Proposed Solar PV Farm

Totmonslow Farm, Tean, Stoke-on-Trent, ST10 4JJ

Staffordshire

Screening Report

October 2015

Contents

1 Introduction

Suncredit UK Ltd is formally requesting a Screening Opinion from Staffordshire Moorlands District Council as to whether a proposed ground mounted 8MW solar farm for 25 years on 14.16 ha of agricultural land at Totmonslow Farm, 0.8km south west of Upper Tean in Staffordshire is considered to be EIA (Environmental Impact Assessment) development. This request is made under Regulation 5 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (hereafter described as 'the EIA Regulations').

If the proposed development is deemed to be EIA development, then a Scoping Opinion, under Regulation 13 of the EIA Regulations is also requested from the Council.

As required under Regulation 5 and Regulation 13 of the EIA Regulations, a brief description of the proposed project and its surrounding area is provided along with a summary of the possible effects of the project on the environment. A site location plan identifying the site is also enclosed.

2 The EIA Regulations

The EIA Regulations set out thresholds for Schedule 1 developments for which Environmental Impact Assessment is mandatory and Schedule 2 development for which an EIA may be required. The proposed development does not fall within any of the developments listed in Schedule 1, but falls within Section 3(a) of Schedule 2, i.e.:

3. Energy Industry	Applicable thresholds and criteria
a) Industrial installations for the production of electricity, steam and hot water (unless included in Schedule 1)	*The area of the development exceeds 0.5 hectare*

Schedule 2 development proposals require an Environmental Impact Assessment (EIA) if they are considered likely to have significant effects on the environment, by virtue of such factors such as nature, size or location. It is therefore appropriate to submit this request for a Screening Opinion to Staffordshire Moorlands Council (the Local Planning Authority) to determine whether it considers that this proposal would have significant environmental effects and therefore requires that a planning application for the development should be accompanied by an Environmental Statement.

Schedule 3 of the EIA Regulations provides selection criteria for screening Schedule 2 developments, namely: the characteristics of the development; the environmental sensitivity of the location; and the characteristics of the potential impacts (e.g. its magnitude and duration). In addition to this, for Schedule 2 development, paragraph 33 of Circular 02/99 states that generally EIA will be required in three main types of case:

- for major developments which are of more than local importance;
- for developments which are proposed for particularly environmentally sensitive or vulnerable locations; and
- for developments with unusually complex and potentially hazardous environmental effects

2.1 Information required to accompany a request for a Screening Opinion

The 2011 EIA Regulations state within Regulation 5 that “A request for a screening opinion in relation to an application for planning permission shall be accompanied by:

a) a plan sufficient to identify the land;

b) a brief description of the nature and purpose of the development and of its possible effects on the environment; and

c) such other information or representations as the person making the request may wish to provide or make."

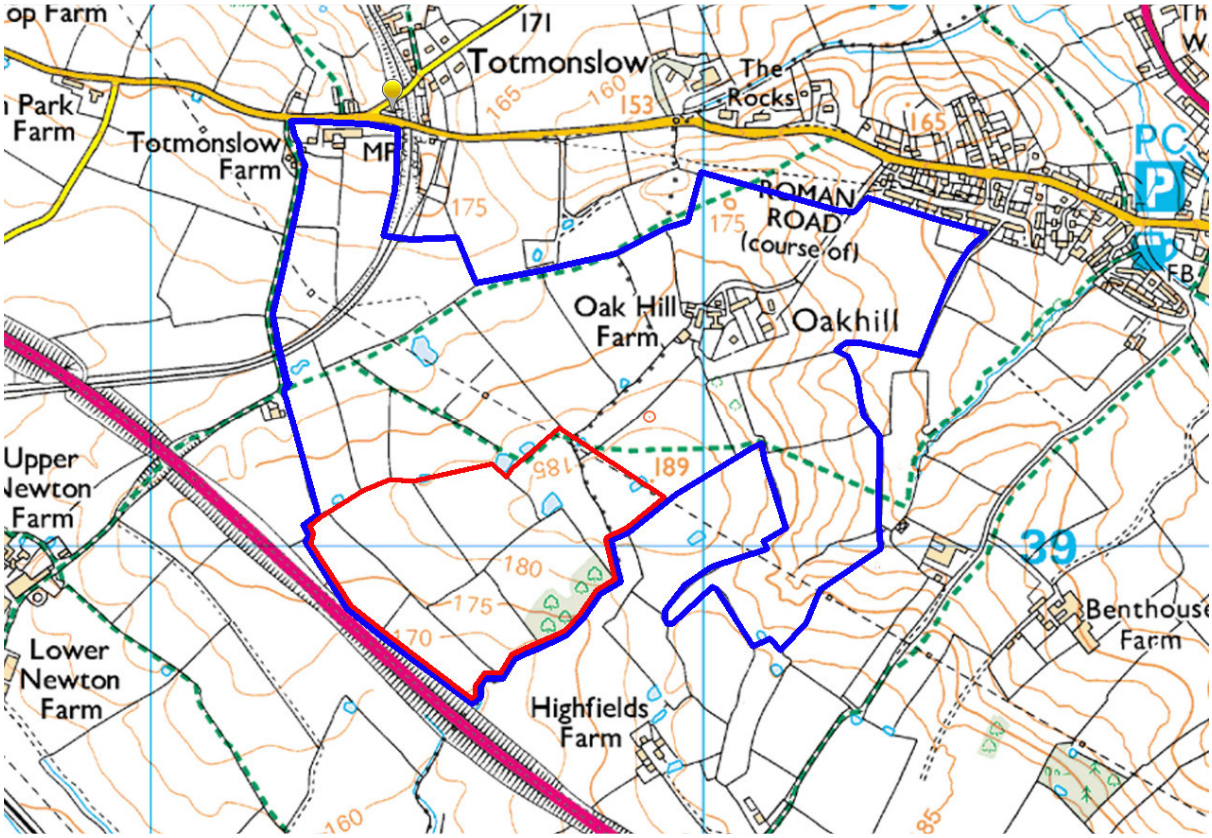
This information, and accompanying plans, is set out within this document.

3 The Proposed Development

It is intended to submit a planning application for the development of a Photovoltaic (PV) solar farm of approximately 8MW to be located within an area of 16.2ha on land at Totmonslow Farm, the majority of which lies in the parish of Draycott-in-the Moors, with a smaller part falling within the parish of Checkley. The proposed solar farm involves the installation of PV panels arranged in rows.

The site location plan is presented below as Figure 1.

Figure 1: Site Location Plan



3.1 Access to the site

Access to the site would be via an un-named lane south of Draycott Road which runs between Upper Tean to the east and Draycott to the west. The access onto the lane from Draycott Road is on a straight section of road, with good visibility in both directions. The lane is a no-through road used only for access to a number of residential properties and farms which whilst designated as a public footpath, is currently used by tractors and other large vehicles to access the farms and properties along its length.

Construction vehicles would leave the lane at the point that it changes direction from south to west, and pass through one agricultural field in order to reach the site.

Construction traffic would be mainly comprised of 5-6 delivery vehicles (typically articulated HGVs) per day during the 8-12 week construction period. No abnormal loads would be required.

3.2 Onsite infrastructure

The solar panels are constructed of toughened glass and are mounted on a steel framework supporting structure which would be driven directly into the ground, with no need for any concrete foundations. The solar panels would be orientated due south, inclined to ensure optimum irradiance and arranged in rows that follow the terrain, being approximately 2 – 2.4m above ground level at their tallest point. The project would export electricity to the national grid via an underground cable to the nearest point of connection.

In addition to the PV panels a solar farm also requires inverters to convert the direct current (DC) electricity generated by the PV panels, into alternating current (AC) for the grid. Transformers are also required to connect the solar farm to the high voltage grid. The transformers and inverters would typically sit alongside each other within a cabinet approximately 6m long, 2.5m wide and 3m high, which would typically be located on a concrete plinth. The proposed project would be likely to require 3-4 inverter/transformer cabinets.

An additional cabinet would be required on the site which would house the switchgear required by the District Network Operator (DNO) in order to connect the solar farm to the distribution network. The cabinet is likely to be constructed of Glass Reinforced Plastic (GRP). The dimensions of the cabinet would be specified by the DNO but would be of the order of 4m long, 3m wide and 2.5m high.

The site would require a security system in order to prevent unauthorised access into the solar farm, both for public safety reasons and to prevent potential vandalism of the equipment. This would consist of an approximately 2-2.4m high deer style fence and pole mounted security cameras installed around the fence perimeter. The security cameras would employ infra-red technology and no site lighting would be required.

3.3 Biodiversity enhancements

In order to avoid shading from the panels on one another, the distance between the centre of the rows of panels would be likely to be of the order of 4-6m; which would create wide avenues left open between the panels sufficient to provide access for management and maintenance of the plant and the land. The majority of the site would therefore be left as open green space. The unoccupied ground between rows of panels and under the panels would be seeded to produce a grassland area, which can be grazed by sheep or chickens or can be used to accommodate beehives for the production of honey. In this way it is proposed that the site will remain in agricultural production for the operational life of the solar farm.

In addition, there are also many opportunities for onsite ecological enhancement measures through additional tree, hedge, shrub and meadow planting as well as opportunities for insect hotels, raptor posts, bee hives and swift towers. After 25 years, it is envisaged that the site would be restored back to full agricultural use.

3.4 Operational Use

Once constructed there would be no on-site office or permanent staffing of the site. Visits to the site would typically be made once or twice a month for maintenance of the panels (e.g. washing the panels), or land management activities (e.g. grass cutting). Vehicles used for these visits would typically be by 4 x 4 vehicles.

The development would be temporary, with a proposed timescale of 25 years, after which the site would be decommissioned. The programme of restoration would be expected to be agreed with the LPA by condition.

4 Site Location and Context

The proposed development is located in a rural area of farmsteads, small hamlets and villages, approximately 0.8 km to the south west of the village of Upper Tean and 1.1km to the south east of Draycott-in-the-Moors.

4.1 Nearby residential properties

The closest residential properties are Oakhill Farm and Highfields Farm which lie 240m to the north east and south east respectively of the of the site.

4.2 Topography and Aspect

The site generally has a southerly aspect with a gently sloping topography, descending from 189m AOD at the north eastern corner of the site to 172m AOD at the southern-most part of the site dropping to the southern boundary.

4.3 Statutory Designations

No national or local landscape designations have been identified within 2 km of the site centre. The Cannock Chase Area of Outstanding Natural Beauty (AONB) is located approximately 15 km to the south of the site, however at this distance the proposed development would not influence the setting of the AONB.

There are three Grade II Listed Buildings within 1km of the site, the closest being a milepost 0.5km to the north, the others being Blythe House 0.9km to the south east and Paynsley Hall approximately 1km to the south west. There is one Scheduled Ancient Monument within 1km, Paynsley Moated Site and Outer Enclosure, also approximately 1km to the south west.

There are no Sites of Special Scientific Interest (SSSI) within 1 km of the site, the closest being Dimmingsdale & The Ranger 6km to the north east of the site, with the nearest internationally designated site being the Peak District Dales Special Area of Conservation (SAC) 17km also to the north east. At these distances, these sites would not be affected by the benign and passive development proposed.

4.4 Agricultural Land Classification

The Agricultural Land Classification Map for region indicates that the land at the Development Site is Grade 3 (Good to Moderate) although the scale of the map means that this cannot be confirmed. The applicant would undertake an assessment of the ALC grade, the report of which would accompany the planning application.

4.5 Flood Risk

A small stream runs alongside the eastern site boundary and there are a number of ponds within the site and along the northern site boundary. However the Environment

Agency Flood Map for Planning (Rivers and Sea) shows the Development site is located in Flood Zone 1 where there is less than a 0.1 per cent (1 in 1000) chance of flooding occurring each year. As such, issues associated with flooding are therefore unlikely within the Development site.

4.6 Public Rights of Way

There are no public rights of way (PROW) within the site itself. The closest public footpaths are Draycott in the Moors 32 which runs along the northern site boundary and Checkley 4 which lies approximately 100m to the north of the site. Two other PROW in the vicinity of the proposed development are Draycot in the Moors 15 and 27 both being 220m from the site at their closest points. The PROW Draycot in the Moors 15 runs along the lane, which is the proposed construction access route. Views of the proposed development from these footpaths are likely to be screened to a great extent by intervening mature hedgerows and trees so that only glimpses of the solar farm would be seen. The clearest views of the proposed development would be from a short stretch of Checkley 4, however the proposed landscape mitigation and enhancement measures would be expected to ensure that the visual impact to users of this PROW is minimised.

5 Effects on the Environment

Schedule 3 of the EIA Regulations provides selection criteria for screening Schedule 2 development, which includes three broad categories for consideration:

- the characteristics of the development;
- the environmental sensitivity of the location; and
- the characteristics of the potential impacts.

The potential effects on the site and the surrounding environment have been considered within this section using the criteria set out within Schedule 3.

In addition to this, for Schedule 2 development paragraph 33 of Circular 02/99 states that generally EIA will be required in three main types of case:

1. For major developments which are of more than local importance;
2. For developments which are proposed for particularly environmentally sensitive or vulnerable locations; and
3. For developments with unusually complex and potentially hazardous environmental effects.

5.1 The Characteristics of the Development

The size of the Development

The proposed development would consist of a solar farm with an installed capacity of 8MW within an area of 14.16ha. The solar panels would be mounted in frames set at an angle of between 25 degrees and would face south. The lowest part of the panel rows would be approximately 0.5 - 0.8m high, with the highest part being likely to be no higher than 2.4m. Other infrastructure on site would include inverters to convert the current for export to the electricity distribution network; a private substation; and the substation belonging to the District Network Operator (DNO).

The small scale of the development means that the construction period will be relatively short, expecting to last approximately 8-12 weeks. Component parts would be delivered on HGV lorries with no abnormal loads. The average daily number of delivery vehicles throughout the construction period would be expected to be low, likely in the region of 5-6 per day.

Hedgerows around the site would be maintained at a height of between 2.5-3m to screen the development from external views, and also provide biodiversity benefit

The accumulation with other development

A review of the DECC statistics for renewable energy development[1] indicates that there is one other operational solar farm within 5km of the proposed site, that being a 12MW site at Lower Newton Farm the northern boundary of which lies approximately 0.3km to the south west of this proposed development. Whilst the proposed site lies in relatively close proximity to the operational solar farm at Lower Newton Farm, they are separated by the A50 dual carriageway alongside which run hedgerows, vegetation and mature trees. The separation of the two solar farms by the intervening major trunk road and natural screening means that minimal adverse cumulative impact from this site would be expected, should planning permission be granted for the proposed development.

Within 5km of the proposed development there are no planning applications for commercial solar farms currently under consideration by Staffordshire Moorlands Council.

The use of natural resources

The construction process will require the use of limited natural resources, as is standard for construction phases of a scheme. Manufacture of the component parts (e.g. panels, frames and other equipment) would also require the use of some natural resources. However there would be no excessive or unusual use of natural resources.

During the operational phase, the proposed development would generate electricity from a renewable source, thereby helping to conserve the world's dwindling supply of hydrocarbons. Very minimal natural resources would be required for maintenance during the operational phase, primarily fuel for visiting the site and water for washing the panels.

The production of waste

During the construction phase, typical construction waste would be generated the levels of which given the scale and nature of construction would be low and would be handled in accordance with appropriate licenses and procedures. On decommissioning, the majority of materials removed from the site could be re-used or recycled. No waste materials would be generated during the operational period.

Pollution and Nuisances

The construction phase will require the temporary storage of fuels and vehicle maintenance materials. These will be stored and used in accordance with construction

[1] https://www.gov.uk/government/statistics/renewable-energy-planning-database-monthly-extract - July 2015

best practice methodology to minimise the risks to the soil and also to surrounding watercourses, waterbodies and groundwater.

No hazardous or toxic materials will be stored on site during the operation phase of the development. The proposed development will not generate any polluting emissions.

Solar farms are passive and do not include moving parts that generate noise. Concerns can sometimes be raised regarding noise from the cooling fans of the inverters required onsite, however these are housed within cabinets which deaden the noise to a very low level. The cabinets are located centrally within the development so any noise due to the equipment will not have a detrimental effect on residential amenity. Any noise that may be generated during the construction phase can be controlled by the LPA by the use of conditions restricting working hours.

Lights may be required onsite during the construction phase of the development, however as with noise, the hours of operation can be controlled by the LPA by condition. No on site lighting will be required during the operational phase of the development.

The risk of accidents having regard in particular to substances or technologies used

There will be potential for accidents during the construction phase of the development, however this relates to the normal risks associated with construction and would be managed in an appropriate way by the lead engineering contractor and designer commissioned to install the site under the Construction, Design and Management Regulations 2007.

During the operational phase of the proposed development, the solar farm would be unmanned. Visits to the site would be infrequent and for the purposes of sheep husbandry, grass cutting and equipment maintenance (e.g. panel washing). There is the potential for accidents to occur during these processes; however they would be managed by use of good agricultural and commercial practices. No unusual substances and technologies particular to the proposed development would be likely bring about accidents.

In order to prevent unauthorised access to the site, which may lead to vandalism or accidents, an onsite security system would be installed. This would consist of a 2-2.4m high deer style fence surrounding the whole site, locked gates and a CCTV/thermal imaging detection system. Cameras would face into the site, with the exception of one at the main gate that would face the access into the site, and would be triggered by motion sensors. No detrimental effect on the privacy or amenity of local residents would occur as a result of the security measures proposed.

5.2 The Location of the Development

Part 2 of Schedule 3 to the EIA Regulations states that, "*The environmental sensitivity of geographical areas likely to be affected by development must be considered*". This is with particular regard to the following items listed below.

The existing land use

The existing landuse is predominantly used for mixed grazing, hay and silage. Large scale maps indicate that the site is classified as Grade 3 (good to moderate quality) agricultural land (to be confirmed). The proposed development would constitute a relatively small proportion of the existing landholding and its use as a solar farm would not bring about a detrimental effect on the agricultural business of the farm but would serve as a valuable diversification enterprise, cushioning the farm business from the vagaries of weather conditions and commodities prices.

The relative abundance, quality and regenerative capacity of natural resources in the area

The proposed development would take 14.16 ha of moderate quality grade agricultural land out of arable production for the 25 years that would constitute the lifetime of the development. However it should be noted that as the proposed development would be for a temporary period the agricultural land would not be sterilised such as it would if a residential, transportation or commercial development were to be built, and as such it should not be considered in the same way. During the operational life of the site it is expected that it will be used for grazing sheep thereby continuing the use of the site for agricultural purposes. In addition, cessation of the use of agrochemicals for a period of 25 years is likely to improve the quality of the land during that time.

The Environment Agency's Flood Map for Planning (Rivers and Sea) shows the Site is located in Flood Risk Zone 1 where there is less than a 0.1 per cent (1 in 1000) chance of flooding occurring each year. Hydrological issues are therefore unlikely within the site. As such the site does not perform a flood defence role and no loss of flood storage would occur as a result of the proposed development. The construction method for the panels is that they are piled directly into the ground, such that maximum greenfield land remains for infiltration of existing rainfall levels and for increased rainfall levels expected due to climate change during the operational life of the development.\

The site is surrounded by tall hedgerows and wooded areas. No loss of hedgerow or woodland is proposed, however any gaps in existing hedgerows would be filled with native species of local provenance to improve screening and reduce the occurrence of views into the site, and also providing biodiversity benefits by improving the density, species diversity and structure of the existing hedgerows.

As previously described, the proposed equipment is low-lying, and the existing dense

and mature hedgerow would offer excellent visual screening.

The perception that solar panels create glint and glare impacts is generally unfounded as solar PV panels are designed to absorb sunlight rather than reflect it. Solar panels are currently located in the vicinity of airports (e.g. Manston airport in Kent), demonstrating that this problem does not in fact occur.

The absorption capacity of the natural environment e.g.

Wetlands, Coastal zones, Mountain and Forest Areas

The site is not located in the vicinity of coastal zones, wetland, mountain or forest areas. The passive nature of the proposed development would minimise any adverse effects arising from the operation of the proposals. Any potential adverse effects from the construction process would be managed by careful site management and adherence to appropriate good practice construction methodologies. Biodiversity enhancement measures that will be incorporated into the planning application could support the conservation aims of this site.

Nature Reserves, Parks & EU designated nature conservation sites (SPAs and SACs)

There are no landscape, cultural heritage or ecological designations within the site boundary.

No national or local landscape designations have been identified within 2 km of the Development site centre. The Cannock Chase rea of Outstanding Natural Beauty (AONB) is located approximately 15 km south of the Development however at this distance the development site would not influence the setting of the AONB.

There are no Sites of Special Scientific Interest (SSSI) within 1 km of the site, the closest being Dimmingsdale & The Ranger 6km to the north east of the site, with the nearest internationally designated site being the Peak District Dales Special Area of Conservation (SAC) 17km also to the north east. At these distances, these sites would not be affected by the benign and passive development proposed.

Areas in which the environmental quality standards laid down in EU legislation have already been exceeded;

The proposed development would not give rise to any emissions and as such would not conflict with any EU environmental quality standards.

Densely populated areas

The site is located within a sparsely populated area and would generally be screened from the majority of views due to the surrounding tall hedgerows and wooded areas.

The distance from the site to residential properties; the existing screening; and proposed landscape enhancements ensures that there will be no significant adverse effect on local amenity.

Landscapes of historical, cultural or archaeological significance

There are three Grade II Listed Buildings within 1km of the site, the closest being a milepost 0.5km to the north, the others being Blythe House 0.9km to the south east and Paynsley Hall approximately 1km to the south west. There is one Scheduled Ancient Monument within 1km, Paynsley Moated Site and Outer Enclosure, also approximately 1km to the south west.

There are public footpaths in the wider vicinity of the proposed development, however the tall and mature existing hedgerows would provide natural screening and mitigation measures that would be identified in detail during the project development process which would ensure that no significant adverse effect would be experienced by users of these footpaths.

5.3 Characteristics of the Potential Impact

The extent of the impact

The passive nature of the operation of the proposed development, together with existing hedgerows and proposed landscape and biodiversity enhancement measures would minimise the extent of any impact on residential amenity or the local biodiversity.

Other impacts may have a wider impact such as the reduction in the need for use of finite hydrocarbon resource through the generation of electricity from a renewable source, leading to decreases in the UK's carbon emissions.

The transfrontier nature of the impact

The small scale and the benign nature of the proposed development ensures that no transfrontier effects, on an international or local scale would occur.

The magnitude and complexity of the impact

As described, the proposed development utilises well established, benign and passive technology. In addition at a local level, the proposals will occupy an agricultural field with moderate agricultural value, and would provide an opportunity for biodiversity enhancements. Local landscape and visual impact effects will be reduced through appropriate mitigation measures such that the residual effects will not be significant.

The probability of the impact

Solar PV is a well-established technology which whilst technologically advanced, when installed in a site such as this would tend to exhibit typical and familiar characteristics and familiar impacts. As such its potential effects on the environment are well known and can be assessed, modelled, quantified and mitigated. Previous work demonstrates that the great majority of potential environmental effects from solar PV can be satisfactorily mitigated through design, engineering methods or landscaping proposals.

In addition, there are positive impacts of the development, the probability of which is extremely high, that being the generation of electricity from a renewable source, thereby reducing the rate of use of finite hydrocarbon resources; improving UK's energy security and reducing the rate of increase of the UK's carbon emissions, helping to achieve binding emission reduction targets.

The duration, frequency and reversibility of the impact

The proposed development would be for a fixed period of 25 years after which it would be fully removed allowing the site to revert to a full agricultural usage.

6 Summary

Consideration of the proposed development in the context of the criteria set out in Schedule 3 of the 1999 Regulations, it is considered that these proposals do not constitute EIA development for the following reasons:

- The site is not located within or adjacent to an environmentally sensitive area as defined by Regulation 2(1) of the EIA Regulations. There are no nationally or internationally designated nature conservation or landscape designations within the vicinity of the site. The benign and passive nature of the proposals, together with the opportunity to provide ecological enhancement would minimise any adverse impacts of the development on local biodiversity.

- The Listed Buildings and Scheduled Monuments, identified within 1km of the site are set well back from the site boundary and intervening vegetation and development assists in screening the site from the majority of views.

- The site is located within an area at least risk of flooding. The construction methods will ensure that rainfall will be able to infiltrate into the soil thus no adverse effect on onsite or downstream flooding will occur. The applicant will commission a detailed site flood risk assessment and incorporate mitigation measures if needed. Proposals have the potential to support flood risk alleviation in the long term.

- The site is comprised of Grade 3 land of good to moderate quality. The applicant will commission an assessment of the ALC value at the site to accompany the planning application.

- The site is well screened by existing hedgerows and woodland areas which would restrict views into the site. Views may be obtained from short sections of the public footpaths that pass in the vicinity of the site however the visual impact to users of the footpath would be experienced over a short length only and would decrease with the maturation of the mitigation measures proposed. As such no significant adverse effect is expected.

- The proposals are not unusually complex and do not pose potentially hazardous environmental effects. The intention of the scheme is to reduce reliance on energy generated in such a manner: solar parks are at the leading edge of zero emission energy generation and will play an increasingly important role in moving the UK towards a low carbon economy.

In view of the above, given the benign nature of the proposals, it is considered that whilst there will be some effects upon the environment as a consequence of the proposals, none of these are likely to constitute **'significant effects'** upon the

environment, as set out in central government guidance. Accordingly, it is considered that the proposals do not constitute EIA development and would not require an Environmental Statement to be submitted with a planning application for the scheme.