_solar_farms_added_to_uk_pipeline_during_september).



## **About the Global Warming Policy Forum**

The Global Warming Policy Forum is the campaigning arm of the Global Warming Policy Foundation, an all-party and non-party think tank and a registered educational charity which, while open-minded on the contested science of global warming, is deeply concerned about the costs and other implications of many of the policies currently being advocated.

Views expressed in the publications of the Global Warming Policy Forum are those of the authors, not those of the Forum, its board, or its director.

For further information about the Global Warming Policy Forum, please visit our website at [www.thegwpcf.com](http://www.thegwpcf.com).

