

The Rt Hon Grant Shapps  
Energy Security and Net Zero  
House of Commons  
London  
SW1A 0AA

Say No to Sunnica Action Group Ltd  
Badlingham Manor Farm  
Chippenham  
Cambridgeshire  
CB7 5QQ

24<sup>th</sup> July 2023

**Re: Sunnica Energy Farm – a Nationally Significant Infrastructure Project (NSIP)**

Dear Mr Shapps,

I write in my capacity as Chair of a substantial community action group (Say No to Sunnica Action Group Ltd.) representing communities from 16 parishes and towns on the East Cambridgeshire/ West Suffolk border who are affected by the Sunnica industrial solar and battery plant proposal (Sunnica Energy Farm NSIP). You will be aware that the examination of this proposal concluded in March.

This seriously flawed scheme will not positively contribute to our country's Net Zero ambitions. No firm evidence was presented before or during the examination process that the Sunnica scheme would be carbon neutral over its projected 40-year lifetime. Indeed, evidence presented by Cranfield University during the examination identifies a number of inaccuracies in the applicant's Carbon Lifecycle Assessment and concludes that the scheme would most likely not be carbon neutral and could potentially contribute more carbon than it could save (see Appendix A). This matter remained in dispute at the close of examination.

There is overwhelming, and consistent, local opposition to this scheme throughout the affected parishes, which is unusual in an area that is broadly in favour of renewable energy and already hosts multiple solar and wind farms, as well as battery storage. These in addition to some excellent rooftop and car park solar projects, and also technological advances in novel solar and other renewable energies coming from this region.

During the examination the Examining Authority (ExA) received a significant amount of evidence from multiple experts and local people outlining the many flaws of this ill-conceived, poorly located and badly designed scheme. They were left in no doubt about the significant level of local (and even national) opposition from parish, town and district councils, from the two "host" county councils, from both local MPs, from the combined authority Mayor, from local businesses, nature and heritage groups and, of course, from hundreds of local residents.

Amongst other points, the ExA received evidence from highly qualified and experienced experts about:

- the negative and harmful impacts the Sunnica scheme would have on the landscape and the inaccuracies in the applicant's assessments. The scheme would transform over 2500 acres of greenfield land into an industrialised area, closely wrapped around villages and highly visible in many places (Appendix B). The vast scheme stretches approximately 24 Km from end to end, and ca. 15 Km of the scheme would be adjacent to well-used rural roads, with many more kilometres visible from local public rights of way.
- the harmful impacts the scheme would have on valued heritage assets and on local wildlife (including a number of rare and protected species) and the lack of adequate consideration and underestimates of this harm on the part of the applicant.
- the harm this scheme would do to Newmarket's historic and world-renowned horseracing and breeding industry that is so vital to the local economy.
- the inaccuracies of the applicant's soil quality assessments. This area is known throughout the UK for its highly versatile and highly productive irrigated arable land. The land earmarked for the Sunnica proposal

grows a wide range of high quality and high yielding crops including potatoes, sugar beet, onions, carrots, wheat, barley, etc. All of the land within the Sunnica site has the benefit of irrigation, mostly from winter filled reservoirs. The light soils enable growers to plant later in the growing season and harvest later which gives an extended growing season, providing consumers with fresh produce for a longer period of time. These crops would not grow profitably in what Sunnica Ltd claim to be “poor quality” soil. Local people and farmers (including those who have farmed the very land that Sunnica Ltd are hoping to use) know the applicant’s claims to be incorrect and have been deeply disappointed at the lack of impartiality shown by Natural England in the face of the concerns that have been raised regarding Sunnica’s soil assessments. At no point in the examination did Natural England address this; they remain a matter of dispute. The lack of accurate soil assessments means that large areas of Best and Most Versatile (BMV) land have not been disclosed, and a scheme which contains over 50% BMV land is potentially being considered on the incorrect basis that only 3.8% is BMV. This is seriously misleading.

Appendix C contains further details of selected evidence relating to the above points that was submitted into the Examination, including evidence in support of the presence of large areas of BMV.

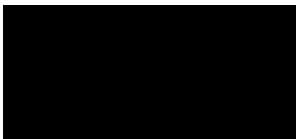
The only way for the UK to meet its Net Zero target is to promote genuinely green and sustainable schemes that are accurately and transparently presented and that have the support of local people. The huge and sprawling Sunnica scheme that harms so many rural communities, has so many flaws and inaccuracies, and that has been brought about with negligible community engagement, cannot be allowed to pass.

It makes no sense to take away vast amounts of economically valuable land and highly valued landscapes and countryside amenity from so many people, for a scheme that will hinder rather than help our climate change goals. Particularly when we know that NSIP solar farms can be delivered far more sustainably, as exemplified by e.g. Little Crow Solar NSIP and when we also know that our built surfaces (particularly rooftops and car parks) could easily deliver a large amount of low cost solar generating capacity, as identified in research conducted by University College London Energy Institute, commissioned by CPRE, the countryside charity (see Appendix D for references).

We respectfully ask that you to refuse this flawed application, which must not be allowed to set a precedent for further poorly designed and badly located schemes that will hinder our Net Zero ambitions.

Many thanks for your consideration.

Yours sincerely,



Dr Catherine Judkins

Chair, Say No to Sunnica Action Group Ltd.

*cc. The Rt Hon Lucy Frazer MP, the Rt Hon Matt Hancock MP*

## **Appendix A – Cranfield University study of the Carbon Lifecycle Assessments presented by Sunnica Ltd**

- 1) Cranfield University findings outlined in the Say No to Sunnica Action Group Ltd (SNTS) Written Representation, REP2-240. Abstract is provided below. The full report can be accessed here:

[https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004294-DL2%20-%20Say%20No%20To%20Sunnica%20Action%20Group%20Ltd%20SNTS%20Written%20Representation%20Annex%20F%20-%20Carbon\\_Redacted.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004294-DL2%20-%20Say%20No%20To%20Sunnica%20Action%20Group%20Ltd%20SNTS%20Written%20Representation%20Annex%20F%20-%20Carbon_Redacted.pdf)

### **Findings on the Proposed Sunnica Energy (Solar PV) Farm**

Centre for Renewable and Low Carbon Energy, School of Water Energy and the Environment, Cranfield University, Bedford, MK43 0AL

Team: Zaharaddeen Hussaini\*, Heather Almond, Peter King and Chris Sansom\*

(\*now of University of Derby, Zero Carbon Theme, Kedleston Rd., Derby DE22 1GB)

Date: 18 th September 2022

### **Abstract**

This report constitutes the findings of Cranfield’s investigation into the Sunnica Solar PV Farm. It focuses on Sunnica’s Environmental Statement 6.1 Chapter 6: Climate Change\* , hereafter referred to in this report as Sunnica ES.

The chief findings are that:

- 1) Sunnica may have overestimated their energy output at 23.5 TWh, unless they are intending an installed capacity of at least 625 MWp.
- 2) Sunnica’s methodology for calculating GHG (greenhouse gas) emissions throughout the lifecycle stages of the Scheme is not transparent and has led to an underestimation of the lifetime emissions of the scheme.

Applying reasonable estimations based upon the information published in the Sunnica ES, and making assumptions favourable to the scheme\*\* when information is lacking, we conclude:

- The realistic energy output of the proposed scheme would be 17.7 TWh (based on a calculation using Global Solar Atlas, a solar estimation program provided by The World Bank). A 625 MWp scheme would be required to achieve Sunnica’s quoted energy output of 23.2 TWh.
- We have recalculated the construction and operational emissions using the data provided in the Environmental Statement and fair assumptions. Our estimation for total emissions is higher than Sunnica’s.
- Our calculations for Net Savings (the difference between the lifetime emissions of the Scheme and carbon savings that it makes compared to the performance of the national grid) indicate that, save for those cases where the battery storage included in the Scheme is limited to a capacity less than 500MWh and a PV field size of greater than 625MWp with no battery replacements, the Scheme emits more carbon than it saves. Put another way, the scheme during its lifetime would constitute a net increase in GHG emissions.

*\* Sunnica Energy Farm EN010106 Vol 6 Environmental Statement 6.1 Chapter 6: Climate Change, 18 November 2021 version 00 (hereafter referred to throughout this report as Sunnica ES for brevity). Internally referenced as PD-038 for the purposes of this examination.*

*\*\* Adopting this approach, we view our assessment as one of a reasonable case but not the ‘reasonable worst case’.*

- 2) Further evidence from Cranfield University was presented at Deadline 6 (REP6-074) including details of data that was withheld by the applicant. These data remained undisclosed at the close of examination.

**Cranfield University comments on “Appendix A 8.62 Applicant’s Response to Say No To Sunnica Action Group Deadline 2,3 and 3A Submissions” [REP4-036]**

1. Appendix A sets out a response to the Cranfield University paper [REP2-240g] and poses a number of scenarios that claim to demonstrate a whole-life net carbon benefit. It is commented that “the calculations presented in the Climate Change chapter of the Environmental Statement (ES) [APP-038] (and therefore those undertaken by Cranfield University) underestimate the carbon benefit of the Scheme considerably as they do not account for the carbon benefits of the BESS.”

2. It is unfortunate that the data supplied in the response was not provided in the ES; it would have assisted considerably in understanding the scheme. It is gratifying to note that Cranfield managed to calculate an approximate installed capacity of 625 MWp necessary to achieve the quoted energy output. (In fact, Table 1 of the response refers to 636 MWp being “modelled in the ES”, although this value wasn’t specifically mentioned in the ES at the time). It is also heartening that the response confirms that the replacement rate assumed for BESS in the ES was an omission and that our suggested 13-year life span for the batteries, resulting in 2 replacements in the 40-year lifetime, has been applied to sensitivity testing of the scenarios presented. (It should be stressed that 13 years was selected by Cranfield as being at the “favourable end” of the battery lifetime spectrum).

3. Unfortunately, we have not been provided with the underlying calculations for the work done in the appendix to [REP4-036]. Thus, is it not possible to properly comment on that work. In particular we note Table 2, where a methodology is indicated and the results presented. Without the underlying calculations, it is not clear how the whole-life carbon values have been calculated and it is important to understand this as they are crucial to understanding the BESS benefits. We would invite the applicant to provide the underlying calculations as soon as possible so as to better inform both us and the examining authority how these figures have been reached.

4. In addition to this general point, we have two areas we wish to comment on:

**(1) Reduction of Operational Intensity from 9 to 0.3g CO<sub>2</sub>e/kWh:**

5. In section A.1.2.6 of the appendix to [REP4-036], operational maintenance and worker transportation emissions have been removed from the operational GHG intensity figure to give a like-for-like comparison with the grid average. This reduction by a factor of 30 would indeed make the Scheme’s GHG emissions less. However, if you omit operational maintenance and worker transport emissions, we calculate operational intensity as around 1.4 gCO<sub>2</sub>e/kWh. This was calculated using the values presented in Table 6-15 of the ES (Table 5 of the Cranfield report – see below):

*Table 5: replication of ES Table 6-15: Operational GHG emissions (based on first year of operation with lifetime “inferred” emissions). [ES section 6.8.17, Table 6-15, p6-27]*

Emissions Source	Emissions (tCO <sub>2</sub> e)		% of Operation Emissions <sup>13</sup>
	1 <sup>st</sup> year	“Inferred” Lifetime	
Worker transportation	199	6,264	3%
Maintenance	4,624	169,135	81%
Operation	909	33,409	16%
<b>Total</b>	<b>5,733</b>	<b>208,809</b>	<b>100%</b>

6. Omitting worker transportation and maintenance, leaves an operation emission of 208,809 tCO<sub>2</sub>e. The given energy output from the ES is 23.2 TWh over the 40-year lifetime, therefore operational intensity is 208,809 tCO<sub>2</sub>e divided by 23.2 TWh which equates to 1.44 gCO<sub>2</sub>e/kWh. This would change the reduction factor from 30 to 6 which is significant. We do understand that the reduction might be partly due to the lower grid decarbonisation that were used in calculating aspects of “operational” emissions.

7. As was noted generally above, it would assist to have the underlying calculations for this paper. In particular in respect of this point, a further explanation of what constitutes ‘operation’ and how 0.3gCO<sub>2</sub>e/kWh would be useful.

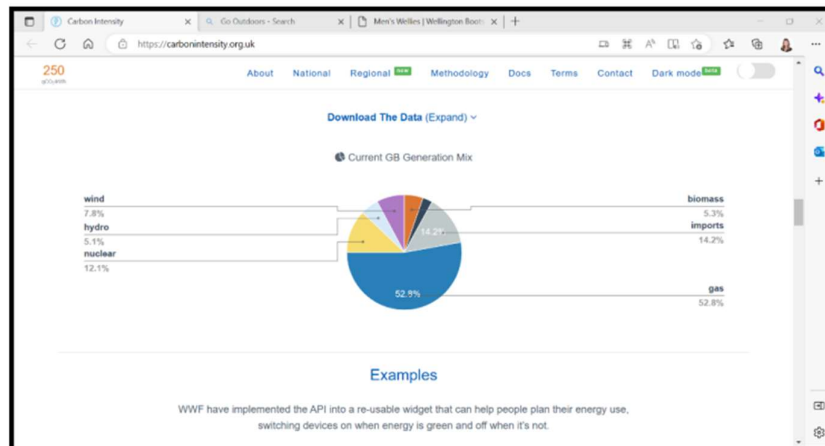
**(2) Use of OGTC and CCGT emissions intensity values to evaluate BESS benefits:**

8. Section A 1.2.12 of the appendix to [REP4-036] suggests energy stored in BESS will be exported to the grid during periods of high energy demand and as such, Open Cycle and Table 5: replication of ES Table 6-15: Operational GHG emissions (based on first year of operation with lifetime “inferred” emissions). (ES section 6.8.17, Table 6-15, p6-27) Emissions Source Emissions (tCO<sub>2</sub>e) % of Operation Emissions 1st year “Inferred” Lifetime Worker transportation 199 6,264 3% Maintenance 4,624 169,135 81% Operation 909 33,409 16% Total 5,733 208,809 100% 3 Closed Cycle Gas Turbine (OCGT and CCGT respectively) emissions intensity values are used to evaluate the BESS benefits.

9. The above statement assumes that the BESS will only offset either CCGT or OCGT, due to their quick start-up advantages (ie. as per BESS). This assumption does not appear to reflect the fact that the grid operates as an “energy mix”. Such mix is best represented by the operational intensity of the grid. It also does not appear to reflect the fact, recognised in the applicant’s original assessment, that the operational intensity of the grid (including any use of CCGT and OGTC) is projected to fall dramatically over time.

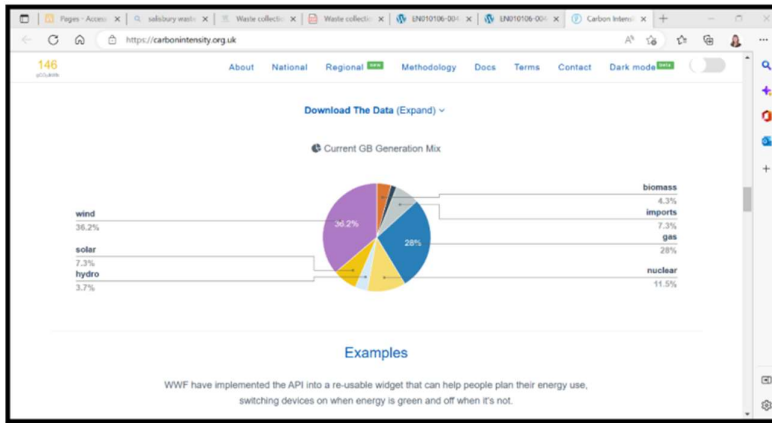
10. Even considering the position today, the assessment does not consider other fast startup sources of electricity, and the availability of other sources. For example, pumped storage, hydropower and others like wind and hydro which are ramped up during peak times, thus potentially lowering the emissions estimates.

11. It may be useful to consider the “energy mix” in current times as this is important in considering that the paper provided does not account for energy currently provided from other less carbon intensive sources. For example, National Grid ESO, Environmental Defense Fund Europe, the University of Oxford Department of Computer Science and World Wide Fund indicate on their Carbon Intensity API website (<https://carbonintensity.org.uk/>) that the mix as of 19:00hrs on 28th Jan 2023 is as follows:



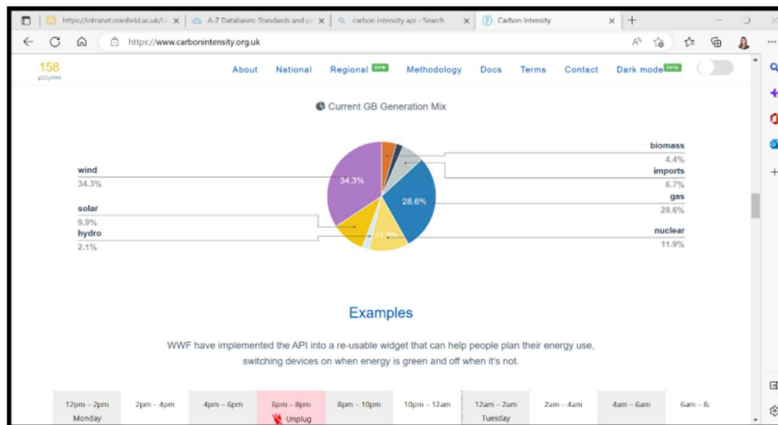
*Screenshot of energy mix as of 27th Jan 2023 (19:00hrs), source: <https://carbonintensity.org.uk>*

As a comparison, the mix at 11:30hrs on 30th Jan 2023 is:



Screenshot of energy mix as of 30th Jan 2023 (11:30hrs), source: <https://carbonintensity.org.uk/>

12. Slightly later on the same day (30th Jan 2023 at 14:00hrs), the corresponding plot is:



Screenshot of energy mix as of 30th Jan 2023 (14:00hrs), source: <https://carbonintensity.org.uk/>

13. We feel that the issue of energy mix, including how it changes (scheme’s grid emissions projections over project life) requires further information and expansion. Without this, it is very difficult to assess the position advanced in respect of the emissions produced and saved by the BESS.

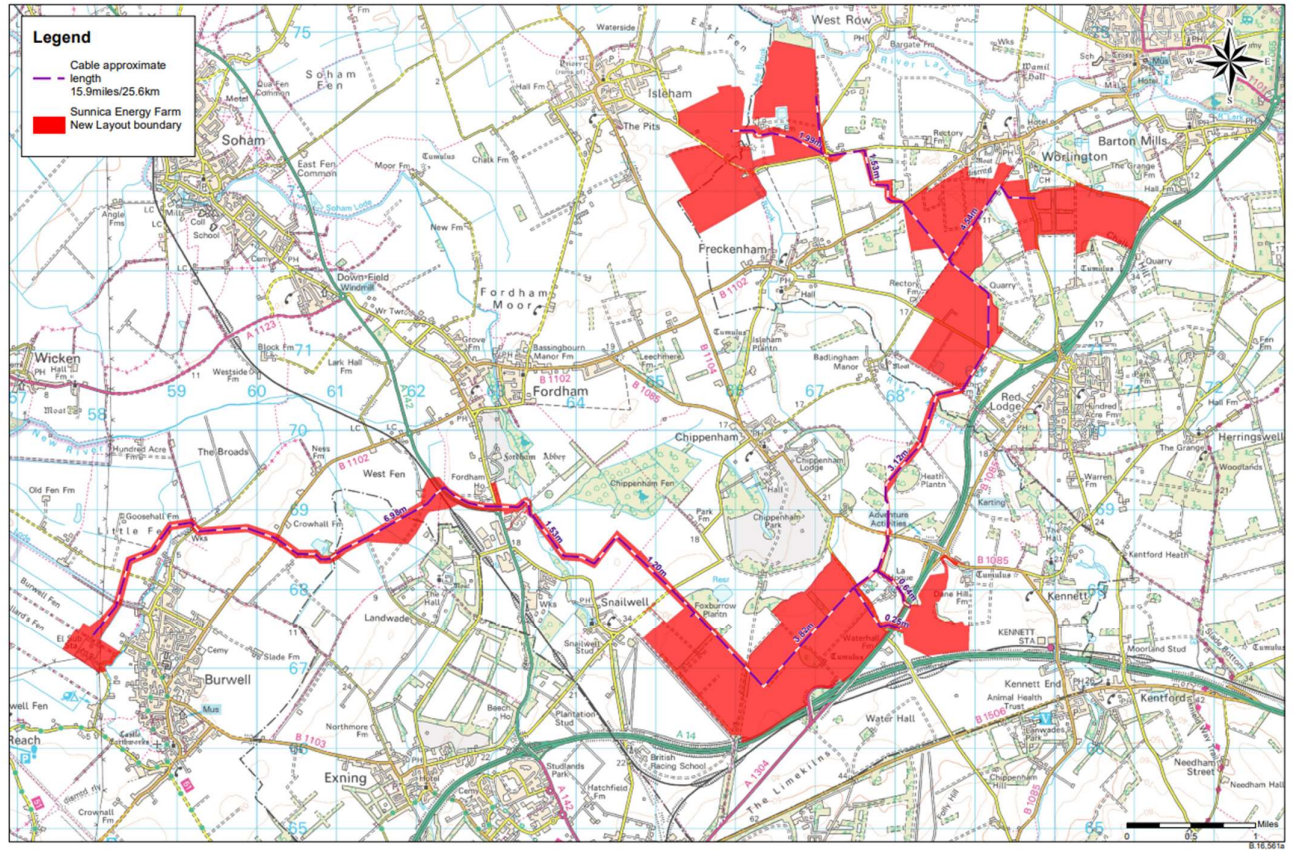
**Cranfield University comments on “Appendix A Applicants response to Cranfield University’s report on carbon emissions” [REP3A-035] dated 28 Nov 2022**

14. Much of the commentary in this paper is a prelude to the paper discussed above, so our comments above stand. However, we have one issue over the use of a 1% assessment threshold used to determine the significance of GHG emissions associated with the Scheme in the ES. Cranfield maintains its position in its original report in that 1% significance approach does not reflect a realistic approach to the assessment of GHG emissions. It seems to that 1% is about gaps in data rather than a threshold to be applied to overall GHG emissions (Quantifying the greenhouse gas emissions of products PAS 2050 & the GHG Protocol Standard available at: [https://ghgprotocol.org/sites/default/files/standards\\_supporting/GHG%20Protocol%20PAS%202050%20Factsheet.pdf](https://ghgprotocol.org/sites/default/files/standards_supporting/GHG%20Protocol%20PAS%202050%20Factsheet.pdf) . Accessed: 30th Jan 2023



## **Appendix B – Proposed layout of the sprawling Sunnica proposal, affecting 16 parishes and towns**

### **Sunnica Energy Farm Proposed Layout**



## **Appendix C - Selected evidence submitted into the Examination by the Say No to Sunnica Action Group Ltd (SNTS)**

In addition to the links below, evidence was presented on a number of other matters including the negative impacts on heritage and socio-economics, inadequate plans for decommissioning, the inadequacy of consultation, incomplete traffic assessments, etc., as well as funding discrepancies and compulsory purchase and other matters. Alongside the initial Written Representation (see link in item 1 below), a considerable amount of additional evidence was submitted over the course of the 6-month examination period, as can be seen on the planning inspectorate website.

- 1) SNTS's Written Representation (REP2-240) provides a summary of the multiple flaws and harms of the Sunnica Energy Farm, exposing the significant cumulative impact of the scheme itself, as well as with other developments in the area, the failure to use good design principles, and how the proposal contrasts with more suitably located and better designed and presented solar NSIP schemes such as Little Crow Solar Farm.

[https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004301-DL2%20-%20Say%20No%20to%20Sunnica%20SNTS%20Written%20Representation%2011-11-2022\\_Redacted.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004301-DL2%20-%20Say%20No%20to%20Sunnica%20SNTS%20Written%20Representation%2011-11-2022_Redacted.pdf)

- 2) The significant visual harm that the Sunnica scheme would inflict over an extensive area was further detailed by Michelle Bolger Expert Landscape Consultancy (acting for SNTS), who also highlighted inadequacies and underestimates in the Applicant's LVIA and the failure of the proposal to accord with the NPPF. These are summarised in SNTS's 'Written Representation' Chapter 3 (link above) and detailed in the Written Representation Annex A (REP2-240d):

[https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004303-DL2%20-%20Say%20No%20To%20Sunnica%20Action%20Group%20Ltd%20SNTS%20Written%20Representation%20Annex%20A%20-%20Landscape%20and%20Visual%20Impact\\_Redacted.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004303-DL2%20-%20Say%20No%20To%20Sunnica%20Action%20Group%20Ltd%20SNTS%20Written%20Representation%20Annex%20A%20-%20Landscape%20and%20Visual%20Impact_Redacted.pdf)

- 3) Inaccuracies and non-compliance of the Applicant's soil quality assessments were identified by four independent, highly qualified soil experts. The resulting inadequacy of the ES can be seen in Chapters 6 and 7 of SNTS's 'Written Representation Annex C' (REP2-240d). Chapter 9 of this annex also outlines the high economic value of the affected farmland and the failure of the ES in taking this into account.

[https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004305-DL2%20-%20Say%20No%20To%20Sunnica%20Action%20Group%20Ltd%20SNTS%20Written%20Representation%20Annex%20C%20-%20Agricultural%20Impacts\\_Redacted.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004305-DL2%20-%20Say%20No%20To%20Sunnica%20Action%20Group%20Ltd%20SNTS%20Written%20Representation%20Annex%20C%20-%20Agricultural%20Impacts_Redacted.pdf)

A video showing soil expert Sam Franklin carrying out auger boring was submitted as REP7-109c. The location was approx. 4m from Sunnica East A boundary, which was assessed by the applicant as Agricultural Land Classification 'Grade 4' (poor quality) when it is in fact 'Grade 2' (high quality, BMV).

<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-005176-SNTS%20-%20RAC%20ALC%20Video.mp4>

- 4) Of significant concern is the harm that the Sunnica proposal would do to the historic, world-renowned horse racing and breeding industry in this area and, in particular, on the world-famous, centuries-old Limekilns gallops. This is summarised in Chapter 7 of the Written Representation (see link in item 1 above), which outlines non-compliance with various planning policies and the significance of the racing industry economically, and is further detailed in the report by Rappleys (REP-240f)

[https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004293-DL2%20-%20Say%20No%20To%20Sunnica%20Action%20Group%20Ltd%20SNTS%20Written%20Representation%20Annex%20E%20-%20Racing%20Industry\\_Redacted.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004293-DL2%20-%20Say%20No%20To%20Sunnica%20Action%20Group%20Ltd%20SNTS%20Written%20Representation%20Annex%20E%20-%20Racing%20Industry_Redacted.pdf)

- 5) The expert assessment by Bioscan, as well as host local authorities and other ecology specialists, revealed inaccuracies in the Applicant's baseline ecological assessments, which remained unresolved at the close of Examination. It was not possible to determine whether net harm to biodiversity would be avoided by the proposed scheme, and significant concerns remain about negative impacts on a number of rare and protected species.

[https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004292-DL2%20-%20Say%20No%20To%20Sunnica%20Action%20Group%20Ltd%20SNTS%20Written%20Representation%20Annex%20D%20-%20Ecology%20and%20Biodiversity\\_Redacted.pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004292-DL2%20-%20Say%20No%20To%20Sunnica%20Action%20Group%20Ltd%20SNTS%20Written%20Representation%20Annex%20D%20-%20Ecology%20and%20Biodiversity_Redacted.pdf)

- 6) The safety of the huge battery energy storage systems has been a paramount concern amongst local communities who are well aware of the known fire risks and hazards associated with lithium-ion battery storage. BESS expert Professor Paul Christensen reviewed the Applicant's proposed fire safety plan and revealed this to be unfit for purpose:

<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-004300-DL2%20-%20Say%20No%20To%20Sunnica%20Action%20Group%20Ltd%20SNTS%20Written%20Representation%20Annex%20L%20-%20Battery%20Fire%20Safety%20Planning.pdf> ).

The lack of policy compliance with regard to very large scale BESS and the need for Hazardous Substances Consent as detailed in evidence submitted by a local expert Dr Edmund Fordham remained unresolved at the end of the Examination (see as an example [https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-005439-Dr%20Edmund%20Fordham%20\(1%20of%205\).pdf](https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010106/EN010106-005439-Dr%20Edmund%20Fordham%20(1%20of%205).pdf) )

## **Appendix D – Solar and car park rooftop potential**

Research published in May 2023 by University College London Energy Institute shows the significant rooftop/ car park solar potential in the UK. The authors concluded that 40-50 GW rooftop / car park solar could be easily installed at relatively low cost; with further investment this could increase to 117 GW. The summary report by CPRE is here:

<https://www.cpre.org.uk/wp-content/uploads/2023/05/Rooftop-Revolution-Report.pdf>

The data supporting the study is here:

[https://www.ucl.ac.uk/bartlett/energy/sites/bartlett\\_energy/files/ucl\\_ei\\_net\\_zero\\_land\\_use\\_for\\_cpre\\_barrett\\_scamman\\_180523.pdf](https://www.ucl.ac.uk/bartlett/energy/sites/bartlett_energy/files/ucl_ei_net_zero_land_use_for_cpre_barrett_scamman_180523.pdf)