



Cleve Hill Solar Ltd: Phase 2 Consultation response from the Kent branch of the Campaign to Protect Rural England

By email only

Introduction and Summary

As part of CPRE's Kent's campaigning our Environment Committee (comprising expertise in ecology, hydrogeology, renewable energy, sheperdry and flood risk) have reviewed the Cleve Hill Solar proposal and documented this response to the consultation.

Currently we have identified concerns in the areas listed below and detailed in the following paragraphs; further areas may be added after scrutiny of the detailed DCO application.

- Damage to landscape including tranquillity and dark skies
- Inadequate assessment of flood risk and potential conflict with the Environment Agency's 'managed retreat/ strategy
- Impacts on soil microclimate and hydrology
- Ecological impacts
- Damage to heritage assets by construction traffic
- Loss of agricultural land
- Threats to animal welfare

We recognise the challenges of climate change and the Government's commitment to meeting its carbon emission targets, but we do not consider the renewable energy benefits of this project can outweigh the harm it will cause to the environment of the marshes (indeed, we also question the sustainability of reliance on lithium-ion battery technology with its own remote but very real ecological impacts).

We therefore wish to register our strong objection to this proposal.

1. Landscape

CPRE's mapping of both dark skies¹ and tranquillity² reveals the application site scores well on both counts. As tranquil landscapes and the enjoyment of dark skies are being continually eroded by the development pressures facing the south east, we believe that measures must be taken to maintain and enhance such highly valued features where they exist. This proposal will only detract from both. Indeed, Swale Borough Council has used CPRE's tranquillity mapping data to formulate

¹ <http://nightblight.cpre.org.uk/maps/>

² <http://www.cpre.org.uk/resources/countryside/tranquil-places/item/download/325>

The Kent Branch of the Campaign to Protect Rural England exists to promote the beauty, tranquillity and diversity of rural England by encouraging the sustainable use of land and other natural resources in town and country.

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policies which seek to ensure that the impacts of development (including renewable energy) on tranquillity are '*minimised and mitigated*'.

The application site is an AHLV and is by any consideration a valued landscape. If permitted, this project would have a catastrophically negative landscape impact on the existing Saxon Shore Way and the proposed route of the Whitstable to Iwade section of Natural England's coast path, industrialising the route for a length of some three miles. This section of the coast path is one of the relatively few which will follow the top of the sea defences, affording the path's users extensive views both inland towards the Downs and out across the estuary

The solar installation would be a highly visible industrial intrusion in an otherwise open and natural landscape, and attempts at visual screening can only create an alternative incongruous element in that same landscape. To dismiss the visual impact of this development on this part of the Graveney Marshes as '*horizontal and low-lying*' particularly in its proximity to the (very much smaller) existing sub-station is disingenuous given the significant extent of its zone of visual influence.

2. Flood risk

We have serious concerns over the quality of the Flood Risk Assessment and the Flood Modelling Document which inform Chapter 10 of the PEIR, *inter alia* the use of the term 'depth' to describe flooding when any qualified assessor of flood risk would expect to see flood modelling described in relation to Ordnance Datum. We also have been unable to establish with any clarity the underlying engineering and meteorological assumptions which have informed the flood risk modelling, and we trust that these deficiencies will be addressed in the full Development Consent Order application in order that the impacts of this project can adequately be assessed.

We are also concerned about the proposed conflict with the Environment Agency's Medway Estuary and Swale Strategy and the managed retreat proposed for this section of the Graveney Marshes.

3. Soil micro-climate and hydrology

There are few references to studies dedicated to the impact of solar technology on wetland hydrology. Those that are quoted deal, for the most part, with site preparation and installation works and are therefore confined to the first 2 to 3 years of the life of the scheme. These, however, highlight some issues of special concern, including soil compaction by heavy plant. In the case of Cleve Hill, underlain by alluvium and London Clay, this could lead to 'panning' and water-logging, with its implications for soil water quality and biodiversity throughout the site.

The dimensions and spacing of the panels will create a partial canopy covering approximately 40% of the site. This will reduce the evapo-transpiration component of the water balance, thereby increasing the total effective rainfall entering the soil profile. This increase in net infiltration could be sufficient to produce year-round water-logging, leading to profound ecological changes, and long-term damage to the agricultural potential of this area of marsh. Furthermore any measures to improve the drainage infrastructure could carry an increased risk of soil erosion.

There is a lack of sufficient base-line data for a comprehensive assessment of the hydrological implications of the installed solar panel array. This should take the form of a programme of measurements of rainfall, evapo-transpiration, soil moisture and surface runoff for a trial solar

panel site covering a period of not less than 3 years, in order to achieve at least an approximation to the long-term average annual water balance for the site. We would also recommend concurrent ecological and habitat surveys of the trial plot.

We also recommend at least one adjacent undisturbed and fully instrumented control plot of similar dimensions to the trial site. Full details and guidance on the evaluation programme could be sought from IOH at Wallingford who would also be available to consult on the interpretation of the outputs from the hydrological and ecological programmes. There are 'small plot' runoff models which could possibly be adapted for the Cleve Hill situation.

4. Ecology

We believe that the assumptions regarding mitigation contained in the PEIR are inappropriate, as there is no way to assess the ecological impacts of a solar installation of this extreme scale, unprecedented in any ecologically similar area. We are particularly concerned that the impacts on fauna at the lower end of the trophic chain can not be adequately assessed. We consider it highly unlikely that suitable ecosystems and biodiversity mitigation can be delivered nearby when such a varied array of species will be displaced from area as extensive as this.

Natural England acknowledge that there is little evidence of the impact of solar installations on biodiversity (and what evidence there is comes from much smaller installations that that proposed here), but recommend that protected areas should be avoided³.

We are particularly concerned at the site's location, coterminous with areas designated for biodiversity protection (and now that we have received notification that the application boundary has been extended it includes designated sites, which is not reflected in the documents which inform the existing PEIR). It is clear that this area of the marshes is regularly used by SPA and Ramsar species. There will be particularly significant harm to species such as skylark and marsh harrier (the nearby SPA boasts a population of 24 pairs of the latter, representing at least 15% of the breeding population in Great Britain). Many of the technical reports informing the PEIR (such as those covering breeding birds, passage birds and the habitat survey) are now 4 years old, and were undertaken before the proposed site boundary was extended. They therefore give an inaccurate representation of the proposals as they currently stand.

We retain serious reservations over the assertion that, post-construction, the core study area will be '*...able to return to its natural state pre agricultural cultivation*⁴'. For the reasons stated in section 3, we contend that the soil profile will be profoundly affected by the construction and and operation of the proposed works. By our calculations, the orientation and spacing of the panels mean that even in the spaces between the arrays the ground beneath will receive no direct sunlight at all for 6 months of each year and only limited direct light for the rest of the year. Sowing seeds of plants intended to be of benefit to invertebrates will be of limited use.

We have also identified deficiencies in the ecological monitoring of species such as water vole, amphibians and invertebrates which we trust will be addressed in the full DCO application.

³ NEER012 1st edition 2017

⁴ PEIR 13.5.2.3

Finally we trust that the recent CJEU ruling on Appropriate Assessment (and we acknowledge with thanks your correspondence with us on that matter) will be adequately reflected in the DCO application submitted to the Planning Inspectorate.

5. Transport

We contend that a two-year construction period with some 75 HGV movements a day can not be tolerated in this rural location. We are aware that the Grade I-listed All Saints Church in Graveney suffered damage from the vibration of passing HGVs during the construction of the Cleve Hill converter which supports the London Array. We strenuously object to activities that would exacerbate the deterioration of an important heritage asset.

6. Agriculture

At a time when local authorities are being forced to implement Local Plans with significantly elevated housing targets as the result of the changes to the NPPF (particularly across the already-stressed South East, and even more particularly in Kent), we contend that it is more important than ever that every effort is made to preserve productive agricultural land for food production. Future uncertainties over climate change, global demographics and population change only serve to underline the importance of maintaining this resource. Renewable energy ought to be embedded in the built environment, where it will be used locally reducing transmission losses, rather than taking up productive agricultural land for no better reason than its proximity to a National Grid connector.

We note that the PEIR states that post-construction the site will be grazed by sheep. If sheep are to thrive they need access to 'sweet' grass which has grown with adequate rainfall and direct sunlight. Given the density of the proposed arrays, grass growth beneath the panels or in the gaps between them will be sparse (similarly, sowing the seeds of plants intended to be of benefit to invertebrates would be of little value).

Good sheep husbandry requires daily visual checks on health and welfare, and requires the ability see and when necessary to recover animals that need attention. This would indicate that for safety and welfare grounds sheep would need to be fenced out of the areas directly under the panels, and confined to the buffer areas.