7000Acres

7000Acres Response to the Tillbridge Solar Ltd Application – National Policy Statements and Application of Planning requirements

Deadline 2 Submission – November 2024

Executive Summary

7000Acres is concerned that the Applicant has not provided sufficient explanation for their application and that some of their supporting evidence is missing or flawed.

We recommend that the ExA give considerable weight to the National Planning Policy Framework and the Skidmore Review, especially the elements concerning local health and wellbeing. These explicitly address the need for local consultation and welfare to be central to the planning process.

Cumulative Impact. The Applicant has failed to take due account of the cumulative impact of the four NSIPs in the region.

Climate Change Assessment. The Applicant has not provided a detailed breakdown of their calculations. Furthermore, some of the descriptions do not explain how they arrived at their conclusions and why some assumptions were applied. The baseline assumptions and estimates about decommissioning are over optimistic and do not apply a reasonable worst-case assumption.

Battery Energy Storage System (BESS). The Applicant has provided no evidence why a BESS of this size is required, why its capacity should be uncapped and why it needs to trade energy with the National Grid. 7000Acres believes that the BESS is an "*additional revenue for the applicant, in order to cross-subsidise the cost of the principal development",* and so is not Associated Development.

Biodiversity. There is no clear evidence that utility scale solar farms increase biodiversity. The Applicant has not clearly demonstrated they meet the requirements of the Environment Act 2021. The Applicant has not considered recent research showing that bats avoid solar farms.

Use of a Rochdale Envelope. The Applicant's use of a Rochdale Envelope has not complied with the requirements of Advice Notice Nine. Insufficient information has been made available to interested parties.

Timescale. The 60-year period of the scheme is not “temporary use” of the valuable farmland.

Soil Damage. The Applicant has not taken note of recent research by the Welsh Government that demonstrates solar schemes have a detrimental affect on soil health. Following decommissioning it is likely that BMV land will be downgraded due to the damage caused, therefore it will be permanently lost.

Contents

1. Introduction

7000Acres represents over a thousand local residents concerned about the impact of the Tillbridge industrial solar NSIP and three other solar NSIPs in the locality. This document identifies relevant issues with the Planning Act 2008 (PA2008), and associated regulations, and how the Applicant has failed to provide the necessary evidence to support their Application.

2. Policy

2.1 National Policy Statements EN-3

The Applicant has stated that it intends to "overplant" the scheme to increase its generating capacity and mitigate the low solar gain in northern England. However, EN-3 footnote 84 states that:

"Overplanting" refers to the situation in which the installed generating capacity or nameplate capacity of the facility is larger than the generator's grid connection. In the case described in paragraph 2.10.46 solar generators may install but not initially use additional panels to act as a backup for when panels degrade, thereby enabling the grid connection to be maximised across the lifetime of the site. For planning purposes, the proposed development will be assessed on the impacts of the overplanted site."

The Applicant cannot claim any benefits for overplanting as the additional solar panels cannot be used until the initial panels start to degrade. Therefore, their current estimate of the electricity generated during the life of the scheme is a gross overestimation. The Applicant intends to overplant the scheme by 50%, resulting in circa an additional 1,000 acres of coverage, removing fertile farmland from production. The overplanting is excessive and increases the major significant harm caused by the development, especially when considered alongside the cumulative harm caused by the other three solar NSIPs located nearby.

The Applicant should revise their EIA to take account of EN-3 footnote 84. The amount of overplanting is excessive and should not be permitted.

2.2 National Planning Policy Framework

The National Planning Policy Framework (NPPF) was updated in December 2023. It is relevant to this Application as it addresses sustainable development in a holistic manner. It states three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways.

1. *"An economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure."*

The key element is the "land of the right types", so that solar is installed on rooftops and brownfield sites, whilst productive farmland can be used for food production, carbon sequestration and the production of biofuels.

2. *"A social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering well-designed, beautiful and safe places, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being;"*

As demonstrated in the submissions by the County and District Councils, as well as numerous Interested Parties, the Tillbridge Solar industrial complex will have a devastating impact on the local population's wellbeing. The outcome of this scheme will have an exponential impact on health and well-being when the cumulative influence of the other three solar industrial schemes are fully considered.

3. *"An environmental objective – to protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy."*

This requires "*effective use of land.. and using natural resources prudently*". Covering thousands of acres of productive farmland in solar panels and batteries is not productive use of land. The Tillbridge Solar application does not meet any of these three objectives.

The NPPF footnote 62 states:

"62 Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality. The availability of agricultural land used for food production should be considered, alongside the other policies in this Framework, when deciding what sites are most appropriate for development."

The Applicant has failed to take account of the loss of food production in their assessment, and the consequent increase in greenhouse gas emissions caused by importing food to replace the lost production.

2.3 Skidmore Review

This approach, where communities' wellbeing is central to the planning guidance is consistent with the Skidmore Review. As the Skidmore Review was commissioned and published by the Government, it should be taken as *de facto* Government policy. Skidmore calls for a "*rooftop revolution*" for solar power but does not make a similar call for ground mounted solar panels. Skidmore repeatedly makes the case that the local communities must be at the centre of the move to Net Zero, for example:

"*726. Now that our national pathway to net zero has been established, we need a new relationship between central and local government to enable effective local delivery. Local authorities will be a key delivery partner, whatever the specifics of the strategy we take on decarbonisation and growth. The sooner we address this, the sooner we will see the economic and social benefits of a more place-based approach.*
727. The importance of this relationship to our net zero pathway cannot be overstated. 30% of the greenhouse gas emissions reductions needed to deliver the

Net Zero Strategy rely on local authority involvement, while 82% of emissions are within local authorities' scope of influence.
728. We need to allow places to tailor their net zero approach to their own strengths and needs, informed by the kind of extensive local engagement that central government cannot undertake. We also need to increase local accountability and responsibility for certain aspects of net zero delivery.
729. To do so, we need a reformed relationship between central and local government and a planning system that is fully aligned with net zero."

The NSIP process is designed specifically to look beyond the concerns of the immediate area, and therefore acts in opposition to the specific recommendations of the National Planning Policy Framework and Skidmore Review, both of which give weight to local needs and requirements.

The National Planning Policy Framework states that it "*does not contain specific policies for nationally significant infrastructure projects".* Even though it does not contain specific policies, it is reasonable to infer that the general principles should be followed.

Battery Energy Storage Scheme (BESS)

BESS of all sizes are excluded from the NSIP Regulations. Instead BESS applications are covered by The Infrastructure Planning (Electricity Storage Facilities) Order 2020 and determined through the Town and Country Planning Act by LPAs. The Tillbridge BESS is likely to be one of the largest storage facilities of its type in Europe. There is nothing in NPS that support the installation of a BESS of this size in a rural location.

2.4 Multiple Solar NSIPs in Lincolnshire

The lack of central guidance or policy on industrial scale solar projects has led to a large number of NSIP applications in Lincolnshire as a whole, and West Lindsay in particular. The Transmission Entry Capacity (TEC) Register[1] shows that nationwide

[1] [redacted]

there are a total of 131 GW of solar schemes registered with the National Grid. This is nearly twice the 70GW generation capacity sought by the Government and takes no account of rooftop solar. So, if the Tillbridge Application was to be refused it would have no impact on the Government's solar target as it is already over-subscribed by nearly 100% compared to the Government's target.

The NSIP schemes registered for grid connections on the TEC Register, show 11 registered for connections to the Cottam, West Burton and High Marnham power stations. There are 35 registered in Lincolnshire as a whole. The 11 schemes in the area would cover circa 23,000 acres, with the 35 Lincolnshire schemes covering circa 71,866 acres of productive farmland.

So, clearly there is no central control or clear policy, with Lincolnshire becoming a solar Klondike for any developer, irrespective of local requirements and national need.

2.5 Summary

The Applicant has made a false claim over the generating capacity of the scheme, as overplanted solar panels cannot be used until the initial solar panels degrade. By overplanting by 50%, the Applicant is taking circa 1,000 acres of additional farmland out of production.

7000 Acres believes that the ExA should give considerable weight to the National Planning Policy Framework and the Skidmore Review, especially the elements concerning local health and wellbeing. These explicitly address the need for local consultation and welfare to be central to the planning process.

3. Cumulative Assessment

3.1 Regulations

The Applicant is required to take into account the cumulative impact of their application and any other relevant schemes. EN-1 Paragraph 4.1.6 states:

"*In this context, the Secretary of State should take into account environmental, social and economic benefits and adverse impacts, at national, regional and local levels."*

Paragraph 4.3.19 goes on to state:

"*the Secretary of State should consider how the "accumulation of, and interrelationship between effects might affect the environment, economy or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place."*

Advice Notice Seventeen provides additional guidance on a Cumulative Effects Assessment (CEA).

3.2 Scope of Assessment

The Applicant's Volume 6 Environmental Statement Chapter 18: Cumulative Effects and Interactions Document Reference: EN010142/APP/6.1, identifies the types of cumulative effect. The Applicant has chosen to take account of cumulative effects within 10 km of Tillbridge, with many issues only considered within much shorter distances. This is contested, as due to the size and regional nature of the multiple solar schemes 10 km is clearly insufficient and does not comply with the requirements in EN-1. The list of adjacent solar schemes shown in paragraph 18.6 should be updated to include the Steeple[2] and One Earth Solar[3] schemes.

The assessment does not take account of viewing schemes sequentially when passing through the area. Neither does it take account of the wholesale change to the landscape in the region. The opinion of 7000Acres is supported by the Lincolnshire County Council Landscape and Visual Review that states (paragraph 4.15):

[2] The Project | Steeple Renewables Project
[3] http://oneearthsolarfarm.co.uk/proposals/

"The cumulative landscape and visual effects of the proposed development are also of concern, particularly when assessed alongside the proposed Cottam, West Burton and Gate Burton Solar sites. The mass and scale of these projects combined would lead to adverse effects upon landscape character and visual amenity over an extensive area. The landscape character of the local, and potentially regional area, may be completely altered, particularly when experienced sequentially while traveling through the landscape."

3.3 Summary

The assessment of cumulative impact is not logical or balanced. It does not take account of the generational change of land use from the current rural farming landscape to a solar industrial landscape.

The Applicant's assessment does not clearly state how they came to their conclusions. Our view is supported by the Lincolnshire County Council Landscape and Visual Review that states in paragraph 20:

" Cumulative Effects have not been covered in the methodology and we would expect this to be part of the final LVIA. The cumulative effects of schemes in the local area are an important consideration in this process, and we would expect a methodology to be provided as well as a robust assessment of cumulative landscape and visual effects."

4. Climate Change Assessment

4.1 Applicant's Response

The Applicant's Volume 6 Environmental Statement Chapter 7: Climate Change Document Reference: EN010142/APP/6.1 includes their assessment of GHG emissions.

4.1.1 Baseline

Paragraph 7.3.26 assumes that without this scheme electricity would be generated by Combined Cycle Gas Turbines. This assessment takes no account of the

increasing capacity from offshore wind and other solar schemes. To assume that replacement electricity would only be generated by CCGT is biased and not valid.

The assessment takes no account of the lost food production and the consequent environmental impact. The House of Commons Environmental Audit Committee Report[4], 29 November 2023, paragraph 201 states:

"*The Government should designate food security as a public good and incorporate food security and environmental goals more explicitly in the design of the Environmental Land Management schemes*."

In paragraph 31, the report then states:

> "*It is also the case that many of the countries from which the UK imports food are climate-stressed, potentially jeopardising supply in the future. Furthermore, because UK food production tends to be relatively intensive in nature, any production offshored could triple or quadruple the biodiversity impact, as explained by Dr Elizabeth Boakes:*
>
> *Every hectare of arable land that we convert to housing or something and then offshore the food production must be replaced by on average 2.9 hectares of land overseas, which will often be in tropical countries that will, therefore, have a much higher biodiversity impact, sometimes three to four times higher than in the UK."*

The Applicant takes no account of initiatives such as the Country Stewardship scheme and the Woodland Management Plan that will increase habitat and carbon sequestration in farming land. Neither does the Applicant take account of growing biofuels on the site, which reduce GHG emissions.

[4] https://publications.parliament.uk/pa/cm5804/cmselect/cmenvaud/312/report.html

4.1.2 Assumptions

The Applicant assumes that the solar panels will be replaced once within the life of the scheme, presumably mid-way, after circa 30 years. Advice Notice Nine requires the Applicant to use a reasonable worst-case assessment. Currently solar panels have an economic life of 20 years[5] and so it is probable that they will need replacing twice during the 60-year life of the scheme, significantly increasing the GHG emissions generated by the scheme and reducing the GHG savings claimed. The current definition of “maintain” in the dDCO would permit the solar panels to be replaced on a frequent basis, rendering their GHG claims and waste management plans void.

It would be helpful for the Applicant to produce a sensitivity analysis, showing the variation in GHG emissions with varying replacement periods.

The Applicant claims that 70% of waste will be recycled, despite there being no facilities in the UK that can recycle the large volume of solar panels used by the scheme.

The Applicant makes claims for their GHG savings but provides limited detail to allow an independent expert to verify their claims. Any adverse impacts caused by the scheme, such as importing food or being unable to recycle 70% of the solar panels is just ignored by the Applicant.

4.1.3 Decommissioning

The Applicant assumes the decommissioning emissions will be similar to the construction phase. This takes no account of recycling PV panels and electrical equipment. Also it takes no account of returning the land to its original condition. It is probable that this is an underestimate of the true GHG emissions during decommissioning.

[5] [redacted]

4.2 Summary

The Applicant has produced a very high-level summary of the GHG emissions generated by their scheme. However, no meaningful detail is provided on how the figures were estimated. They assume that if the scheme does not achieve consent, the loss of generation would be replaced wholly by CCGT, which is improbable due to the growth of offshore wind and other sources.

It would be helpful for the Applicant to provide their detailed calculations so that they can be verified independently. For example, a spreadsheet showing their assumptions and calculations would be helpful to all interested parties.

Some of the Applicants assumptions are questionable, such as the replacement timings of solar panels and the ability to recycle 70% of the solar panels. The total GHG emissions will be sensitive to the replacement period of major components, so the Applicant should reflect this in their assessment.

The Applicant takes no account of the detrimental impact of importing the food production displaced overseas by the scheme.

It is probable that decommissioning, especially recycling all equipment and returning the land to productive farmland, will result in higher GHG emissions than stated by the Applicant.

5. Battery Energy Storage System (BESS)

BESS are covered by the Infrastructure Planning (Electricity Storage Facilities) Order 2020, which is determined through the Town and Country Planning Act by LPAs. The PA2008, Guidance on Associated Development Applications for Major Infrastructure Projects is clear on the requirements for what constitutes Associated Development. There is currently insufficient evidence for the ExA to conclude that an energy trading BESS would be Associated Development or an aim in itself.

As the Applicant has adopted a Rochdale Envelope, they have made limited information available about the BESS. Amongst other things the following details are unclear:

- Any indications as to the total power of the BESS (rated in megawatts)
- Any indications as to the storage capacity and duration of storage (rated in megawatt hours)
- Sufficient evidence regarding the network and how the PV cells will be connected to the BESS
- Any explanation over the energy balancing role of the BESS and energy import from the National Grid.

7000 Acres believes that these questions must be answered before the Examining Authority can conclude if the BESS is Associated Development. Applying the principle of a Rochdale Envelope, the "reasonable worst case" assessment is currently that the BESS is not Associated Development, as it will be capable of trading power (energy arbitrage) with the National Grid at night and winter months when the PV cells are not generating power. It will be an additional source of income. To trade energy with the National Grid, additional equipment and monitoring systems will be required. As the Consent will be for operating a "generating station", revenue operations when the scheme is not capable of generating power should be viewed as a separate system. The PA (2008) Associated Development Guidance states in paragraph 5 (iii) that:

"Developments should not be treated as associated development if it is only necessary as a source of additional revenue for the applicant, in order to cross-subsidise the cost of the principal development".

PA (2008) Associated Development Guidance Paragraph 6 states:

"It is expected that associated development will, in most cases, be typical of development brought forward alongside the relevant type of principal development or of a kind that is usually necessary to support a particular type of project, for example

(where consistent with the core principles above), a grid connection for a commercial power station."

For energy trading, additional equipment such as monitoring systems will be required. That is only for generating additional revenue and so cannot be viewed as Associated Development.

Annex A and B to the Guidance provides examples of general types of associated development and specific examples for onshore generating stations. At no point is "battery" given as an example.

5.1 6.1 Summary

It is clear that there is no National Policy Statement or Guidance to PA2008 that allows a massive BESS to be installed as part of a solar NSIP. The Applicant has provided no evidence why a BESS of this size is required, why its capacity should be uncapped and why it needs to trade energy with the National Grid. 7000Acres believes that the BESS is an "*additional revenue for the applicant, in order to cross-subsidise the cost of the principal development".* As the BESS is aimed at cross subsiding the solar project, and so not associated development, it should be heard under a separate application in accordance with the Infrastructure Planning (Electricity Storage Facilities) Order 2020, i.e. determined through the Town and Country Planning Act by the LPA.

6. Ethical Supply Chain

A partner in this application is Recurrent Energy, a subsidiary of Canadian Solar. . There is strong evidence that a substantial part of the solar PV panel supply chain in China, from the extraction of polysilicon to the production of panels, uses slave labour (Helena Kennedy Centre for International Justice: Sheffield Hallam University, 2021). A full list of references for Canadian Solar links to slave labour are available in Written Evidence to the House of Commons[6].

[6] https://committees.parliament.uk/writtenevidence/113963/default/

7. Biodiversity

7.1 Conflicting Evidence

Natural England (Natural England, 2016) and the Planning Inspectorate (Alder, n.d.) both identify that there is limited evidence to support claims that utility solar increases biodiversity. Natural England state:

"Due to the spatial requirements of utility scale solar PV developments, the physical landscape of UK habitats will be affected by the implementation of these technologies necessitating an understanding of the potential effects that solar PV may have on biodiversity. Understanding requires evidence which is traditionally gathered through robust scientific investigation and peer reviewed publication. No experimental studies specifically designed to investigate the in-situ ecological impacts of solar PV developments were found in the peer reviewed literature. Considering that cumulative installed global PV capacity is projected to reach between 450 GW and 880 GW by 2030, up from 67 GW in 2011 (Gan and Li, 2015), this lack of ecological evidence is heavily under representative of the interest and investment in solar PV deployment."

Furthermore, Adler concludes that:
"In the literature, concerns have been raised that solar PV developments have the potential to negatively impact a broad range of taxa including birds, bats, mammals, insects and plants. In light of this, it is highly recommended that research is undertaken into the ecological impacts of solar PV arrays across a broad range of taxa at multiple geographical scales".

7.2 Bats

The Volume 6 Environmental Statement Appendix 9-9: Baseline Report for Bats Document Reference: EN010142/APP/6.2 makes no reference to recent research that indicates solar schemes are detrimental to bats (Woodman-Hardy, 2023). This information from the University of Bristol[7] regarding bats supports the Natural England assessment that there is no evidence to support the claims that solar

[7] [redacted]

schemes increase biodiversity. In the case of bats, evidence shows reduced bat activity in the vicinity of solar schemes. In addition, the Applicant has not conducted a noise assessment that takes into account the frequencies used by bats and owls to detect their prey.

When viewed in conjunction with the other solar NSIPs in the region, this scheme will be detrimental to bats and other protected nocturnal creatures.

The WLDC Local Impact Report section 7 identifies shortcomings over how the impact on bats and other protected species has been assessed.

7.3 Summary

There is no clear evidence that utility scale solar farms do increase biodiversity. The Applicant has not considered recent evidence that demonstrates that solar schemes have a detrimental impact on bats. The Applicant has not clearly demonstrated they meet the requirements of the Environment Act 2021.

8. Rochdale Envelope

Even now at the Examination Stage, the Applicant still retains information on key topics, such as the BESS, that is required to assess this project. The NSIP process is supposed to be front-loaded, with the Applicant entering examination with a clearly defined project. During a Public Consultation the Gunning Principles should be applied. In this case it is clear that two Principles have been ignored: firstly, there has been insufficient information provided to give "*intelligent consideration*" of the project; secondly, there has been inadequate time for consideration and response due to the enormity of this and the other three adjacent solar projects.

9. Temporary Use of Farmland

The Applicant's dDCO seeks approval to use the land for 60 years, although this might be extended. 7000Acres disagrees that 60 years is temporary use of the land. Our concern is supported by the Planning Inspector for the Lullington solar farm (The Planning Inspectorate, 2023):

"Whilst the 40-year period may allow for the restoration of the soil structure and reduce the problems associated with nitrates usage, it appears to me, as it has done to other Inspectors at appeals cited by the Council, that 40 years would indeed constitute a generational change."

7000Acres agrees that changing the use of the land for 60 years would not be "*temporary*" but *"generational".*

7000Acres request the ExA takes account of recent research by the Welsh Government[8] and others[9] that installing large solar arrays on farmland results in deep soil compaction, increased water runoff and runoff from panels leading to rivulets, which can lead to soil loss by erosion. Additionally, good quality soil can be downgraded by compaction and damage caused by removing the solar foundation and piles[10]. The Welsh Government's Report explains the mechanism leading to soil erosion in paragraph 4.4:

"Runoff from solar panels has an influence on soil erosion. Water is known to run along the edge of the panels then fall to the ground at localised points and form rivulets."

[8] [redacted]

Welsh Government Report - Figure 6: Channels created by panel runoff within 12 months of site operation commencing

The damage to the soil is likely to result in BMV land being downgraded, and so the loss of BMV land will be permanent and not temporary as required by EN-3. For this reason, any BMV land within the scheme's boundary should be excluded from use by the Applicant.

10. Bibliography

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