

**Written evidence submitted by Say No to Sunnica Action Group Ltd**

Thank you for the opportunity to submit evidence to this onshore solar energy inquiry. I chair a community action group opposing a 2500-acre ground-mounted solar and battery NSIP (Sunnica Energy Farm), proposed entirely on high quality, and high yielding, agricultural land across East Cambridgeshire and West Suffolk.

Like many other similar solar campaign groups (we are members of the Solar Campaign Alliance, which currently comprises 59 solar campaign groups across the nation) we are not anti-solar or anti other renewables. But we strongly believe that such developments need to be in the right place to be sustainable. We are concerned at the lack of monitoring of agricultural land loss to ground mounted solar developments, and a lack of support for more sustainable alternatives (such as rooftops). We feel needs to be addressed as a matter of urgency, as outlined in our evidence below.

Evidence submitted by Dr Catherine Judkins, on behalf of the Say No to Sunnica Action Group Ltd

*1) What role can developments in solar panel technology play in the UK's transition to net zero?*

Developments in solar panel technology can contribute towards net zero providing that the panels are appropriately sourced and are appropriately sited. Reports by the Department for Energy & Climate Change in 2014 (Ref 1) indicated an estimated 250,000 hectares of unused south facing commercial rooftop space that could be utilised for solar development. Much of this still goes unused, despite panel developments now having lighter weight technologies etc that lend themselves to making these easier to install. More recently, in September 2022, the UK Warehousing Association (UKWA) commissioned a report into commercial rooftop deployment and have asked for help from the Government to facilitate rooftop solar in this sector. They state that there are currently over 18,500 acres of readily available warehouse rooftops that could easily have solar panels deployed but that this is being inhibited by the district network operators.

It seems wrong to not make use of accessible and available existing spaces for solar panel technology and instead encourage and permit developments of ground-mounted solar panels on vast areas of the UK's productive farmland.

The 'mega scale' ground mounted solar scheme (a NSIP) proposed by Sunnica Ltd is an example of 'bad' solar. If approved, this would take 2,500 acres of highly versatile and highly productive farmland out of food production for over 40 years. The land area for this scheme alone reliably produces 38,000 tonnes of food every single year. Over 40 years that's more than 1.5 million tonnes of food.

We acknowledge that we are living in unprecedented times with both energy security and food security being high on the Government agenda. We therefore feel that it is imperative that renewable energy technologies such as solar are best directed to existing surfaces, particularly those where requests have been made to facilitate this. We can then retain food growing land in food production. It is possible to have both energy security and food security providing that there is a robust regulatory framework in place to enable this. At this time of global food insecurity, it is so important that we make better use of the UK's finite land and particularly offer better protection for BMV land, and highly versatile, irrigated farmland that is better able to adapt to climate change (i.e. we need to ringfence that land which is less susceptible to extreme conditions of wet and drought to enable continuous, reliable food production in this country).

The Say No to Sunnica community action group is part of a wider alliance of solar campaign groups who are equally concerned about the rapid loss of good quality farming land to large scale ground mounted solar developments. The Solar Campaign Alliance, SCA ([www.solarcampaignalliance.info](http://www.solarcampaignalliance.info)) has 59 members currently, all facing solar developments on agricultural land. From these campaigns alone this represents almost 30,000 acres of farmland that could be lost to solar energy developments and that could have a significant impact on our ability to produce food in the UK.

We are urgently calling for better regulation of land use. We are calling for better protection of the UK's farmland and we are calling for Government support to help deploy more solar on rooftops to create sustainable, long term solar energy.

In addition, it should be noted that large scale ground mounted solar schemes are very 'greedy' on land required. In the case of Sunnica, the scheme spreads itself over a ca. 15 mile area, (around 1 million solar panels) and it would be highly visible in many places and would remain so over its 40-year lifetime. Rural communities, who choose to live in the countryside, are being expected to live alongside these huge industrial developments that are being inflicted upon them. They are expected to suffer disruption during long construction periods. They are expected to experience road and footpath closures and reduced long term amenity. They are expected to accept the change to their valued rural landscapes and to come to terms with these being replaced by an industrial landscape. This is particularly the case for these 'mega scale' schemes of which there are several under consideration at present (Longfield, Sunnica, Mallards Pass, to name but a few). All of this harm which the communities are expected to endure is not outweighed by the national benefit and there is also no provision in the regulations about local benefits from these NSIP solar proposals. There has been discussion about this for communities living close to onshore wind farms. But there is no such requirement for solar, even though the land take for solar is arguably far greater and the cumulative impact is significant.

2) *What are the current barriers (regulatory, technological or otherwise) to expanding the number of small and large-scale solar installations in the UK?*

As described above there appear to be barriers from the district network operators in permitting more solar panel deployment on commercial rooftop spaces. The advances in technology mean that solar panels are now lighter weight. There are new solar film technologies and many solar options to suit most types of buildings. These need to be facilitated so that we can make better use of our existing surfaces for solar energy production instead of taking the currently perceived 'easy route' of using the UK's best farmland for ground mounted solar developments on a large scale. This can only lead to problems in the long term not only with respect to food security but also habitat displacement, habitat loss and the environment in general.

It is not possible to redevelop vast areas of greenfield land for industrial solar use and not have knock-on effects for the wildlife and the local environment.

A clear strategy is needed to direct more solar development to rooftops and brownfield sites and to protect the UK's farmland.

In addition there is currently no monitoring tool to check how much farmland is being lost to solar and other renewable developments. The department for Business Energy and Industrial Strategy has a renewable energy database which is kept updated regularly is a really useful tool. What is needed is for this to be extended to track the land *type* that is being lost to such developments (land grade – is it BMV?, greenbelt?, etc.) and for this tool to be used by planning departments when assessing new applications.

Until there is monitoring and better regulation, we are currently facing a 'Wild West' situation where large scale solar developers are tempting landowners with lucrative profits for leasing their land to develop large scale solar schemes, which are being opposed by local communities because of the impact they have on their surroundings and the fact that these could have much longer term consequences for food security, wildlife and the environment.

3) *To what extent is the contribution of solar technologies to the UK's renewable energy mix limited by storage and distribution capacity?*

It is clear that for intermittent renewable energy some form of storage is required. However current grid scale storage proposals use lithium ion battery technology at scale, which has benefits but also

serious hazards. These grid scale storage systems must be appropriately and adequately regulated. This is currently not the case, and there have been many fires and explosions at such facilities as a result. Battery Energy Storage Systems (BESS) at grid scale need to be regulated under COMAH (control of major accident hazards). As more and more incidents of BESS failures come to the attention of the communities it makes them very nervous about living next to these. Lack of adequate regulation also put an enormous amount of pressure on our Fire and Rescue Services and local authorities who understandably feel very nervous about hosting these in their regions and often lack the resource and training to deal with incidents. If BESS are to become more prevalent in the UK to help support renewable energy it is vital that adequate regulation (COMAH) is applied.

- 4) *How significant are current technological developments in energy storage and distribution networks for the potential contribution of onshore solar to the UK's renewable energy mix?*

As stated above technological development in energy storage is key to supporting the UK's renewable energy mix. However current technologies (e.g. lithium ion) do pose well known hazards (fire, toxic emissions, explosion potential, environmental pollution) which can be catastrophic, and it is essential that these are regulated under COMAH.

- 5) *What needs to be done to facilitate solar farm access to grid connection, to enable wider distributed energy generation from solar installations?*

The DNO need to be more accommodating to open up the use of roofs etc

- 6) *Are government support schemes sufficient to encourage small-scale solar technology deployment by consumers? What role does the pricing of energy under these schemes play in the uptake of solar technology by domestic and commercial properties?*

As mentioned previously there seems to be little government support to help develop commercial rooftop spaces on a wider scale. There also needs to be more domestic rooftop solar production (especially including solar during construction). If we look at our neighbouring countries like Germany for example whose solar energy output annually is over 45 GW compared to around 14 GW in the UK, over 70% of their solar energy output is derived from rooftop installations (over 50% from commercial rooftops and the rest from domestic rooftop installations). Already they have more than three times the UK's solar energy output and without compromising land use.

Perhaps there are learning points and incentive programmes used by our neighbouring countries which could be adopted in the UK to improve uptake and minimise land use conflicts.

The UKWA stated in their most recent report (ref 2) that the district network operators were 'monopolistic gatekeepers' who made it difficult to deploy commercial rooftop solar. This needs to change.

- 7) *Does Government policy and current planning guidance adequately address the issues raised by proposals to install solar farms on land with high agricultural or ecological value?*

Unfortunately not. As stated above there is a lack of clarity on what constitutes high agricultural quality land. Currently, Best and Most Versatile (BMV) is considered as land Grade 1 to 3A. It seems that Grade 3B (which can also be highly productive) may now be brought back into the BMV fold but this lack of clarity means that local planning departments find it very difficult to have a robust framework on which to make decisions about ground mounted solar schemes.

In East Cambridgeshire and West Suffolk, where the Sunnica scheme is being proposed, the applicant has suggested that the land is 96.2% 'poorer quality' land as part of their justification for this location. This is completely at odds with what we know this area can grow (on these fields we grow potatoes, sugar beet, carrots, onions – this range of crops and the high yields cannot grow on 'poor quality' soil). Independent assessments have called the analysis by Sunnica into question, which we hope will be considered by the Examining Authority. But it is not always the case that the

planning authorities have the resource to commission their own independent soil reports and often they just have to accept the analysis carried out by the developer.

This can lead to decisions being made on inaccurate information and where there might be a policy to avoid BMV land for development, if the analysis itself is flawed, then wrong decisions could be made due to wrong information. It is so important for local authorities and other planning departments to be able to commission independent soil analysis reports (paid for by the applicant) and that these analyses are carried out by suitably qualified experts and according to internationally accepted methods. Otherwise the UK faces a dramatic loss in its food producing capability and planning departments are faced with uncertainty when trying to balance their climate crisis goals with protecting farmland.

In addition, as stated previously, there is currently no central monitoring tool to check land type being lost to solar which means cumulative loss of highly productive farmland across the nation is not being regulated or monitored.

As an example the Sunnica scheme is seeking to take 2500 acres of highly productive farmland out of production but this isn't the only solar scheme in this area. There are around 20 solar farms either in operation or under construction within a 15 mile radius of the Sunnica proposal. Amounting to a further 2000 acres of land, and almost all of these are on BMV land.

This demonstrates the current lack of protection for high quality farmland offered by government policy and local planning policy.

The NSIP limit of 50MW for generating stations is too low and takes decisions out of local hands and considerably reduces the ability of communities to comment.

Finally, regarding land of ecological value, once again it is the case that the applicants submit their own ecological assessments to the planning officers who are looking at their proposals. Planning authorities do not often have the resource to have independent counter assessments made. We have found this again for Sunnica Ltd who have significantly overstated their Biodiversity Net Gain calculations and this may not have come to light had it not been for us being able to carry out an independent analysis.

Once again, lack of accurate and independent data could lead to wrong decisions being made.

8) *How sustainable is the supply chain for solar panel manufacture? Do levels of sustainability differ between mature and emergent technologies?*

It would seem that this is not particularly sustainable at present for supply of PV panels since most of these are manufactured in China, with all the associated links with human rights abuses. Not only is this an issue from an ethical perspective (and the UK should not be accepting any solar panels that have been produced through slave labour), but it's also an issue from a climate perspective. It makes no sense to have solar panels being produced in countries with a poor environmental track record or to incur the carbon footprint of the transport and installation to the UK from China etc. As an example, the Sunnica scheme has been shown by a leading university (Cranfield) that over the course of its 40 year lifetime, it will be a net emitter of carbon. It will do nothing to help meet the UK's climate targets nor to slow global warming.

Solar schemes like this cannot be allowed if they create more carbon than they can ever save. And particularly when deployed on farmland with a high economic value in its own right.

We need to ensure that there is a sound ethical supply route for solar panels to be produced, and more locally to where they are due to be installed. This also applies to the BESS, which can be used alongside solar schemes. These are predominantly lithium ion technology at the moment but there is a scarcity of lithium and even the extraction of lithium itself requires considerable

environmental damage. These also have links with human rights abuses (since components often come from countries where forced labour exists). Materials needed to create and store renewable energy need to be in good supply and should not in themselves cause environmental damage. These must be ethically sound.

- 9) *Does the concentrated global distribution of solar panel supply chains (80% manufacture in China) pose a risk to solar technology expansion in the UK? If so, how could this be mitigated?*

As answered above in 8) . Yes 80% of the solar panels being supplied by China does pose a risk to the UK. There are ethical considerations and also supply issues. It does not make sense at a times of energy insecurity to withdraw reliance on one country such as Russia and then have an over-reliance on another unpredictable regime as exists in China. There is no energy security while we rely on monopolies to supply panels and battery components. We have to be able to manufacture these or source these more locally not just for supply chain but for the reasons mentioned above (in terms of ethics and reducing carbon footprint).

- 10) *Are there opportunities for solar energy generated abroad (e.g. in the Sahara desert) to be delivered to the UK via interconnectors?*

The UK is borderline in terms of capacity factors for solar, only the southern part of the UK is usable. Regions further south have higher capacity ratios and are more efficient for solar PV. But these areas also have conflict with food production etc (as mentioned above).

Interconnectors could enable better use to be made of stable PV generation for the UK, but would not enhance energy security.

#### **References:**

- 1) UK solar PV strategy Part 2 bring a brighter future published in 2014 ([uk\\_solar\\_pv\\_strategy\\_part\\_2.pdf \(publishing.service.gov.uk\)](#))
- 2) [Time To Act On Extortionate And Obstructive Electricity Grid If We Are To Tackle The Energy Crisis, Say UK Warehouse Owners | UKWA:](#)

***Time To Act On Extortionate And Obstructive Electricity Grid If We Are To Tackle The Energy Crisis, Say UK Warehouse Owners***

***September 7, 2022***

*We are failing to use the equivalent of 18,500 acres of land for solar power generation that could generate more than the 13.8TWh of electricity required in the UK renewable energy strategy.*

*This is because of the failure to enable warehouse owners to install solar panels on their roof of their buildings over recent decades, says the UK Warehousing Association in its new independent research report, commissioned from the specialist consultancy Delta Energy & Environment (Delta-EE).*

*Occupying a third of all commercial roof space the warehousing sector alone could double UK's solar PV capacity and deliver the entire UK requirement for 2030, forecast by the National Grid future energy scenarios (FES). But UKWA draws attention to the extortionate and highly ineffective monopolist gatekeepers that are preventing businesses investing in energy generation and connecting to the energy grid: the District Network Operators (DNO), controlling who can get access to the electricity grid, when and at what cost.*

*UKWA Chief Executive Clare Bottle said: "Warehouse owners across the country are struggling to pay for gas-powered electricity from the grid, when they could be generating all the power they need and more from the roof of*

*their buildings. Out of sight, easy to maintain and affordable, the case for solar should be obvious and yet we are being held back by poor market practice and failures of regulation.*

*She points in particular to the obstructive, extortionate and not fit for purpose DNOs holding back the businesses that could invest hundreds of millions of private sector funding into clean renewable power. Bottle said “we need a fundamental rethink of the way in which DNOs hold power over access to the grid, how they get renewable schemes connected to the grid and the prices they charge.”*

*And she calls on the new Prime Minister Liz Truss to act to remove these barriers to investment, so the UK is not exposed to this type of energy crisis in the future.*

*The UKWA report ‘Investment Case for Solar Power in Warehousing and Logistics’ is published this week and explains how the UK warehouse sector is sitting on one of the obvious solutions to UK energy resilience that is actionable right now.*

### **‘Walking on Sunshine’ to be unveiled at IMHX**

**Thursday 8<sup>th</sup> 11am.**

*According to the report, UK warehousing has the roof space for up to 15GW of new solar power, which could:*

- *Double UK’s solar capacity*
- *Reduce carbon emissions by 2 million tonnes/year*
- *Cut warehousing electricity costs from between 40-80%*
- *Save the warehousing sector £3bn/year*
- *Provide a more secure power supply*
- *Enable the sector to become a net producer of green electricity*

*Laurence Robinson, Senior Analyst at Delta-EE and co-author of the report, says, “Rooftop solar PV in warehousing can play a significant role in delivering local renewable energy, particularly in urban areas where limited alternative options are available due to land and planning constraints.*

*“Just twenty percent of the UK’s largest warehouses can provide 75million square metres of roof space, avoiding the need to develop new land equivalent to the footprint of 500,000 houses.”*

*Commenting on the report, Chief Executive of UKWA Clare Bottle said, “As energy costs continue to rise, UKWA is calling on the government to support the sector in embracing solar PV as it transitions to electrification with transport fleets, forklifts and other mechanical handling equipment (MHE), automation and robotics, all of which will drive up demand for low-cost, sustainable electricity.”*

### **Why Solar?**

*Solar PV is widely predicted to be a major part of future sustainability, providing low cost, secure and green electricity, but so far – despite cost reductions of over 80 percent in the past decade – this option has been largely unexplored and untapped in the warehousing sector.*

*Yet, unlike utility scale solar, warehouse rooftop solar does not compete with farmland. And as the report shows, warehousing is in a unique position to adopt solar power, providing an unparalleled amount of accessible, unobstructed roof space close to industrial and residential centres.*

### **What UKWA is asking from government**

*On planning, UKWA highlights the barriers presented by grid permits and recommends wholesale reform of the way DNOs operate and their regulation by Ofgem.*

*On funding, the government’s super deduction on capital investment, due to end in April 2023, must be extended to 2030 to support levelling up by addressing upfront investment concerns.*

*On tax, solar energy is excepted from business rates, UKWA says this must be preserved, in recognition of the important role solar will play in a greener economy.*

*The conclusion is clear. The case for solar PV on warehouse rooftops is overwhelming, for the sector and for the UK.*

*Clare Bottle will be joined by Kevin McCann of Solar Energy UK, Thomas McMillan, Energy Director at Savills, Jenna Strover, Head of Commercial Delivery at Potter Space and Laurence Robinson of Delta-EE in the Logistics Theatre at IMHX on Thursday morning 8<sup>th</sup> September to present and discuss the report findings and sector strategy for solar.*

*UKWA will also have available its new solar PV installation toolkit, a step-by-step guide for members keen to adopt solar PV and reap the benefits of lower costs, increased energy security and reduced carbon emissions.*

*December 2022*