

To: [Cleve Hill Solar Park](#)
Subject: Cleve Hill Solar Park
Date: 16 September 2019 08:21:10

Dear sir/madam

My written representations from The Cleve Hill Open Hearing on 10th September 2019 are below.

1) Given the unknown environmental effect of new east-west solar panels I question if enough biodiversity mitigation can be achieved.

I have compared the panels shown in the document which the applicant used to set sheep stocking levels to those in the applicant's photomontage. In short "usual panels" to "roof like panels". The references for each are:-

- [APP-085] UPDATES TO EXISTING DOCUMENTS OUTLINE LANDSCAPE AND BIODIVERSITY MANAGEMENT PLAN revision B August 2019]]
Section 6.9 page 30 little note 13 references to a document - BRE (2014) Agricultural Good Practice Guidance for Solar Farms. Ed J Scurlock
The pictures that I submitted with my deadline 4 submission [REP4-070], which were kindly displayed on the screen, when I spoke were taken from this 2014 document
- Environmental Statement Volume 3 – Live Visuals – Photomontage
November 2018 Revision A Document Reference 6.3.8
APFP Regulation 5(2)(a)
These are the very large landscape photograph in the bound book which gives a good impression and extent of the "roof like" panels which perhaps does not come across when looking at a smaller picture on a computer screen

There is no doubt that the panels proposed are to be installed over the ground more densely than "usual panels". The pictures of "usual panels" that I submitted also clearly show how very open and allow plenty of room for sheep to graze and for light to reach under the solar panels. Indeed scientific evidence has been carried out to show that grass thrives under these "usual panels".

The applicant's Microclimate & Vegetation Desk-Based Study is based on very limited information and tries to predict the effect of the "roof like panels".

[Ref APP-204] ENVIRONMENTAL STATEMENT VOLUME 4 - TECHNICAL APPENDIX A5.3 MICROCLIMATE AND VEGETATION DESK-BASED STUDY.

After the introduction, on page 6, it talks about the reduced sunlight and likely implications at Cleve Hill. It states:-

"To the best of our knowledge no studies have quantified the impact of an east-west solar park design on solar radiation receipts. It is likely that the east-west PV array at Cleve Hill would result in lower *direct* radiation receipts compared to a south facing array given the higher PV panel density; gaps between the tables

will be 2.5m compared with 6.75m at Westmill. Further, the concertina shape of the tables are likely to *diffuse* radiation receipts. Consequently, solar radiation receipts could be very low. However, the proposed gaps of 300mm between tables will enable some solar radiation penetration.”

On page 9 there is a summary of alterations to the microclimate at Cleve Hill and starts off with:-

“In summary, based on inferences made on existing understandings and of limited studies....”

These are examples where the Study accepts that its views are based on limited information and there is even a limitations section on page 20 which states:- “The limited number of studies at solar parks and dearth of data for east-west orientated arrays presents some limitations for the outcomes of this study and, as such, *the findings should be approached with caution.*”

This is reflected in the verbose wording in Table 1 on page 17. I have reworded the table as follows:-

Location	Vegetation	Management
Under the array and away from the edges	bare ground to bare ground with some colonisation	None
Between and at the edges of the arrays	low to high biodiversity vegetation cover	Careful

The disadvantages include soil erosion and land not available for grazing but does not attempt to quantify these which is a significant omission. The amount of land effectively being destroyed should be known.

The study suggests that under the edges of the array there could be high biodiversity.

Based on my practical evidence the indicated area where there could be high biodiversity is overstated.

There is structure on my farm which is about 2m high, so about the same height as the edge of the panels. This is an open structure but almost nothing grows underneath it and very little grows at the edges. I looked at the ground after rain and underneath it was as dry as a bone with very little moisture along the edges. My structure is designed to keep the area dry i.e. “roof like”.

At a previous hearing I distinctly remember a question being asked regarding the roof like structures. The verbal response from the applicant was that the panels proposed did not form a roof. They look roof like to me. The narrow slits at the ridge and on the slope do not prevent the structure acting as a roof.

In The Applicant's Responses to Submissions received at Deadline 3 [REP4-041] the applicant's responses to my comments start on page 98. Their response to vegetation under the panel is:-

"The Applicant provided a Microclimate and Vegetation Desk Study as part of the Application submission [APP-204] which provides evidence in relation to vegetation responses beneath the solar panels. Whilst levels are clearly expected to be reduced directly beneath the array tables, there will be a gradiental response and vegetation is expected to be maintained beneath the solar panels."

This is not what the study suggests.

It is the proportion of bare ground to that which has high biodiversity which is important. I remember from one of the hearings that Natural England saw sheep grazing as an important change from growing crops but do they appreciate the extent of bare ground and limited grazing. My practical experience would suggest that there will be very large areas of bare ground.

There are many assumptions in the applicant's documents and I offer the above comments to balance theory with reality.

As a layman I can only ask the Inspectors and nature organisations to be sure that the balance between bare earth and vegetation is environmentally acceptable as I think there will be a vast area of fairly bare earth which is currently supporting various species.

2) Given the restrictions on the site how practical will sheep grazing be?

There is inconsistency of when sheep should be grazed

- To the east grazing on the Arable Reversion Habitat Management Area is only April to September
- To the west, which is where I graze sheep, there is no grazing allowed in the winter months
- I am unsure of when grazing will be allowed between the fenced off array to the ditch
- The Grazing under the solar panels is planned to be year round but on a rotational basis. Table 1 in the Microclimate and vegetation Desk-Based Study states that to achieve high biodiversity the area will require careful management

I am unsure of the availability of drinking water for the sheep as the fencing of ditches is planned.

The scale of the proposed panels will make the husbandry of sheep difficult i.e. the gathering of sheep from under the huge area of solar panels for daily checking and medical treatment when required.

I farm sheep to the west of the proposed site and if I was asked to graze sheep on this type of site I would not wish to.

There is significant doubt that the mitigation plans to return the area to grazing marsh will provide enough increased biodiversity and the land will not benefit from “dual use” as in solar farms where “usual panels” are installed.

3) Flood risk

At Open Hearing 3 it was interesting to listen to CPRE talking about flood risk. I offer my local experience of the marshes I farm (they are immediately west of Oare Nature Reserve).

The flooding in 1953 involved breaches of the seawall.

Bungalows ½ a mile from the seawall were flooded to their eaves. These are 2m high so if this event reoccurred then the proposed Solar Park would be inundated.

In 1978 the marsh was flooded again when the sea over-topped the seawall and almost all of our flock was drowned. In trying to rescue horses I stepped off the boat approximately 100m from the seawall where the water was chest high i.e. 1.3m. The bungalows were again flooded with approximately 600mm. I know this as, when I tried to take the farm vehicle along the track by the bungalows water came into the vehicle when I opened the door. In addition, I have just asked a friend of the person living in one of the bungalows and she remembers that it was flooded with 2 feet of water.

In 2014 the seawall was over-topped to a lesser extent but flooded the Shipwrights Arms. The Shipwrights Arms is immediately west of the proposed site on the other side of the creek and has the flood line of 400mm recorded in it.

If the seawall was over-topped again then many solar panels and the inverters could be flooded.

4) Strategic View

I question if a National Infrastructure Project can be reliant on a third party maintaining a seawall where the land has previously been flooded and it has been agreed that the land will be flooded again as part of the Environment Agency's Strategic Plan. There is no long term sustainability so can it really be seen as National Infrastructure.

From a strategic point of view smaller/community solar farms do not present a significant terrorist target as does a large scale solar installation. The government has already stated that future of solar is local. Presumably a NPS on solar would follow this logic.

Stephen Ledger