

From: [REDACTED]
To: [Cleve Hill Solar Park](#)
Subject: Cleve Hill Solar Park - written representations from ISH1 and ISH4
Date: 28 July 2019 06:51:31

Dear Mr Rose

Cleve Hill Solar Park - Written representations from ISH1 and ISH4

Please see my comment from the above meetings.

Summary

This type of development is covered in NPS EN-1 and specifically gives guidance on SSSI's in para 5.3.11.

The site **only** meets the electricity need for 91,000 homes. It works against the initiative to generate electricity using solar panels on homes.

Although plans to mitigate the adverse impacts have been made there are many uncertainties and clearly construction noise will be very disturbing.

There is significant doubt regarding the planned managed retreat. If managed retreat is to be implemented the need for power is not sustainable in the long term. If built, then realistically, the solar farm and any potential successor is likely to be long term with managed retreat never being delivered.

Policy

The detail in para 5.3.11 talks in terms of developments within or outside a SSSI having an adverse effect. Some of the adverse impacts in this case are:-

- at best a delay to managed retreat, so not linking up this area with the wider area of the North Kent Marshes and Greater Thames Estuary
- visual impact and noise which would be totally out of character with the area

In these circumstances it states that development consent should not normally be granted.

However, it does state that an exception should only be made where benefits (including need) clearly outweigh the impacts.

Need

From a need point of view it was interesting to hear the technical expert, Dr Ralitsa from GREAT, mention that solar at the household level is a better solution than "Large scale" solar. In June this year the government also stated that "The future of energy is Local".

“Local” solar avoids “grid blocking”. This would preserve the connectivity capacity at Cleve Hill for additional wind farm generation or imported power. These types of supply better enable the need for power to be met when required. As Cleve Hill Solar Park would not generate power at the time of most need battery storage is required but, it not certain that this would be constructed.

It was not appropriate to delve into the detail at the ISH1 of what “Local” generation could achieve so I have included my findings in an appendix. In principle each house can generate enough power for its own use. If we plan to build 240,000 homes each year then:-

- every year they can generate more than double that which Cleve Hill Solar Park could generate
- every year we would add the equivalent of more than 2 Cleve Hill Solar Parks to the UK’s capacity
- the generation can come to market quickly
- it would avoid “grid blocking”

Perhaps more importantly, Cleve Hill Solar Park would be generating electricity at the same time of the day as “Local” generation and hence be in competition with “Local”. We need to support the larger contribution to our need for electricity via the “Local” generation initiative rather than building a “large scale” solar park.

The UK has the most wind resource in Europe. We should reserve the capacity at Cleve Hill to take full advantage of wind power as that technology develops.

Environmental

Clearly there is some way to go to be able to decide on the environmental position.

There seem to be a huge mismatch between managing the west and east boarders to Oare Nature Reserve. The marshes I farm form the west boarder of Oare Nature Reserve. I am restricted from grazing some marshes in the winter months. This is to prevent disturbing overwintering birds. At ISH4 the applicant spoke in terms of starting work in “winter 1” This would be the worst time.

There is a huge need to mitigate various adverse effects to an acceptable level whereas perhaps sufficient mitigation on such a site can never be achieved

I would like to comment on the mitigation measure of grazing sheep once this has been finalised. Essentially the nutritional values of the grass underneath the east/west solar panels will need to be sufficient for sheep to thrive.

I am aware that research has been undertaken that suggests the nutritional value of grass under solar panels can be higher than grass which is not. The indicative Solar PV array design picture shown in the non technical ES indicates that a substantial area will be completely covered by panels without the more usual open arrangement of a north/south alignment. I can’t find any research that has been carried out for the proposed configuration of solar panels. However, at a practical level I can’t see how

grass will thrive under the proposed arrangement.

A key factor to this mitigation measure may be how much of the solar panel area will support grass on which sheep will thrive. Is it possible to establish this figure?

At ISH4 we heard that the habitat reversion area would be fenced off to preserve the food for birds. This further reduces and fragments the area available for grazing.

If I was to graze my own sheep on this area I would need to know how many acres would be available and at which times of the year they could be grazed. I would also need to understand the layout of the available grazing as if too fragmented it would make the husbandry of the sheep more time consuming and possibly uncommercial to graze.

Yours sincerely

Stephen Ledger

Appendix – Solar Power at the household level (“Local”)

Summary

Installing solar panels on new buildings would create a sustainable supply of electricity as each house could generate sufficient electricity for itself.

Historic evidence

I have just 6 PV solar panels and for the last 8 years they have generated just over 1,000 kwh every year.

The average home uses 3,300 kW every year (Solar Trade Association and referenced in Cleve Hill November 2018 community newsletter)

Therefore 20 of these older panels, and less new panels, would generate the annual electricity needs of an average UK home.

New technology

A 3.5 kW system would need 25 square meters of roof space (cat.org.uk). The number of new panels to generate 3,300 kW is therefore just under 15. Various web sites state that between 12 and 16 solar panels would generate 3,300 kwh. This is an achievable number of panels to fit on a roof.

Panels are being developed that have a west/east alignment. We currently install domestic panels on a north/south alignment so this development may well enable a

house to generate **more** electricity than it needs.

When sited in more northerly locations the irradiation drop off in generation is only approximately 15% (efficientenergysaving.co.uk). Therefore houses across the UK can be fitted with solar panels.

An assumption that a house can generate its own power requirements is reasonable.

Available roof space

There are 25 million homes in the UK. Excluding flats there are some 20 million homes. Therefore the potential of solar generation on roof tops is very significant.

A smart planning permission regime would maximise "Local" solar generation by:-

- Only granting permission for new homes where solar generation has been included in the design
- Encourage solar friendly alignment of housing
- Extend these principles beyond housing

Costs

The indications from early export guarantee type tariffs currently available is that a payment of around 5.5p per kilowatt hour may be on offer. The government does say that it will intervene should energy suppliers not provide sufficiently competitive tariffs.

A 3,500 kW installation may cost between £4,000 and £6,000.

The Export Guarantee Scheme may only generate a small payment. However, if the homes own electricity use is taken into consideration (say £500 p.a.) then this would give a return on investment of say 10%. This would be a return on investment that an institutional investor would be pleased to receive.

If solar power becomes the norm on houses by:-

- encouraging Solar via the Smart Energy Guarantee Scheme
- and
- prescribing Solar via the planning system
- then
- the cost of installing solar on houses will reduce so increasing the return on investment

Conclusion

As we do not have large areas of unused land in the UK e.g. deserts, we should encourage and dictate using the roof of our buildings for solar power.

Using houses rather than land to generate solar power eliminates the land opportunity

cost and the environmental costs of “large scale” solar.

Lobby government to change planning policy irrespective of the increase in building costs.