



Campaign to Protect  
Rural England  
OXFORDSHIRE

*Briefing Paper*

## Solar Farms

March 2011

### **CPRE's Position**

CPRE recognise, that in light of climate change, there is an imperative need for improved energy efficiency and the necessity to utilise the potential of a range of renewable energy sources, to reduce greenhouse gas emissions whilst having no adverse impact upon the countryside.

In principle, and in appropriate circumstances, CPRE welcomes opportunities that promote renewable energy sources including solar photovoltaic farms. However, CPRE is cautious that solar farms are to be located in suitable areas in order to avoid detriment to landscape character and food security. CPRE National Office state that solar arrays have the potential to have minimal landscape impacts when mounted on factory roofs, parking lots, non-listed barns and brownfield sites, thus CPRE prefer to support small scale domestic installations, particularly in urban areas. Commercial photovoltaic farms can also have minimal implications for the rural landscape and ecology, provided that the proposed solar farm is designed to the highest standard and does not require foundations.



Photo taken by: Solar Farm Services

However, solar farms can have a significant influence upon the beauty and tranquillity of the countryside in terms of being a visual intrusion. Applications for the development of solar farms should be considered on their own individual merit. The scale and location of proposed photovoltaic developments should therefore avoid damaging valued rural landscapes and local heritage. Proposals for large scale solar farms should steer clear of designated AONB's and National Parks. Visual Impact Assessment and Landscape Character Impact Assessment should be employed to determine local landform characteristics with photomontages from key views and the latter used to describe any probable changes to the specific and distinctive characteristics of the local area. Community Landscape Character Statement ("Unlocking the Landscape") should be performed at the local level, wherein community led planning should provide the basis for deciding on where such infrastructure is appropriate.

While CPRE will support solar farm proposals in certain cases, we will strongly resist those, which damage the English countryside.

## Background

It is becoming increasingly evident that the UK is experiencing a solar revolution in response to addressing the Governments' renewable energy targets as promoted by Government subsidies. The UK is committed to generating 15% of energy targets from green sources by 2020, but currently only 3% of energy comes from renewable technology. Subsequently, the Government launched a payment scheme in April 2010, known as Feed in Tariffs (FiT). The initiative acts as a financial incentive to install renewable micro - generation facilities up to 5MW, with the scheme being index linked, guaranteed and tax free for twenty five years. The subsidy pays households 41.3 pence for every kilowatt hour they generate, with large scale installations getting less. (Heap, 2011)

Solar arrays are commonly used on a micro scale and tend to be located on south facing rooftops or 'building integrated schemes' in the UK. Research indicates that PV can be commercially proven on large scale multi – megawatt generation plants covering many hectares wherein solar tracking systems can be employed to allow inclination of the cells to be altered to track the sun at different times of the day and year (CPRE Devon, 2011). This will increase the solar generation capacity; however, high costs are associated with the installation and operation of commercial solar farms.

Since 2010, the Government subsidy has seen 21,000 renewable technology installations; however, it was announced in the government spending review that the FiT scheme would be

cut by 10% from April 2012 and it is speculated by CPRE National Office that solar and wind technologies will be cut more than other renewable generating systems because they are more expensive per KWh of output. The tariff would become less commercially attractive to developers and as a result, there has been a gold rush of planning applications for industrial scale photovoltaic farms, notably in the south west of England. With this region receiving the highest levels of solar irradiation in the country "many farmers especially those in the South West where we get our greatest solar intensity, are queuing up to grab their place in the sun."(Heap, 2011. p.29). The pressure to obtain planning permission is likely to peak before autumn 2011 due to the timescale required to order panels, inverters, execute installation procedures and to establish grid connections as envisaged by CPRE Devon. Subsequently, the photovoltaic industry is expanding at a phenomenal pace.

There is growing concern that this movement is seriously threatening the central purpose of the government's green subsidy (encouraging small scale domestic solar installations) and thus instead the subsidy is being abused to allow industrial solar farms to be built across the UK.

In light of this, the Department of Energy & Climate Change has announced (7 February 2011) that they are reviewing the FiTs scheme, particularly examining large scale solar installations (over 50 KWh). CPRE is showing a significant interest in the upsurge of planning applications for photovoltaic farms and will be closely monitoring and responding to proposals for industrial scale PV farms.

Whilst it is recognised that solar energy has an influential role in mitigating the effects of climate change, CPRE believe that it should not be advocated as a solution when solar developments come at the expense of the countryside.

### **What are the issues for the countryside?**

CPRE believe that there is a function for solar power to be exploited by way of providing clean electricity in the UK and providing a source of income for landowners who sell / rent their land, but their location and extent need to be carefully controlled. The infrastructure associated with photovoltaic arrays, such as grid connections (if overhead, this could have further visual impact), building structures and access roads have further implications for the countryside. According to Warlow (2009. p.18) *"it is possible that large scale installations of photovoltaics may compromise the scenic beauty and agricultural potential of a landscape rather than more than the number of fossil fuel power stations required to produce the same energy."*

The countryside is a valuable tourism and recreation asset and there is growing concern that the tourism industry will be severely jeopardised should the countryside become subjected to an ambitious roll out of solar panels. CPRE Cornwall has voiced their fears that since Cornwall Council granted planning consent for a solar farm with 5,670 photovoltaic panels at Wheal Jane, Baldhu, there has been a proliferation of applications for PV farms throughout the county. CPRE Cornwall has put an urgent message to all CPRE branches urging them to take

immediate action to rescue an "embattled and endangered countryside" currently at peril from developers on the path to financial salvation through worshipping the sun.

There is trepidation that farmers and landowners view their arable fields to be more economically viable for solar generation purposes rather than agricultural farming, thus threatening food security. Tom Heap (BBC Focus, 2011. p. 29) writes that he visited an arable field in Oxfordshire where the farmer wants to cover the ground in solar panels. "In future years, the warmth will feed the meter, not swell the grain. Have we all been out in the sun too long?" Developers have asserted that livestock such as sheep, chickens and geese can continue to graze between solar panels. Nonetheless, CPRE National Office has highlighted that whilst this can be the case, the carrying capacity of the land is reduced because some of the sun's rays, which would have made the grass grow is now being used by the solar panels to produce electricity. CPRE Herefordshire has indicated in their response to a solar farm application, that Grade 1 and 2 farmland is in itself a major renewable energy source as well as supporting the supply of food, therefore it would be illogical to take one renewable energy resource out of effective use in order to develop another.

CPRE believe that the Planning system has an important function to play in promoting solar and other renewable systems while protecting sensitive areas of landscape from detrimental impacts and diminish the effect on the character of the wider countryside.

## Proposals for Solar Farms in Oxfordshire

Oxfordshire is no exception to the materializing trend of proposals for large scale solar farms with a number of PV applications being submitted; therefore it is imperative that CPRE closely monitors and responds to current and forthcoming solar farm applications.

At present the following applications for PV developments have been submitted:

1, Westmill Farm, Watlington - WAT/1611/16  
Change of use from agricultural land to mixed use for agriculture and energy production.

Installation of plant equipment and machinery for energy production (photovoltaic arrays, cable trenches, inverters and transformer)

2, Cornbury Park, nr Charlbury - 11/0184/P/FP  
Installation of photovoltaic solar park with associated equipment and works

3, Milton Road, Shipton - under - Wychwood, 11/0305/P/FP

Application for the installation of photovoltaic farm consisting solar panels, equipment cabinets and associated works

4, Homeleaze Farm, Grafton, near Bampton -  
Application to be submitted for 22,000 panels over 30 acres

5, Farm Animal Field, Wroxton – 11/00002/SO  
Screening opinion not requesting EIA

6, Bicester Road, Chesterton – 11/00006/SO  
Screening opinion not requesting EIA

7, Mill Lane, Kirtlington – 10/01920/F  
Ground mounted solar PV array

8, Beckley Manor, Noke Beckley – 11/00236/F  
Installation of 15 ground mounted PV arrays

9, Shelswell Park, Fringford - 11/00177/F  
Continued use as agricultural land and a new solar farm of up to 5MW of generating capacity, comprising the installation of solar photovoltaic panels and associated infrastructure including electrical inverter and transformer cabinets, switchgear and meter housing, access track, fencing, security cameras and landscape planting on land

West Oxfordshire District Council has recently refused an application for PV farm at Sturt Farm, Burford (11/0029/P/FP) for the following reasons:

1. Proposed development is considered to have an unacceptably urbanising impact harmful to the rural character of the area, the setting of the footpath and the setting of the listed buildings
2. It has not been demonstrated that the development would not cause harm to likely extant archaeological remains.

## CPRE Oxfordshire approach

CPRE believe that photovoltaic systems have a role to play in reducing greenhouse gas emissions in the UK, but only as one of a range of renewable energy technologies. We welcome the Government's commitment to increasing electricity generation from renewable energy sources as endorsed by the Feed in Tariffs subsidy. To deliver upon this

without harm to the English countryside, CPRE Oxfordshire should act upon and monitor the following:

## 1. Feed in Tariffs

Campaign for the FiTs scheme to be amended to either restrict the legislation to domestic PV installations only (up to 5 MW) or to abolish the scheme completely to prevent the FiTs being snatched by large scale solar farms. CPRE Cornwall state that action must be immediate and cover all current planning applications that have not yet been determined to prevent the countryside from being overwhelmed by the emergence of large scale PV farms

## 2. Visual Impact upon the countryside

i) **Siting** - The scale and unnatural appearance of solar farms can have an obtrusive impact on the landscape. PV farms tend to be large, geometric and urban in character and fit into some landscapes better than others. Site allocated for development must be justified and identification of other sites should be considered. **Appropriate sites** would be flat with poor visibility from the surrounding landscapes and with a pattern of large, simple geometric enclosures. Development sites should be on the lowest slopes available and have gradients of less than 5%.

**Inappropriate sites** would be sloping land highly visible from the surrounding landscapes and with a complex irregular field pattern and with significant cultural landscape features. (CPRE Somerset)

ii) **Screening** - Screening in the form of hedges or tree belts should be stipulated as a

condition should the application for a PV farm receive consent. Screening can be used to mitigate against the visual impacts of solar arrays, however, screening should be appropriate to the character of the landscape.

iii) **Zone of Visual Impact** - Landscape and Visual Impact Assessment should be employed at the pre-application stage to describe local landform characteristics and any existing structures with photomontages from key views. This should comprise of an investigation into the potential for glint and glare at any properties or key landscapes with a clear view of the site, particularly when the sun is low in the sky.

Landscape Character Impact Assessment should be performed by way of describing any likely changes to the specific and distinctive characteristics of the local area. (CPRE Devon)

### iv) **Materials** -

Solar panels are to be coated in a non reflecting material in order to minimise “glare” and visual impact, and thus be stipulated as a condition.

Bases should be easy to remove to permit restoration of the land. Concrete should be avoided.

Security fences should be of a material that is sympathetic to the countryside and enable wildlife to pass freely, and visual impact should be screened and softened as necessary. Dorset AONB team recommends that lighting features should be sympathetic to the

surrounding environment and should utilise a passive infra – red (PIR) technology and should be designed and installed to eliminate light spill.

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.

### **3. Environmental Impact Assessment**

Schedule 2 of the EIA Regulations does not specifically include large scale PV developments; however, section 3 denotes that any industrial energy installation producing electricity, steam and hot water which exceeds 0.5 hectares could potentially be EIA development. It is encouraged by CPRE Devon that the **Regulation 5 Screening Option** of the Planning Authority is sought early in the project planning stage. PV developments on previously uncultivated land (such as farm-buildings) of more than 5 hectares are likely to require EIA and consideration should be given to impacts on the surrounding ecology, hydrology, landscape and any possible cumulative effects.

### **4. Biodiversity Considerations**

Development that is likely to impact upon SPA / SAC sites as identified under the Habitat Regulations Assessment should be carefully considered.

Ecological Impact Assessment should be carried out and thus describe protected species and hedgerows and appropriate

mitigation measures to offset any probable impacts. Any removal of trees and hedgerows must be fully justified and be accompanied with relevant mitigation measures.

Development should not take place on the best and most productive agricultural land ie Grade 1 and 2 agricultural land. The grade should be stated on the application.

CPRE Devon recommends that consideration should be made for continued evaluation and monitoring of habitat and species. Optimal survey periods should be identified to account for seasonal variations in presence of species.

Biodiversity networks should be determined to avoid restricting access and movement to native wildlife.

### **5. Hydrological Assessment**

A hydrological assessment should be performed to include details of impact of hard standing, control facilities and array areas on surface water flow rates and to include any proposed management schemes such as Sustainable Urban Drainage Systems.

### **6. Transport Assessment**

A transport assessment should be employed to include construction, operation, maintenance and decommission schedule and predicted vehicle movements during all stages of construction and development. Access roads and tracks should be kept to an absolute minimum, and sites should be serviced by agricultural vehicles.

## **7. Archaeological Impact**

Investigations should be conducted to ensure that the development will not have any impact upon archaeological remains and cultural heritage.

## **8. Grid connection**

Proposals for a PV development should have clear detailed documentation on grid connection, whether it is overhead or underground connection, confirmed by the appropriate utility company.

## **9. Locations of proposed building structures**

Any proposed building structures such as transformer stations and inverter cabinets should be located in areas that are less obtrusive and thus be suitably shielded to minimise visual impact.

## **10. Management**

It is imperative that vegetation between solar panels is maintained to prevent the site from being overgrown with weeds and to assist with the eventual restoration of the site to agricultural use. Various management techniques can be used such as mowing, strimming, spraying and mulching; but these are not seen as sustainable methods. Henceforth, it is recommended by Dorset AONB team that grazing (sheep, chickens and geese) is to be encouraged wherever practical.

## **11. Decommissioning**

Attached with planning consent, should be a condition that imposes a life-time generation capacity (i.e. 25 years – lifetime of FiTs scheme) for the operation of a solar farm, thus development should be regarded as temporary. CPRE Isle of Wight recommends that a guarantee in the form of a legal agreement should be sought, to ensure the restoration of the land to agricultural use to ensure a rural setting and to assist with food supply (in line with the restoration strategy) once the consent has terminated. Moreover, a condition should be stipulated to warrant that all equipment associated with the solar farm is removed.

## **12. Community Participation**

It is imperative that developers consult local communities prior to applications being submitted for solar farm development, to help identify and resolve any potential conflicts as well as raising awareness for the need to encourage sustainable renewable energy systems. It would be advantageous for communities to write a Community Landscape Character Statement identifying appropriate sites for renewable energy technologies.

*“Only when the proposed location is land which is supposedly unproductive or value – free in any other sense (i.e. desert) can we seemingly legitimise the installation of an extremely large number of PV panels from a political, social and economic perspective”*  
(Warlow, 2009. p. 18)

### ***Further Reading***

CPRE Devon. (2011). Guidance on the Development of Large Scale Commercial Solar PV Arrays in North Devon.

CPRE Herefordshire. (2011) Response to application: DMS/103018/F

CPRE Isle of Wight. Response to application: TCP/ 30384 – P/01901/10: Land at Durrnants Farm, Colemans Lane, Porchfield.

CPRE Policy Position Statement: Onshore Wind Turbines. CPRE. 2006.

CPRE Somerset. (2011) Position Statement: Solar Farms.

Dorset AONB. (2011) Guidance for large scale solar PV arrays in the Dorset Area of Outstanding Natural Beauty.

Heap, T. (2011). The Eco-sceptic Tom Heap There's solar panels in them thar hills. BBC FOCUS. March 2011, Issue 226, p. 29.

Warlow, C. (2009). Industrial scale super solutions for a rapid transition to a low carbon energy? The promise and risks of very large scale photovoltaic power generation systems. The Environmentalist. 16 March 2009. no. 74. pp. 16-18.

Research for this paper was done by Jennifer Ryan, Intern, CPRE Oxfordshire.



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*Addendum*

## Solar Farms

June 2011

It was announced on 9 June 2011 by the Department of Energy and Climate Change (DECC) that subsidies for large scale solar energy production will be slashed. The Feed in Tariffs subsidy will be scaled down between 40% - 70% for photovoltaic farms and anaerobic digestion.

As of 1 August 2011, new entrants seeking funding through FiTs will only be able to apply under the amended tariffs, which are set as follows:

### **Solar PV:**

- 0 kW –  $\leq$  150 kW Total Installed Capacity (TIC) - 19.0p/ kWh
- 150 kW –  $\leq$  250 kW TIC - 15.0p/ kWh
- 250 kW – 5 MW TIC and stand-alone installations - 8.5p/ kWh

The Government subsidy has undergone consultation in light of growing concerns

that the subsidy was being exploited to pave the way for large scale solar farms as opposed to domestic and community installations. According to DECC, the fast track review highlighted that the number of planned large solar PV projects in the planning system is much higher than anticipated. Urgent action has been taken to further prevent the scheme from being overwhelmed and subsequently cuts have been made to the subsidy rates.

Climate Change Minister, Greg Barker, advocates that the “new tariffs will ensure a sustained growth path for the solar industry while protecting the money for householders, small businesses and communities and will also further encourage the uptake of green electricity from anaerobic digestion.” (Walsh, 2011)

Nevertheless, this announcement has received mixed reactions from the industry, with the renewable energy market being at risk. There are growing concerns that investors will be deterred from investing in solar energy projects. To some, this announcement is illogical in the face of the Coalition Government striving to be the ‘Greenest Government ever’. The reduction in FiTs will be a monumental step backwards for the renewable energy sector and thus hinder the UK from achieving its goal of

producing 15% of the energy it uses by 2020. Richard Garlick, editor of *Planning*, writes that at present, the UK is only achieving a meagre 3% of its renewable energy target. (Garlick, 2011)

The ripple affect is already being observed in the solar energy industry, with plans for Kencot Hill solar farm at Carterton, Oxfordshire, being put on hold despite being recommended planning permission. Developers argue that the scheme will no longer be economically viable as the scheme will be in receipt of the reduced rate. Moreover, solar construction firm Thermovolt UK, has commented that one of its London based clients had made the decision to abandon around 70 of its planned projects. (Townsend, 2011)

Cornwall Council experienced a gold rush of applications for large scale solar developments. Adrian Lea, team manager of Cornwall Council's natural resources planning unit, commented that he expects to see a significant reduction in applications for large scale solar schemes. However, the Council is already experiencing a rise in applications for small schemes. Garlick writes, that in the current economic market, there will be a shortfall in applications for commercial scale solar farms, however, with the cost of equipment and technology coming down

fast, the decline is only likely to be temporary. (Garlick, 2011)

The cutbacks will certainly see a drastic reduction in applications for large scale solar farms in the immediate term, (Townsend, 2011) with some applications for solar farms being cancelled. This movement will undoubtedly alleviate pressure on the countryside, but simultaneously, the wider issue of a robust renewable power industry still has to be addressed in light of climate change. Spatial planning is crucial to the delivery of renewable energy projects by way of mitigating the effects of climate change, and therefore any 'policy that makes it more difficult for planners to do this is unlikely to be welcomed...it is a pretty bleak time for planning and climate change.' (Townsend, 2011. p.6)

#### References:

BBC. 21 June 2011.

<http://www.bbc.co.uk/news/uk-england-oxfordshire-13840976>

DECC. 9 June 2011.

[http://www.decc.gov.uk/en/content/cms/news/pn11\\_046/pn11\\_046.aspx](http://www.decc.gov.uk/en/content/cms/news/pn11_046/pn11_046.aspx)

Garlick, R. (2011). Solar energy sector will survive the cuts. *Planning*. 17 June 2011, Issue 1911, p. 3.

Townsend, S. (2011). Planners expect drop in solar farm applications. Planning. 17 June 2011, Issue 1911, p. 6.

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