

EXECUTIVE SUMMARY

Written Representation: EN010168 Lime Down Solar Park

Submitted by Paul Bird, Campaign Director, Harvesting the Sun Twice

This representation does not oppose the principle of solar energy generation at Lime Down. It advances a specific, evidence-based argument: that the applicant has proposed a suboptimal solar configuration for the quality of land involved, and that the Examining Authority should satisfy itself that Vertical Bifacial PV (VBPV) was properly evaluated as an alternative before consent is granted.

The configuration argument. The proposed Lime Down Solar Park uses conventional fixed-tilt, south-facing panels (TBPV). An alternative configuration — Vertical Bifacial PV — mounts identical bifacial panels vertically in an east-west orientation. Both use the same panel technology. The difference is orientation only, but the consequences for land use, grid economics, and reversibility are profound.

BMV land. Wiltshire Council has formally objected on the grounds that 30% of the site is Best and Most Versatile (BMV) agricultural land, and that no evidence has been provided that alternative sites were considered. This representation adds a further point: even where BMV land is used, TBPV makes the impact significantly worse than necessary. Under VBPV, 70–85% of agricultural productivity is retained throughout the operational life of the asset. Full-width machinery can operate between panel rows. The BMV objection is not merely mitigated — it is substantially resolved.

Energy and grid performance. VBPV delivers 8–12% more energy annually than south-facing fixed-tilt monofacial PV (University of York; Badran & Dhimish, 2024). Its east-west orientation produces a dual morning/evening generation profile aligned with grid demand peaks, reducing the Battery Energy Storage System (BESS) requirement by approximately 52% compared to an equivalent TBPV installation. The 1GWh BESS proposed for Lime Down should be assessed against a VBPV scenario.

Leave no trace. Planning conditions should require baseline microplastic soil assessment at commissioning, annual drip-line monitoring, and a soil condition report at decommissioning. No published UK study of drip-line soil microplastic accumulation beneath solar farms currently exists; this monitoring gap is a material evidence absence.

Requests of the Examining Authority. The representation asks the Examining Authority to require the applicant to demonstrate that VBPV was properly evaluated for the BMV land within the site; that the Environmental Statement addresses long-term agricultural productivity impact by configuration; that soil condition monitoring conditions are imposed; and that BESS sizing is justified against a VBPV alternative scenario.



CLAIMS VS REALITY

LIME DOWN SOLAR PARK · North Wiltshire · Planning Inspectorate Ref: EN010168

Stop Lime Down · April 2026

4,958	Relevant Representations submitted 99% opposing, the highest ever for any solar NSIP in England, exceeding Gatwick Airport
85 – 0	Wiltshire Council cabinet vote against the scheme Unanimous, unprecedented in the county's recent history
749 ha	Solar panels across five fragmented sites Plus a 22km cable corridor to Melksham substation
2,200 acres	Removed from food production for up to 60 years Twelve tenant farmers displaced by nine landowners
2076	Estimated year Lime Down reaches carbon break even Wiltshire Council's own analysis, it increases net emissions until then
1 GWh	Proposed battery storage capacity One of the largest BESS in England, above a principal drinking water aquifer, adjacent to a mainline railway

The proposed Lime Down Solar Park is a case study in the gap between what is claimed about large-scale solar and what the evidence shows on the ground. This document sets out 16 specific claims made by the developer, government departments, or the solar industry, and sets them against evidence submitted to the Planning Inspectorate. Stop Lime Down supports renewable energy, but it must be delivered responsibly, at the right scale, in the right locations, and without destroying the communities and landscapes affected.

A. LOCATION & SIZE

CLAIM 1: The Lime Down site was selected following a comprehensive and transparent assessment of alternatives.

Source: IGP Application / Lime Down Solar website

Reality: Evidence submitted to the Planning Inspectorate shows that site selection at Lime Down was significantly driven by commercial land agreements with a small number of large landowners, not by a systematic assessment of least-impact locations.

- The Site Selection Assessment Report adopted an illogical and inconsistent approach to environmental constraints: sites were not compared against the same criteria, meaning the comparison is unreliable
- IGP's own documents acknowledge the process was driven by land agents identifying 'potentially willing landowners with large areas of land. This was commercial availability, not environmental suitability
- Closer, less sensitive combinations of land parcels near Melksham were not meaningfully tested, despite potentially offering shorter cable routes and lower landscape harm
- The resulting 22km cable route is itself evidence that this is not the most suitable available location; a shorter route to the grid would indicate a better-sited scheme and not affect villages such as Castle Coombe.
- 4,958 Relevant Representations, 99% opposing, were submitted; the highest number ever recorded for any solar NSIP in England, exceeding Gatwick Airport



*See end note 1

CLAIM 2: Wiltshire is not disproportionately affected by solar development.

Source: *Solar Power Portal 'Wiltshire ideally situated for solar power'*

Reality: Wiltshire already hosts multiple large solar installations. Lime Down at 500MW would be one of the largest NSIP solar developments in England and would make Wiltshire one of the most solar-industrialised counties in the country.

- Existing major sites in the county include Lyneham, Wroughton and Snarlton
- Two additional large sites are already approved: Leigh Delamere (50MW) and Red Barn
- Lime Down's five individual solar sites would each independently qualify as Nationally Significant Infrastructure Projects in their own right
- The combined development footprint - panels, cable route, substations and associated infrastructure, covers approximately 50 square kilometres of North Wiltshire countryside
- No equivalent concentration of NSIP-scale solar exists in any other county in England

*See end note 2

CLAIM 3: Every solar project undergoes an impartial planning process.

Source: *The Political Quarterly*

Reality: Nationally Significant Infrastructure Projects are determined by the Secretary of State, who can and does override Planning Inspectors' recommendations. Lime Down has generated the most locally opposed response ever recorded in English planning history.

- In 2024, Ed Miliband approved the Sunnica Solar NSIP against the Planning Inspector's recommendation to refuse, demonstrating that ministerial priorities can override expert assessment
- Wiltshire Council voted 85 – 0 against Lime Down, the clearest possible democratic expression of local opposition; under NSIP rules, it carries no binding weight
- 4,958 Relevant Representations were submitted, 99% objecting, exceeding the previous record for any NSIP, including Gatwick Airport's expansion
- No statutory consultee offered clear support for the scheme; objections were raised by National Grid, Historic England, Natural England and the Environment Agency
- The Planning and Infrastructure Bill proposes further acceleration of developer led outcomes and reduced local oversight

*See end note 3

B. LAND, FARMING & FOOD SECURITY

CLAIM 4: Solar farms use low-value land.

Source: *Solar Power Portal*

Reality: Government policy directs that Best and Most Versatile (BMV) agricultural land should be avoided where possible. At Lime Down, the applicant itself acknowledges that approximately 240 hectares, around 33% of the solar PV area is BMV, which it describes as 'significant.'

- Natural England has stated that the BMV land assessment methodology is still under discussion, raising questions about whether the true BMV proportion is higher than claimed
- The Sunnica Solar NSIP (approved 2024) was subsequently found to include approximately 50% BMV land, far exceeding the developer's initial figure of 4%, demonstrating that applicant BMV assessments cannot be taken at face value
- The cable route corridor passes through land that is approximately 75% BMV in some sections
- NPS EN-3 (2025) states applicants 'should avoid the use of Best and Most Versatile agricultural land where possible' compliance with this cannot yet be demonstrated
- The NFU has warned that removal of planning protections for BMV land will 'create further instability for those facing compulsory purchase of their land'

*See end note 4

CLAIM 5: Utility scale solar does not affect food security.

Source: *Solar Energy UK*

Reality: At Lime Down, approximately 2,200 acres would be removed from food production for up to 60 years, a generational change in land use, not the temporary one described by the applicant. Twelve tenant farmers face displacement.

- The UK imported £64.1 billion of food in 2024 but exported only £24.6 billion, a large and growing deficit (DEFRA UK Trade in Food 2024)
- Only 62% of all food consumed in the UK was domestically produced in 2023 (UK Food Security Report 2024)
- A 60-year operational life is functionally permanent: no scheme of this scale has ever been decommissioned and there is no reliable evidence that land can be fully restored afterwards
- The scheme is enabled by nine landowners, many of whom do not farm the land themselves, displacing twelve tenant farmers
- Proposed 'soil improvement' under panels is based on studies of ten years or fewer; no credible evidence supports the improvements claimed over 60-year timescales

**See end note 5*

CLAIM 6: Dual-use farming and sheep grazing under solar panels provides genuine agricultural benefit.

Source: *Lightsource bp (Australian study)*

Reality: At Lime Down, the 4.5-metre tracking panels are substantially taller than standard solar installations and create conditions incompatible with meaningful agricultural activity. 'Dual use' is a marketing term, not an independently verified outcome.

- Up to 700,000 panels at 4.5 metres high, with tracking motors, cabling and inverter compounds create direct injury risks for livestock
- Shading under panels can reduce herbage yield by up to 56%, even where stocking rates are managed to compensate (US agrivoltaic research)
- Livestock grazing under panels damages the ground vegetation, which must remain intact to absorb water runoff and prevent soil erosion, a direct conflict of land uses
- The Australian study cited was conducted at a conventional fixed-tilt farm; its findings do not apply to the 4.5m tracking panels proposed at Lime Down
- Microplastic shedding from panel degradation is an emerging and unquantified risk for livestock and soils; no assessment has been carried out

**See end note 6*

C. ENVIRONMENT, ECOLOGY & HERITAGE

CLAIM 7: Solar farms are good for wildlife.

Source: *Solar Energy UK*

Reality: At Lime Down, Wiltshire Council and Natural England identified significant gaps in the ecological survey data, meaning the impacts on numerous protected species have not been properly assessed. Large fenced industrial sites inevitably fragment habitats.

- Survey data is absent for brown hare, hedgehog, polecat, dormice, harvest mice, reptiles, invertebrates, otters, water voles and white-clawed crayfish across the site
- 17 hectares of the cable route corridor were entirely unsurveyed due to access issues; no bat surveys were conducted despite the site's proximity to bat Special Areas of Conservation
- The applicant's own Environmental Statement admits that approximately 71% of skylark and yellow wagtail nesting habitat within the panel areas would be destroyed
- Approximately 10 kilometres of new security fencing would fragment wildlife corridors, affecting movement of mammals and ground-nesting birds across the site
- In July 2025, a BBC report documented deer being trapped inside a UK solar farm, illustrating real-world welfare risks from large fenced installations

*See end note 7

CLAIM 8: Lime Down will enhance wildlife habitats and achieve biodiversity net gains.

Source: *Lime Down Solar website*

Reality: The biodiversity net gain figures submitted for Lime Down are modelled on paper, not measured in reality. The calculations contain errors, were submitted in a format that cannot be independently verified and include double counting.

- The BNG calculations were not submitted in the required unlocked format, making independent verification impossible
- IGP's own submission acknowledges that the BNG trading rules, which set minimum requirements to compensate for specific habitat losses, have not been satisfied
- Habitats created as mitigation for destroyed habitat have been counted a second time as biodiversity gain inflating the claimed net benefit
- Wildflower meadows, the primary claimed habitat creation, require nutrient-poor soils, which at Lime Down means deliberately downgrading productive agricultural land that currently supports a wide range of species
- No independent long-term evidence exists for biodiversity improvement under solar farms of this scale over 60 years in the UK

*See end note 8

CLAIM 9: Solar farms do not increase flood risk.

Source: *Solar Energy UK*

Reality: Lime Down sits in an area already experiencing severe and increasing flood events. Storm Bert (November 2024) flooded Chippenham and Bradford-on-Avon; Storm Claudia (November 2025) flooded Malmesbury for the second time in twelve months. The Environment Agency was not satisfied with the applicant's flood assessment.

- The Environment Agency's scoping response identified factual inaccuracies and inconsistencies in the flood risk assessment, stating it was 'not satisfied' with the site description or its conclusions
- Significant areas of Lime Down D and E already fall within Flood Zones 2 and 3
- The 4.5-metre tracking panels are larger than standard solar; rainfall falling from 2.5 metres height has over six times the kinetic energy of water from standard panel height, increasing runoff and soil erosion risk
- The applicant's flood assessment used rainfall data from Yeovilton, 68km away, despite 11 closer Met Office stations all recording higher rainfall and resulting in a 14% underestimation of climate-adjusted rainfall effects
- Bradford-on-Avon's flood defence scheme was cancelled in July 2025 despite Storm Bert devastation, leaving downstream communities without protection if the scheme increases runoff

*See end note 9

CLAIM 10: Lime Down's heritage impacts have been properly identified and assessed.

Source: *IGP Application*

Reality: Historic England identified a material error in the heritage assessment: Bradfield Manor was described throughout as Grade II* listed, when it is in fact Grade I. This is the highest heritage designation in England. The implications of this error for the assessment remain unaddressed.

- Bradfield Manor (Grade I, NHLE 1198808) is located adjacent to the proposed BESS facility. Its designation was misstated throughout the application, undermining confidence in the heritage assessment as a whole
- Historic England formally identified unresolved harm and serious documentation gaps in its Relevant Representation to the Planning Inspectorate
- The Fosse Way Roman Road, a Scheduled Ancient Monument and iconic heritage route, runs through the scheme for approximately 4.5km; the significance of the character change to this historic landscape has been underestimated

- Site visits to assess heritage and visual impacts were conducted in October, April and July, when vegetation was in leaf and screening was at its maximum, not in winter when worst-case impacts would be visible
- Corsham Court (Grade II*) has been scoped out of the heritage assessment despite the cable route passing within 250 metres of this designated asset

*See end note 10

D. SAFETY

CLAIM 11: Grid-scale batteries are completely safe and the Lime Down BESS will be safely managed.

Source: Lime Down Solar

Reality: Grid-scale lithium-ion battery storage carries well-documented risks of thermal runaway, fire, explosion and toxic gas release. The proposed Lime Down BESS 1GWh, one of the largest in England, would be sited above a principal drinking water aquifer, next to a mainline railway, and close to Grade I listed Bradfield Manor.

- The Moss Landing facility in California (January 2025) caught fire and required evacuation over a 4-mile radius; post-fire concentrations of nickel, cobalt and manganese in nearby wetlands rose by up to an order of magnitude (Nature, 2025)
- The National Fire Chiefs Council states BESS pose 'a significant fire risk due to thermal runaway, resulting in rapid production of large volumes of toxic and explosive vapours leading to explosion and fire
- A 2025 Commons debate confirmed 'there are no laws specifically governing the safety of battery energy storage sites' the UK lacks statutory lifecycle regulation
- The entire Lime Down site sits within a Groundwater Source Protection Zone; firefighting water contaminated with battery chemicals poses a direct risk to drinking water supplies for Chippenham and Bath
- The applicant's own plume assessment was restricted to a 1km radius, the Moss Landing evacuation radius was 4 miles (6.4km); no credible worst-case scenario for a facility of this size has been modelled

*See end note 11

E. COMMUNITY & LOCAL IMPACT

CLAIM 12: Impacts on local communities are limited and outweighed by national benefits.

Source: IGP / industry

Reality: Lime Down has generated 4,958 Relevant Representations, 99% objecting, the highest number ever recorded for any NSIP application in England. Despite over 400 of these raising equine welfare concerns, the applicant has not conducted a single equine-specific impact assessment.

- The bloodstock and equine sector is a defining feature of the North Wiltshire rural economy; no equine-specific assessment has been carried out despite more than 400 Relevant Representations explicitly raising equine concerns
- The applicant has itself admitted that construction will cause unmitigable significant adverse effects on at least one equestrian business yet has not applied the same assessment to other equine and bloodstock businesses in the area
- Wiltshire Council's own climate analysis indicates Lime Down would not reach carbon break-even until approximately 2076, meaning it increases net carbon emissions for over 50 years before delivering any climate benefit
- The scheme displaces twelve tenant farmers, those least able to absorb the disruption, for the benefit of nine landowners, many of whom do not farm the land themselves
- There is no provision for secured decommissioning bonds; the community has no guarantee the land will be restored, particularly given the likelihood of asset transfer or resale over a 60-year period

*See end note 12



F. ENERGY REALITIES - NATIONAL CONTEXT

Stop Lime Down supports renewable energy delivered responsibly and in appropriate locations. The following four claims relate to national policy; they are included here because they are relevant to understanding the scale and context of proposals like Lime Down.

CLAIM 13: This solar farm could power 115,000 homes.

Source: *Island Green Power project information*

Reality: This is a peak output figure. In practice, UK solar farms generated between 10-15% of their installed capacity on average in 2024, produce zero power at night, and very little in winter. This is when electricity demand is highest.

- UK solar PV load factors fell below 10% in 2024 (DUKES 2025, GOV.UK) meaning it delivers less than one tenth of its claimed output over the year
- Solar output peaks in summer when demand is lowest; it falls to zero every night and to minimal levels throughout winter
- Continuous power to a single home requires 24/7 generation; solar cannot provide this without substantial backup from gas, nuclear or other firm sources
- Wiltshire Council's own analysis indicates Lime Down would not reach carbon break-even until approximately 2076

**See end note 13*

CLAIM 14: Solar energy is cheap.

Source: *Ed Miliband, September 2024 Energy UK Conference*

Reality: Large-scale solar relies on substantial government subsidies paid by consumers through energy bills. The cost of maintaining parallel backup generation capacity to cover intermittency is not included in solar's headline price.

- Renewable electricity subsidies cost consumers approximately £25.8 billion per year (Renewable Energy Foundation analysis of Ofgem data)
- Equivalent to over £900 per household per year in current subsidies and support costs
- These figures exclude additional grid costs: transmission upgrades, constraint payments and balancing services required to manage variable output
- Wholesale gas trades at around £24/MWh; offshore wind contracts are locked in at £133/MWh, a mechanism that increases the subsidy gap as gas prices fall

**See end note 14*

CLAIM 15: The UK is ideal for large-scale ground-mounted solar.

Source: *Chris Hewett, Solar Energy UK*

Reality: The UK's solar resource is significantly below the global average. Low productivity means large areas of agricultural land must be used to generate relatively modest amounts of power, a trade-off that does not arise in southern Europe, and which can be avoided by prioritising rooftops and warehouses in the UK.

- The UK ranks among the lowest tier of countries globally for solar photovoltaic potential (World Bank Global PV Potential Study)
- Typical UK solar capacity factor is around 10–15%, compared with 25–30% in Spain or Portugal, meaning the same energy requires two to three times the land area
- The government's own Rooftop Solar Action Plan acknowledges that 250,000 commercial rooftops remain available and largely unused; warehouse rooftops near the grid would deliver power without agricultural land loss
- France has tightened its agrivoltaic rules to require that ground-mounted solar on agricultural land must not significantly affect food production; the UK has no equivalent safeguard

**See end note 15*

CLAIM 16: Battery storage makes large-scale solar reliable and strengthens UK energy security.



Source: DESNZ / UK Government Net Zero Strategy

Reality: UK battery storage systems provide only 2–4 hours of discharge at full power, not the days of backup needed for genuine energy security. The Lime Down BESS, like most UK facilities, is primarily a commercial trading asset, not an energy security asset.

- All UK BESS systems provide only hours of storage, not days; they cannot bridge multi-day periods of low wind and solar
- Batteries consume 15–30% of the electricity put into them as round-trip losses; the Lime Down scheme itself acknowledges a round-trip efficiency of 85–88%
- BESS are primarily used to buy power when grid prices are low and sell when high, a commercial arbitrage function, not an energy security function
- The Lime Down scheme has an import capacity of 250MW, meaning it would routinely draw power from the National Grid, potentially from fossil fuel generation, particularly at night
- [REDACTED]
[REDACTED] This is relevant context for a 60-year infrastructure stewardship commitment

*See end note 16

REFERENCES & SOURCES

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