

ADDITIONAL INFORMATION

SECTION A

In March I submitted a Relevant Representation on behalf of the SCA. This submission expands on the key points in that representation.

The SCA RR from March stated:

“The scheme does not comply with NPPF which stipulates that valuable agricultural land should be avoided. The land at the proposed Sunnica site sustains a range of high yielding arable crops. It is vital for the food security of the UK that such land is protected for agriculture. The UK is currently importing 40% of its food; this will soon be 50%. A recent risk assessment for the government has noted the future difficulties of food importation as a result of climate change. Food supply chains are fragile. The current problems in the Ukraine make the issue worse. There has been a loss of 3.3% of arable land in the UK due to change of use to growing bioenergy crops and solar farms. This could increase by a further 6.5%, having a significant impact on home based food production. Food security and the avoidance of massive food poverty must be a priority and land such as that on the Sunnica site must be protected for food production.”

Since writing this food poverty has increased and food price inflation is around 17%.

It is important to understand that the land on the proposed Sunnica Solar Farm site is valuable farmland.

The commentary that follows is an analysis of the soil quality on the site.

1. **ALC figures.** The classification presented by Sunnica shows 3.6% of land as 3a, 50.29% as 3b and 40.5% as 4. The land consistently grows high yields of a wide variety of crops – carrots, potatoes, onions, parsnips and sugar beet as well as cereals. Sunnica cite the droughtiness of the area as restricting the land to Grade 3b. Three independent soil specialists have considered the findings of Sunnica and conclude they are incorrect. They have calculated that up to 60% of the site could be BMV without the upgrade of irrigation. Sunnica and its participating landowners have refused access to the Sunnica site three times for the soil results to be retested.
2. PPG7 however states that “Irrigation can have a beneficial effect and is another factor for planning authorities to take into account”. Annex B paragraph B11 also states that “When irrigation is practised and water supplies are adequate and reliable the production capacity of agricultural land and its importance relative to non-irrigated land of the same grade will often be significantly increased”.
3. **Conclusion.** The range of crops grown and yields are not consistent with Grades 3b and 4 soil. There are omissions in the ALC assessment which require further investigation in order to avoid loss of BMV land. Regardless of the Sunnica reclassification showing the bulk of land as 3b there is a good case for protecting it for agricultural uses. There is considerably more BMV on the site than Sunnica are stating.
4. One significant and important point is that there is no soil analyses data available for Ca content or particle size to determine % clay. It is normal in a soil survey to give a range of data for each auger point and to use this to indicate grading. These factors are critical in determining land grades. Of relevance to the Sunnica site is the following MAFF guideline (p.160). “Calcareous clay soils are generally better structured than non-calcareous clays..... at least 1% Calcium Carbonate in the top 25cm produces a higher grade for such soils”. Paragraph 5.5 of the report indicates that the parent material of the soils is chalk in this case the expectation of a reasonable level of Ca would be high and consequently some higher grading might be anticipated. In a similar way lack of evidence on soil texture does not allow calculations to be made following the MAFF metrics.

5. The MAFF metric uses Winter Wheat and Potatoes as base line crops (as recognised in the report) for determining levels of droughtiness. Soil Moisture Balance (MB) is calculated by using the Available Water Capacity of the soil profile (AP) and the Moisture Deficit (MD). A very complex algorithm is then applied (p.41). It is not possible to do this calculation without necessary information which is not provided in the report. However, the moisture deficits in the report are given as an average of 119mm. The field capacity of the soils is given as 103 days. This suggests that any calculation would show very marginal results and the droughtiness criteria on which the downgrading has been postulated may not be valid.
6. It should be noted that paragraph 3.3 of MAFF guidance states that soils limitations of wetness and droughtiness are complex and interactive.
7. **Overall Conclusion.** The droughtiness calculation is at best marginal.
8. **Cropping on the Sunnica site.** Grade 3b land is defined as land capable of producing moderate yields of a narrow range of crops. However, the soils report states that cropping is high margin crops of Potatoes, Sugar Beet, Onions, Carrots, Parsnips and Cereals. This is therefore not typical of grade 3b land and more the expectation of 3a and 2 grades.
9. It is understood that generally yields are high from this broad range of cropping. The National Food Strategy recommends the establishment of a rural land use framework; one compartment proposed is conventional high yield farms. The recommendation is for a new metric possibly derived from the ALC, combined with yield data from the June Farm Survey. If the government accepts this recommendation the land on the Sunnica site would undoubtedly be protected.
10. **Other points.** It would appear that some of the site has not been surveyed; this is at Worlington and Chippenham Park. There are missing points on the maps and data is missing. Some points are close together; L27 and L28 have been identified. Other than on one or two small areas there does not appear to have been any pit analyses; this is a recommendation in the guidelines and allows a better analysis of the soil profile. Also it appears that some of the auger points are near tracks and roadways which could suggest compaction.

CONCLUSIONS ON SOIL ANALYSES

Droughtiness has downgraded the sites. Details have not been given to verify this conclusion and limited information suggests this analysis is at best marginal. The range of crops is more typical of 3a and 2 graded land. The yield and cropping data suggest the land should be protected in line with the National Food Strategy. Land downgrading should be seen in the context of additional comments that planners should consider such as the beneficial effects of irrigation. It is clearly a convenience for the developer to show the land is non BMV.

In relation to food security a recent parliamentary debate took place on 27/10/22. The debate was in response to a petition highlighting the issue of land loss to solar farms and calling for better regulation of land use. The resolution of the debate as recorded in Hansard was “That this house recognises that food security is a major concern to the British public and that the impact of Covid-19 pandemic and the cost of living crisis and the conflict in Ukraine has made UK food security more important than ever before; further recognises the strain on the farming sector due to rising farming and energy costs; supports the Government’s ambition to produce a National Food Strategy white paper and recognises the urgent need for its publication; noted that the UK food system needs to become more sustainable and calls upon the Government to recognise and promote alternative proteins in the National Food Strategy, invest in home grown opportunities for food innovation, back British businesses and help future-proof British farming”.

Climate Change. A crisis in food security is likely over future years and certainly within the lifetime of a solar farm. Climate change may be described as the ‘elephant in the room’. The last growing season will be noted for the long dry hot summer which affected crop yields. One issue in the future could be flooding and a high proportion of land liable to floods is BMV. This represents an important reason for protecting farmland.

CONCLUSIONS

To guarantee food security farmland must be protected.

It is of utmost importance that the PI and LPAs who deal with planning requests for solar farms understand the cumulative effects of all the many schemes that are now seeking planning approval across the UK. Schemes should not be seen in isolation. A second attachment for consideration by the PI is a letter sent to the Prime Minister by the Solar Campaign Alliance which covers the national situation and is relevant for the PI to consider. The letter noted a possible loss of 350000 acres of valuable land which could have a major impact on food supply. Currently the SCA membership stands at 60 schemes and is increasing. This represents a potential loss of well over 29,000 of productive farming land to solar development alone. Naturally other developments will also be taking up additional land, not to mention other solar developments over and above those identified by the SCA members.

On the basis of the analysis of the soil quality, and the fact that the land produces high yields of a range of crops including vegetables, the DCO should be rejected to protect valuable farmland.

SECTION B – BIODIVERSITY

Biodiversity is protected by NPPF guidelines. What little evidence there is suggests that solar farms negatively impact biodiversity.

An analysis by Bioscan (on behalf of the Say No to Sunnica group) of the information submitted by Sunnica suggests an overstatement of biodiversity net gain claims and a miscalculation of baselines for the calculations. The SCA will not go into the findings of this report in detail as they are covered in representations made by the Say No to Sunnica Action Group Ltd., which we support.

However, the SCA would point out that farmers using regenerative systems coupled with the use of the new Environmental Land Management scheme (ELMs) could achieve more or greater biodiversity gains.

SECTION C – BATTERIES

SCA is very concerned about the dangers of fire and explosion resulting from thermal runaway from Lithium-ion batteries in BESS systems. Regulations are inadequate to prevent and mitigate against this. Looking at the Outline Battery Fire Safety Management Plan it would seem only to discuss the handling of a potential fire, but does not suggest adequate measures proposed to prevent such occurrences. This is a serious flaw. Sunnica have not yet determined the cell chemistry to be used, which means that appropriate fire safety measures cannot yet be achieved. Different cell chemistries will require different fire safety considerations. They propose using either Lithium Iron Phosphate (LFP) or Nickel Manganese Cobalt (NiMnCo) batteries – but have only done modelling on one type (LFP). For the plume dispersion modelling they have only modelled on Hydrogen Fluoride gas, but no other toxic gases. According to Rochdale envelope they are meant to demonstrate worst case scenarios – this has not been done adequately for LFP and not at all for NiMnCo batteries.

SECTION D – LANDSCAPE

The SCA considers there will be a major impact on the landscape, which is the case with many solar farm schemes. In the case of Sunnica, the scheme is effectively 9 or so large parcels of development, linked together by approximately 15 miles of cable, winding its way around 16 parishes and towns. The cumulative impact of the scheme alone is significant, let alone the impact in combination with other developments, including other solar farms in the nearby area. The sheer size, scale and spread-out nature, means that it cannot easily be mitigated. In some parts the proposed mitigation planting would itself change the character of the local landscape – especially around East Site A where the characteristic open fenland countryside, with far reaching views, would be replaced by a closed off view of planted woodland, which is totally out of keeping with this area.

The biggest swathe of panels and BESS is proposed to be located alongside Chippenham Park estate (West Site A), a heritage site and also adjacent to the world famous Limekilns gallops in the historic town of Newmarket – the home of Horseracing. This historic area has been unspoiled for centuries and is known to be a showcase for racing investment in the area. The landscape impact from here cannot be mitigated since it is elevated and should not be developed as it would cause long term damage to the area and likely damage to the local economy which is reliant upon the racing industry.

SECTION E - OVERALL CONCLUSIONS

The SCA would wish to make it clear it is not against renewable energy, nor against solar energy. As an organisation with over 60 members representing tens of thousands of acres of farmland, including most of the current NSIPs, it believes there is a right and wrong place for solar energy production. The wrong place is valuable farmland; the right place is commercial and domestic roof space and brownfield sites and wasteland areas.

The PI needs to understand that whilst solar energy is an important part of the renewable energy mix, the cumulative effect of all of these large-scale, ground-mounted proposals on productive farmland, both as NSIPs and smaller proposals going through LPAs, is the primary concern of SCA.

The maintenance of UK food security is central to the SCA argument for refusal of a DCO when valuable farmland is lost. It is aware of other issues such as biodiversity and landscape which compound the concerns. SCA believe the Sunnica scheme should not be agreed for the reasons covered in this additional paper and this should equally apply to other similar NSIP.

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