

Why Farmers Should Reject Solar Farms on Productive Farmland

Productive farmland should not be treated as vacant space waiting for industrial development. For local farmers, land is not simply a commercial asset to be leased to the highest bidder; it is the foundation of food production, rural livelihoods, local identity, soil health, wildlife habitat and national resilience. While renewable energy has an important role to play, large-scale ground-mounted solar farms on agricultural land risk solving one problem by creating several others. Farmers should therefore reject solar developments on productive farmland and support solar deployment on rooftops, brownfield sites, warehouses, car parks and already degraded land instead.

Key UK evidence: CPRE research published in 2025 reported that 59% of England's largest operational solar farms were located on productive farmland, while 31% of the area covered by panels was classified as "Best and Most Versatile" agricultural land. CPRE also estimated that 827 hectares of BMV land had already been covered by large solar schemes, including 45 hectares of Grade 1 land and 216 hectares of Grade 2 land.

The first and strongest objection is food security. The United Kingdom cannot afford to weaken its agricultural base at a time of global instability, volatile supply chains, extreme weather and rising pressure on food prices. The Department for Energy Security and Net Zero estimated that, by September 2024, ground-mounted solar panels already covered about 21,200 hectares, or around 52,000 acres, of UK land. Government analysis has also indicated that, under high-end current-policy scenarios, new ground-mounted solar could occupy up to 0.6% of the UK's utilised agricultural land by 2030 if all new modelled capacity were ground-mounted. Good farmland, once taken out of active food production for decades, cannot easily be replaced. Even where solar developers describe projects as "temporary", leases can remove land from meaningful crop production for a generation or more. That is a serious decision for any farming family and for the wider community that depends on local food production.

Government policy has itself recognised that the best agricultural land should be protected for food production, and that solar should be directed where possible towards brownfield, contaminated, industrial and lower-quality land. In May 2024, the UK Government stated that solar projects must fit with food security, that "Best and Most Versatile" agricultural land should be avoided where possible, and that brownfield, contaminated, industrial and lower-quality land should be prioritised. That principle should matter to farmers. If productive land is steadily converted into energy infrastructure, the cumulative effect may be far greater than any single application suggests. One field may seem small; hundreds of fields across a region become a permanent shift in the purpose and character of the countryside.

Solar companies often present leases as a secure income stream for farmers facing difficult margins. That argument is understandable, but it is also short-term. Farming is not only about annual income; it is about stewardship, succession and the ability of the next generation to farm. Once land is committed to a major solar scheme, the farmer may lose practical control over how that land is managed, accessed and restored. The decision can also affect neighbours, tenants, contractors and future family members who had no say in the agreement.

The promise of reversibility should be treated with caution. Panels, cabling, access tracks, security fencing, substations, battery storage infrastructure and construction compounds all change the physical and commercial use of the land. Soil structure can be affected by compaction during construction and maintenance. Drainage patterns may be altered. Even if the panels are eventually removed, the farm may not return quickly or cheaply to its previous productive condition.

Solar farms are not visually neutral. They introduce rows of panels, security fencing, CCTV poles, inverter units, access roads, warning signage, lighting and sometimes battery storage into open countryside. This changes the character of rural landscapes from working agricultural land into semi-industrial energy compounds. For villages and farming communities, the impact is not merely aesthetic. Landscape character is part of local heritage, tourism, mental wellbeing and community identity. The uneven distribution of solar development also matters: CPRE has reported that, while national land-take figures

may appear small, some local areas are far more heavily affected, with solar farms already covering around 7% of land in Sleaford and North Hykeham.

Developers often argue that hedgerows or planting can screen solar farms. Screening may reduce some views after several years, but it does not remove the development. It can also enclose the landscape, block familiar open views and alter the traditional relationship between farms, footpaths, lanes and villages. Farmers should ask whether a short-term private lease is worth a long-term public loss of countryside

Solar developers frequently claim that solar farms can improve biodiversity by creating grassland, wildflower margins or reduced chemical use. In some cases, carefully managed solar sites may support certain species. However, that does not mean solar farms are automatically good for wildlife, nor does it justify placing them on productive farmland. Wildlife impacts depend on the original habitat, the quality of management, the density of panels, fencing, disturbance, construction methods and long-term monitoring.

Large solar schemes can disrupt open-field habitats, affect ground-nesting birds, change movement routes for mammals and create barriers through fencing. Construction can disturb soil, hedgerows, ditches and field margins. Maintenance traffic, vegetation control and security infrastructure can continue to affect the site long after construction ends. Farmers know their land in a way developers do not: a field may appear ordinary on a planning map but still form part of a wider ecological network of hedges, ponds, ditches, beetle banks, skylark territories and foraging routes.

Solar farms are often described as clean energy, but that does not make every solar development clean in its local impacts. Construction can involve heavy vehicles, excavation, concrete foundations or driven piles, cabling trenches, access tracks and drainage works. These activities can compact soil, increase runoff, disturb sediment and create pathways for pollutants to enter ditches, streams and rivers. Where land slopes towards watercourses, poor construction management may increase the risk of erosion and contamination.

Farmers should also consider the wider infrastructure attached to modern solar schemes. Battery energy storage systems, transformers, inverters and substations introduce additional fire, chemical and contamination risks. The National Fire Chiefs Council has warned that lithium-ion battery failures can lead to thermal runaway, producing toxic and explosive vapours, difficult-to-extinguish fires and contaminated fire-water runoff that may have long-term environmental impacts. If equipment fails, burns or leaks, the consequences may not remain neatly within the site boundary. Smoke, residues, firefighting water and damaged electrical components can affect soil, air and nearby watercourses. These risks may be low in probability, but their consequences can be severe, and local communities should not be expected to carry them lightly.

Solar farms are sometimes presented as quiet and passive once built, but this can understate genuine local concerns. During construction, noise, dust, vibration, traffic and road damage can be significant. Once operational, inverters, transformers, cooling systems and battery storage equipment can generate low-level or tonal noise that may be intrusive in quiet rural areas. For nearby homes, farms, footpaths and wildlife habitats, a noise that seems minor on paper may become a constant presence.

Fire risk must also be addressed honestly. Any electrical installation carries risk, and large solar sites may include extensive cabling, high-voltage equipment and battery storage. A fire in a rural location can be difficult to access and control, particularly where narrow lanes, dry vegetation or water supply constraints are present. The National Fire Chiefs Council notes that battery energy storage fires can continue for several hours or several days and may reignite even without oxygen; it cites a Liverpool battery fire in 2020 that lasted three days. Smoke and firefighting runoff may affect nearby residents, livestock, wildlife, crops, soil and waterways. Farmers should not accept vague reassurances where detailed emergency plans, insurance liabilities and long-term accountability are unclear

The argument against solar farms on productive farmland is not an argument against solar power. It is an argument for putting solar in the right places. Roofs, warehouses, farm buildings, schools, supermarkets, industrial estates, car parks, railway land, brownfield sites and contaminated land should be prioritised before good agricultural land is sacrificed. These locations generate power close to where it is used, reduce pressure on open countryside and make better use of already developed surfaces. CPRE-commissioned

research by the UCL Energy Institute found that solar on existing rooftops and car parks in England could provide at least 40–50GW by 2035, with potential for up to 117GW by 2050. Government material has also highlighted the untapped potential of commercial buildings, schools, warehouses and car parks for solar deployment.

For farmers, there may be practical opportunities to support solar without giving up productive fields: panels on barn roofs, grain stores, livestock buildings, workshops and farm offices can reduce energy costs while keeping land in food production. This approach respects both energy security and food security. It also avoids the false choice often presented by developers: that communities must either accept industrial-scale solar fields or oppose renewable energy altogether.

Farmers are under financial pressure, and solar leases can look attractive. But the decision to host a large solar farm is not simply a private business choice. It affects food production, neighbours, wildlife, watercourses, landscape character, rural roads and the next generation. It also sets a precedent. Once one productive farm is converted, others may be targeted, and the countryside can change incrementally until the cumulative damage becomes obvious too late.

The better position is clear: farmers should reject solar farms on farmland and argue for solar first on rooftops, brownfield land and already developed sites. Food-producing land is too valuable to be treated as a convenient blank canvas for energy companies. The countryside must contribute to the future, but not by surrendering the very land that feeds us, sustains rural communities and defines the character of the places we call home.

Local farmers should stand together and make a clear commitment: support renewable energy, but not at the expense of farmland. Challenge developers to use rooftops and brownfield sites first. Ask hard questions about food security, drainage, fire risk, biodiversity, restoration, insurance and long-term liability. Above all, defend farmland as farmland, because once the countryside is industrialised, it may never fully return to what it was.

Evidence and References

- Department for Energy Security and Net Zero, “Land utilised by Solar PV, September 2024”: estimated ground-mounted solar panels covered 21,200 hectares, or around 52,000 acres, of UK land by September 2024.
- GOV.UK, “Ground mounted solar energy plants: predicted land use”: stated that, under a high-end current-policy scenario, new ground-mounted solar could occupy no more than 0.6% of UK utilised agricultural land by 2030 if all modelled new capacity were ground-mounted.
- GOV.UK, “Solar projects must fit in with food security” and UK Parliament written statement HCWS466: stated that the best agricultural land should be protected for food security and that solar should use brownfield, contaminated, industrial and lower-quality land where possible.
- CPRE, “Two-thirds of mega solar farms built on productive farmland” (2025): reported that 59% of England’s largest operational solar farms were located on productive farmland and that 31% of their panel-covered area was Best and Most Versatile agricultural land.
- CPRE, “Rooftops can provide over half our solar energy targets” (2023): reported that rooftops and car parks in England could provide 40–50GW of solar capacity by 2035 and up to 117GW by 2050.
- House of Commons Library, “Planning for solar farms” (2025): summarised UK solar deployment targets and planning issues, including the need to increase installed solar capacity to 45–57GW by 2030.
- National Fire Chiefs Council, “Battery Energy Storage Systems Position Statement”: warned that lithium-ion battery failures can cause thermal runaway, toxic and explosive vapours, difficult fires, reignition risk and contaminated fire-water runoff.
- Environment Agency, “Environmental and social implications of energy storage technologies” (2025): reviewed environmental and social implications of energy storage technologies relevant to land, air, water, safety and regulation.