

Additional written evidence submitted by Solar Energy UK

Dear Mr Dunne,

Thank-you for the opportunity to give evidence to the Environmental Audit Committee's inquiry into solar energy on Wednesday 11 January. I am writing to respond to issues raised during the evidence session that were not fully addressed at the time.

Development planning

Data held by the Government and the solar industry demonstrates that the vast majority of planning applications for solar farms are granted by local authorities, with few going to appeal.

According to provisional information supplied to Solar Energy UK by Solar Media Ltd, over the course of 2022, 190 solar farm applications were determined. Of these, 162 were approved and only 28 rejected, most of which are subject to appeal. Experience suggests that half of these appeals are likely to be won.

Looking back over a much longer period, Department for Business, Energy & Industrial Strategy (BEIS) details the present status of all renewable generation

projects with a capacity above 150 kilowatts, going back almost two decades.¹ The following figures for ground-mounted solar projects, last revised in October are taken from it.

| Status | Projects |
|-----------------------------|-----------------|
| Operational | 1143 |
| Under construction | 55 |
| Awaiting construction | 363 |
| Application submitted | 270 |
| Revised | 121 |
| Application withdrawn | 94 |
| Appeal Withdrawn | 8 |
| No application required | 1 |
| Application refused | 240 |
| Abandoned | 102 |
| Planning permission expired | 58 |

As you will see, almost 400 projects are now awaiting construction, having secured planning permission. The fact that this number is quite high is largely symptomatic of the solar industry's

¹ Renewable Energy Planning Database www.gov.uk/government/publications/renewable-energy-planning-database-monthly-extract

chronic problems in accessing the grid and delays due to this, as discussed during the evidence session and in the written evidence submitted to the committee.

Community benefits

Solar Energy UK is in the very early stages of developing a voluntary framework for community benefits and is exploring a range of options. We hope to complete this work by the end of the year.

Community benefits play no role in determining a planning application.

Use of agricultural land

About 70% of the UK's land surface consists of agricultural land, in its various grades. We estimate that solar farms occupy around 0.1% of land, or around 230 square kilometres.² Assuming that ground-mounted systems account for around two thirds of overall solar generation capacity by 2035, the same proportion as now, an extra 464 square kilometres would be needed. This is less than the area covered by airports.

Almost all solar farms are built on middling-quality, grade 3b land. This is because higher grades are identified as Best and Most Versatile (BMV) land and are subject to planning protections and lower grades tend to be in upland areas, far away from access to the electricity grid and often in sensitive landscapes.

We predict that around 0.3% of the country would host solar farms by 2035, equivalent to 0.5% of land currently used for farming. As the National Farmers Union and others have stated, agricultural production is going to be affected far more by climate change than by such a small loss of farmland. In any case, much of it will not be under arable use.

Solar farms offer a rare opportunity for multiple uses of the same land, providing power while also enabling grazing and/or biodiversity enhancement. Although the sector is only just getting started in the UK, 'agrivoltaics' may form part of the future. As climate change bites more deeply, some crops may benefit from being kept out of the harshest summer sun, while providing farmers with two sources of income.³

Further information on this topic is found in our briefing 'Ground mounted solar farms and agricultural land: The Facts'.⁴

² National Food Strategy Part, II www.nationalfoodstrategy.org/

³ Agrivoltaics: the world of agriculture can reap numerous benefits www.evwind.es/2022/12/23/agrivoltaics-the-world-of-agriculture-can-reap-numerous-benefits/89440

⁴ Ground mounted solar farms: The facts www.solarenergyuk.org/resource/ground-mounted-solar-farms-and-agricultural-land-the-facts/

Grazing

Sheep grazing is an economical and practical way to manage grass height, so is commonly deployed across ground mounted solar farms. As a case study, Fenton Home Farm, near Haverfordwest, is typical.⁵

As there is no universal data on management practices across the sector, exactly how many solar farms are grazed has not been established. A report published by the ecological consultancy Clarkson & Woods sheds some light on the situation, although it does state that “some caution should be drawn” in assuming that it reflects the entire sector.⁶

The company monitors around 10% of all large (over 3MW) solar farms in the UK. Of the one third of its portfolio that it visited in 2020, 38% of sites were grazed by sheep to some extent and 58% were mown to some extent. None were grazed in other ways, such as with chickens, although this is known to be done at some locations.

One of Solar Energy UK’s larger members, which manages sites on behalf of their owners, said that approximately a third of its portfolio is grazed. However, it would “much prefer it to be around 50%”, both for ecological and economic reasons. Our contact added that while there is “definitely plenty of interest” from shepherds, obstacles such as low panel heights (to reduce visibility) and paperwork can be challenging to overcome.

Potential infrastructure damage from sheep is readily avoidable, simply through installing guards around cabling.

Biodiversity

The same report also throws light on the considerable biodiversity benefits offered by solar farms, Clarkson & Woods finding no less than eleven species of mammal, all three native newts, grass snakes and common lizards in 2020. Over

the previous three years, the company recorded 105 species of bird, including 22 red-listed and 20 amber-listed species of conservation concern, such as skylark, song thrush and curlew. Early indications are that the average species richness of solar farms doubles over 30 years, indicating that they result in a net gain of biodiversity.

Fire safety

⁵ How solar panel diversification is working for a sheep enterprise www.fwi.co.uk/livestock/how-solar-panel-diversification-is-working-for-a-sheep-enterprise

⁶ Solarview – ecological monitoring of solar sites overview of 2020 surveys www.clarksonwoods.co.uk/wp-content/uploads/PDF/Solarview2020.pdf

Lithium-ion battery storage systems are used around the world, by millions if not billions of people, in our homes and devices. However, they can present a small risk of fire under certain circumstances, as can all energy technologies, not least those which rely on fossil fuel combustion, such as gas boilers. Alternative battery technologies are becoming available and are subject to ongoing research.

The insurance industry is working with solar installers and asset managers to ensure that appropriate safety measures are incorporated on all solar farms. This is a fast-evolving area and improved safety measures are installed, where appropriate, in light of experience.

We look forward to the conclusion of the inquiry and stand ready to assist the committee by answering any further questions it may have.

Yours sincerely,

Chris Hewett

Chief Executive,

Solar Energy UK

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