

# Guidance for Large Scale Solar PV Arrays in the Dorset AONB

*This guidance has been produced by the Dorset AONB team for developers and Development Management Officers. Please note that this document is guidance only and has not been formally adopted as policy by the Local Planning Authorities.*

**Field scale solar PV development could potentially have a large landscape impact. Overall there is a presumption against large scale Solar PV arrays within the highly sensitive Dorset AONB due to their large scale and unnatural appearance. Therefore, any application for large scale solar PV arrays within the designation will be subject to rigorous examination and is expected to clearly demonstrate that the objectives of the designation will not be compromised by the development.**

**It is recognised that field scale solar PV can make a valuable contribution to renewable energy production and represents a significant potential income stream for farmers and landowners. There are, however, other PV opportunities that would have less impact on the designation.**

## 1. Background

Large, centralised solar PV power systems, mostly at the multi-megawatt scale, have been built to supply power for local or regional electricity grids in a number of countries including Germany, Switzerland, Italy and the USA. In the UK, the southwest region is experiencing a surge in applications for large scale solar PV arrays due to the area having a high yearly sum of solar irradiation.

The Dorset AONB has recently received several enquiries regarding potential large scale solar PV arrays that lie within the designation or in close proximity to its boundary. In response to this, the following guidance has been produced to expand on the current National Planning Policy Framework and to highlight the specific issues that should be taken into account on consideration of large scale solar PV developments that affect the Dorset AONB.

## 2. Feed in Tariff

The Feed in Tariff (FiT) essentially provides developers with a financial subsidy towards solar PV schemes. It is index linked, guaranteed for 25 years and applies to schemes up to 5MW that will require approximately 15ha.

The Feed in Tariff (FiT) was introduced in 2010 and resulted in a significant increase in the installation of large scale (field and roof mounted) solar PV. In March 2012 the FiT was changed and such installations were no longer assessed as viable. A review of the FiT is currently out for consultation with proposals to include mechanisms to reduce tariffs periodically or in response to excessive demand.

## 3. Renewable Energy within the Dorset AONB

To date the AONB has received enquiries relating to field scale solar PV arrays on agricultural land, however there are several types of Array as listed below.

1. Field scale solar arrays on greenfield land (previously undeveloped/agricultural land)
2. Field scale solar arrays on brownfield land (previously developed industrial / commercial / contaminated land)
3. Large scale solar installations over car parks, alongside air strips, and other suitable external areas
4. Large scale solar roofs on new or existing industrial/agricultural buildings and other large scale roofs

Site justification is vital and identification of alternative sites should be considered. Ultimately proposed schemes will be judged on their own merits however it is considered that development types 2, 3 and 4 potentially offer more significant opportunities for the mitigation of potential adverse impacts upon the AONB.

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## 4. Dorset AONB Planning Protocol

The Local Planning Authorities consult the AONB Team for advice on applications for renewable energy development under the AONB Planning Protocol<sup>1</sup>. Where appropriate, the authority may also consult the AONB Team during pre-application discussions. In exceptional cases, where an application may result in wide impacts across the AONB, the Team should seek the advice and views of the Partnership Board.

In considering large-scale solar arrays the AONB Partnership will base its responses around the primary purpose of the designation “to conserve and enhance natural beauty.” As such, it will be led by the Countryside & Rights of Way Act 2000, relevant national planning policy<sup>2</sup>, the current Dorset AONB Management Plan and AONB Landscape Character Assessment<sup>3</sup> and the relevant Local Development Plan.

## 5. Environmental Impact Assessment (EIA)

Ultimately the relevant Local Planning Authority will make the decision as to whether or not the development requires EIA.

[This will depend to some extent on how the LPA categorise the development]

## 6. Landscape and Visual Impact Assessment

The landscape and visual impact of Solar PV Arrays, within the highly sensitive context of the AONB, is a significant concern due to their large scale and unnatural appearance. For each Solar PV Array proposal a Landscape and Visual Impact Assessment (LVIA) should be carried out from the pre-application stage, it should be produced to a high standard, follow best practice guidance<sup>3</sup> and demonstrate that the proposal does not compromise the objectives of the AONB designation and its primary purpose to “conserve and enhance natural beauty”.

## 7. Landscape and Visual Baseline

The LVIA should show a sound understanding and assessment of the proposals impact upon key views, landscape character/sensitivity/tranquillity the historic environment, and the enjoyment of these qualities by the public.

The landscape baseline should refer to the landscape character areas as defined within the current Dorset AONB Landscape Character Assessment, and to the County wide Historic Landscape Characterisation.<sup>4</sup> The assessment should demonstrate how the proposal responds to the existing landscape pattern and landform and should seek to conserve and enhance existing important landscape features such as vegetation and field boundaries.

Key viewpoints of the development from within the AONB and its setting should be identified and assessed to include photomontages. It is anticipated that developers will be attracted to sloping south facing sites for maximum solar gain, however these are likely to be more visible from the wider landscape.

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<sup>1</sup> To view the Planning Protocol visit [www.dorsetaonb.org](http://www.dorsetaonb.org)

<sup>2</sup> National Planning Policy Framework

<sup>3</sup> Guidelines for Landscape and Visual Impact Assessment

<sup>4</sup> Contact Dorset County Council, Environment Directorate, Historic Environment Team

## 8. Landscape Value

With regards proposals on land currently used for agriculture, land classified as the best agricultural land (grades 1, 2 and 3a) should be avoided. Furthermore, poorer grades of agricultural land that are designated, for example for the protection of wildlife, should also be avoided.

The LVIA should contain a clear description of the sites agricultural classification and all other relevant designations.

## 9. Cumulative Impacts and 'Buffer Zones'

The cumulative impact of solar PV arrays with existing and approved renewable energy development will be taken into account. Renewable energy development should not create a "buffer zone" around the AONB, and the potential impact of renewable energy projects close to the boundary will be a material consideration in the planning process.

## 10. Mitigation and Enhancement

Mitigation measures should be considered as an integral part of the development; they should adequately offset any adverse landscape and visual effects and be appropriate to the local landscape character. The mitigation and reduction of some adverse impacts can be achieved through considered detail design. Please refer to Design Considerations at the end of this document.

Enhancements should be linked to mitigation measures where appropriate and should seek to maintain and improve the value and condition of the landscape and contribute to local distinctiveness. For example the development of Solar PV facilities offers the potential to create sites of local or regional ecological interest, particularly where land is removed from intensive agricultural production. Developers will be expected to maximise the ecological potential offered by such circumstances by;

- avoiding areas of ecological importance or sensitivity;
- encouraging and promoting a diverse range of habitats, such as wildflower meadows, within such facilities;
- designing and adapting built structures, such as control buildings, to encourage and promote access by nesting, roosting or hibernating animals such as bats

## 11. Management and Restoration

Vegetation will grow under the solar panels and this will require management, particularly to avoid the site becoming overgrown with noxious weeds and assist with the eventual restoration of the site, normally to agriculture. There are various techniques for managing the vegetation; these include mowing, strimming, spraying or mulching. Spraying should be avoided wherever possible and mulching large areas is likely to present technical challenges and may add to the landscape/visual impact of a development proposal. Few of these management techniques are regarded as sustainable, particularly on sites up to 15ha, and there is a desire, both in terms of food production and the rural scene, to continue an agricultural use on the site. Grazing is therefore to be encouraged wherever practicable. Cattle, horses, pigs and goats are likely to be too 'physical' with the solar arrays but sheep, chickens or geese should be acceptable.

The Feed in Tariff for solar PV applies for a period of 25 years therefore developments should normally be regarded as temporary, hence the need for 'reversibility', and the ability for all structures to be removed and the land returned to its original use. A restoration strategy should demonstrate how the site will be returned to a state that is in keeping with local character and in good condition.

## 12. Design Considerations

The type of solar pv array installed, its associated infrastructure and design detail will have an impact on the landscape/visual assessment and a planning application and LVIA should clearly indicate how it will address the following elements of the development.

## 13. Ground Works

Consideration should be given to the existing site contours, slopes should be low as possible (less than 5°) and significant alteration of the existing landform will not be encouraged. If any site levelling works are proposed to facilitate the development the extent of these levelling works should be discussed at the pre-application stage.

## 14. Access tracks

The installation and use of access tracks should be kept to an absolute minimum. Access tracks between rows of solar panels will generally not be acceptable. Agricultural vehicles, including tractors, quad bikes and 4WD, should be capable of servicing these facilities without the need to construct access tracks.

## 15. Security Fencing and CCTV

Any necessary security measures should be of minimal landscape and visual impact. Consideration should be given for the minimal length and height of security fencing, natural features such as hedgerows should be used to assist in site security and/or screen security fencing. In some instances specialist fencing may be necessary in order to prevent access by deer.

Where pole mounted CCTV facilities are proposed the location of these facilities should be carefully considered in order to minimise visual/landscape impact. In exposed landscapes such structures should be avoided where possible.

## 16. Lighting

Any necessary lighting should be kept to a minimum. A lighting strategy should contain full details and specifications of all security and lighting installations in order to allow an accurate landscape/visual assessment of the proposal to be made.

Any lighting such utilise a passive infra-red (PIR) technology and should be designed and installed to eliminate light spill.

## 17. Ground anchors

Due to the temporary nature of the development, trenching and foundations such as concrete should be avoided to assist the restoration of the site once the installation is removed. Solar PV arrays should be installed using 'pile' driven or screw foundations and capable of easy removal.

## 18. Tracking

"Trackers" are solar PV arrays that follow the daily movement of the sun across the sky in order to take maximum advantage of solar gain and are generally expensive to install and maintain.

Static solar PV arrays do not move and are less expensive and easier to maintain however they are not as efficient as "Trackers." Some static arrays can be moved quarterly to reflect the changing seasonal position of the sun.

## 19. Reflection

Solar panels are designed to absorb, not reflect, irradiation. However the sensitivities associated with glare, and the landscape/visual impact, and the impact on aircraft and wildlife safety should not be underestimated.

The cumulative reflective quality of all materials used in the construction of solar farms, to include PV panels, frames and supports, should be assessed.