

From: [REDACTED]
To: [Cleve Hill Solar Park](#)
Cc: [REDACTED]
Subject: Re: Cleve Hill Solar proposal and consultation
Date: 14 November 2019 12:54:24
Attachments: [REDACTED]

Dear Sirs,

Please may I add, if possible, this final submission concerning the Solar proposal at Cleve Hill, with my personal concern that there is, and has been, no true partnership with the town of Faversham evidenced throughout the proceedings by Cleve Hill Solar Ltd, and that the true nature of 'Place' and local community - local social ecology if you will, and if that can be compared with the natural ecology that is also threatened and diminished by the proposal (in view of the previous anticipation of Habitat restoration and renewal by the Environment Agency resulting from Managed Realignment at Cleve Hill) - is such a fundamental issue in any final decision.

My thanks,

sincerely

Dr. Tim Ingram

On Saturday, 26 October 2019, 11:32:52 BST, tim & gillian ingram [REDACTED] :

Dear Sirs,

Further to my previous submission, reference AS-038. I would be grateful if I could extend the argument presented previously concerning flood risks into the town of Faversham and potential impacts of the Solar proposal on Faversham Creek and the ecology of the North Kent Marshes, in the light of the Environment Agency's new published future strategy for the north Kent coast - MEASS - and with new photographic and documentary evidence, as attached.

(I am a resident of Faversham who has registered to follow the proceedings of the Planning Inspectorate Consultation and have done so online on the Inspectorate website. I would be grateful if I could submit my specific thoughts on the proposal purely as a private citizen considering the future of the town I live in and its surrounding environment, and past and present perspectives).

My thanks,

sincerely

Dr. Tim Ingram

[REDACTED]

<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010085/EN010085-001568-CHSP%20-%20D6%20-14.1.1.pdf>

2.7.3 Flood Risk following Managed Realignment

40. The CPRE Kent response also states that "that "Managed realignment as proposed by the Environment Agency's Medway Estuary and Swale Strategy (MEASS), has the potential to reduce flood risk at Faversham" and attempts to evidence this using calculations which rely on an unscientific and oversimplified methodology for calculating storage volumes.

41. Appendix I - Medway and Swale Strategy Study (MEASS) Modelling Report (Mott MacDonald March 2018) of the EA's MEASS document (September 20192) clearly shows

that under a managed realignment scenario at the Site (benefit area BA6.2) there would be a greater extent of flooding in Faversham. This is shown on Figure 140: Flood extents of the baseline (light blue) and the Leading Option (pink) results for the 1:200-year present scenario in Swale and Medway estuaries. The highlighted red boxes denote areas where the flood extent is increased compared to the baseline. The flood modelling used to inform the MEASS was undertaken by Mott MacDonald using industry standard software and a recognised methodology.

42. This is in clear contrast to the statement made in the CPRE Kent submission that managed realignment would bring a "benefit to Faversham of the order of 0.5-1.0 metres depth reduction in flooding".

This appears a very narrow and highly debateable conclusion drawn from the MEASS given that the risks of flooding into Faversham are already considerable and the practice of Managed Realignment is becoming more and more regarded as an important way of enabling more natural response to sea level rise, concomitant with restoring rare and valuable ecological habitat.

In '**Managed Realignment - A viable long-term coastal management strategy**' (<https://core.ac.uk/download/pdf/20321220.pdf>) the concluding remarks include the paragraph highlighted below (next page).

And on page 13. of this publication the first paragraph ends:

'Therefore this natural buffering capacity can improve the level of protection offered to people and property (Splading et al. , 2013). However, it is important to realise that the ability to offer protection might be limited in habitats at early stages of development'.

There are clearly uncertainties and resistance to large scale interventions such as Managed Realignment, which this book examines and goes into in detail, with specific examples in the UK and Europe and elsewhere, but the inevitable and growing effects of climate change and sea level rise must bring the tension between constantly raising coastal defences versus processes that occur naturally in coastal regions subject to flooding, and the wisest long term course to follow, more and more into focus. It is hard to see how given a much larger area of renewed saltmarsh and intertidal, for any tidal surges along the Faversham and Oare Creeks to dissipate over, that this would potentially **increase** flooding into the town? And the alternative would appear to be allowing parts of the tidal defences to fail in the not so distant future (No Active Intervention), especially adjacent to the Ham Marshes, which is in effect **non-managed** realignment.

Nowhere in the MEASS **Report –Strategic Environmental Assessment -Environmental ReportV4May 2018** (<https://ea.sharefile.com/share/view/s53042b8483441048/foaa518c-77f9-4111-8a59-23a6f61add9c>), that I can see, is there explicitly stated that the proposals for Managed Realignment will increase flood risks into the town.

Managed realignment is a soft engineering approach for managing coastal erosion and flood risk. Increasingly it is seen as an alternative to traditional hard engineering with a capacity to deliver sustainable coastal management solutions that can account for climate change. In this respect managed realignment aims to restore or maintain the adaptive capacity of natural environments in response to sea-level rise. Importantly, managed realignment has been widely implemented as a management approach to compensate for habitat loss due to coastal development and coastal squeeze.

Underlying the implementation of managed realignment as a strategic climate change adaptation, is the potential to create opportunities for the development of fully functional coastal habitats able to benefit society through the provision of multiple ecosystem services. Most commonly, managed realignment projects are designed to promote ecosystem services related to: natural protection against storms; flood control; and provision of habitat and biodiversity. Additionally, more recently attention has been given to the potential of managed realignment to provide carbon sequestration functions, nutrient cycling, water purification, recreation and amenity value.

The earliest managed realignment schemes were implemented in the 1980s and comprised of isolated initiatives to address local needs. A more strategic approach was taken from mid-1990s, where projects started to be implemented as part of estuary-wide plans. Since then a total of 125 managed realignment projects are currently known to have been implemented in Europe (see a list in the Appendix) and an unknown number of initiatives exist in the USA. Although practice has advanced knowledge in many technical aspects, it is surprising how little is still known about the long-term evolution of sites. This gap in knowledge is partially due to the fact that many projects are relatively recent, but also because systematic monitoring is inadequate or non-existent, data availability is restricted to organisations involved in the design and implementation of schemes, and only a few independent studies exist.

Managed realignment is still a novel approach to coastal management and examples to date are limited both in the number of projects and geographical spread. However, recent national and regional policies (e.g. in Belgium, France and the UK) have placed a strong emphasis on managed realignment approaches as a long-term strategy for coastal management. As a result, a large number of projects are planned to be implemented in the next decades. For example, by 2030 there are plans to realign about 10% of the English and Welsh coastline length (see Section 4.1) and to create about 1300 ha of flood storage area and over 850 ha

In my initial submission to the NIP I concluded with the reference and quote as follows:

<https://infrastructure.planninginspectorate.gov.uk/wp-content/ipc/uploads/projects/EN010085/EN010085-001059-Cleve%20Hill.pdf>

A seminal paper on the saltmarshes of Essex and North Kent was written by Fiona Burd in 1992 (<http://archive.jncc.gov.uk/pdf/>

Pubs92_Saltmarshes_of_Essex_&_North_Kent_1973-1988_PRINT.pdf).

This concludes that the saltmarshes are undoubtedly experiencing erosion due to sea level rise and that saltmarsh to the seaward of sea defences provides an important contribution to the stability of the sea walls. Furthermore:

‘An important element highlighted by work in the Mississippi Delta is that there is a delay of several decades before the response of the ecosystem to sea-level rise becomes evident, but the rate of response may accelerate with time. It is therefore important that any action to prevent future catastrophic consequences of sea-level rise should be taken sooner rather than later.’

An earlier Flood Risk Assessment consultation prepared for Swale Borough Council in 2009 (<https://archive.swale.gov.uk/assets/Planning-General/Planning-Policy/Evidence-Base/Local-Plan-2014/Further-evidence-2015/Part-1-Swale-SFRA-Main-Report.pdf>) already anticipated Managed Realignment at Cleve Hill within 20 years of 2007 - viz. by 2027 (see next page). This report also highlighted the significant predicted future increases in sea levels which must emphasise those increasingly serious consequences for the town that the above paragraph states. This picture looking across the Creek at high tide opposite the Front Brents, and at the place where flooding regularly, and historically, occurs, shows how increase in high water levels of 30-40cm within the timescale of the Solar proposal (the next 40-50 years), even in the absence of serious tidal surge, will have considerable consequences.



- 'Hold the line' - maintain the existing defence line.
- 'Advance the line' - build new defences seaward of the existing defence line.
- 'Managed Realignment' - allow the shoreline to change with management to control or limit movement.
- 'No Active Intervention' - a decision not to invest in providing or maintaining defences.

In some policy units, a combination of these four options may be applied.



Figure 5: Medway Estuary & Swale, and Isle of Grain to South Foreland Policy Areas (from Medway Estuary & Swale SMP 2007 Summary document)

The policies for units within the Borough of Swale are summarised below:

- 'Hold the Line' is proposed for Kingsferry Bridge to Milton Creek (E21), Milton Creek (E22), Faversham to Nagden (E24), Rushenden to Sheerness (E29), Garrison Point to Minster (C2), Minster Town (C3).

- 'Managed Realignment' is proposed for Chetney Marshes (E20), Shell Ness to Sayes Court (E25), Sayes Court to North Elmley Island (E26) and Leysdown-on-Sea to Shell Ness (C6).
- 'No Active Intervention' is proposed for Ham Green to East of Upchurch (E16), Funton to Raspberry Hill (E19), the Medway Islands (E30) and Minster Slopes to Warden Bay (C4).
- 'Managed Realignment with Localised Hold the Line' is proposed for Motney Hill to Ham Green (E15), East of Upchurch to East Lower Halstow (E17) and Warden Bay to Leysdown-on-Sea (C5).
- Short term (20 years) of 'Hold the Line' then 'Managed Realignment' is proposed for North Elmley Island to Kingsferry Bridge (E27), Kingsferry Bridge to Rushenden (E28) and Faversham Creek to Seasalter (C7).
- Short term (20 years) of 'Hold the Line' then 'Managed Realignment with Localised Hold the Line' is proposed for Murston Pits to Faversham (E23).
- Short term (20 years) of 'Managed Realignment' then 'No Active Intervention' is proposed for Barksore Marshes (E18).

And:

3.5.2 Effects of Climate Change

In October 2006, DEFRA published the document *Flood and Coastal Defence Appraisal Guidance FCDPAG3 Economic Appraisal (Supplementary Note to Operating Authorities – Climate Change Impacts)* identifying the climate change impacts to be considered in undertaking flood risk appraisals in the United Kingdom. In addition to sea level rise of approximately 1m in south-east England over the next 100 years, the document suggests winters will become generally wetter and sets out the increase in rainfall and river flows expected. These effects will tend to increase both the size of flood zones associated with the sea and rivers, and the amount of flooding experienced from “other sources”. PPS25 states that planning should take the effects of climate change into account and reproduces the tables from the Defra report, which are also shown in **Table 2** and **Table 3** below:

Administrative Region	Net Sea Level Rise (mm/yr) Relative to 1990			
	1990 to 2025	2025 to 2055	2055 to 2085	2085 to 2115
East of England, East Midlands, London, SE England (south of Flamborough Head)	4.0	8.5	12.0	15.0
South West	3.5	8.0	11.5	14.5
NW England, NE England (north of Flamborough Head)	2.5	7.0	10.0	13.0

Table 2: Recommended contingency allowances for net sea level rise (from PPS25, table B.1)

Parameter	1990 to 2025	2025 to 2055	2055 to 2085	2085 to 2115
Peak rainfall intensity	+5%	+10%	+20%	+30%
Peak river flow	+10%	+20%		
Offshore wind speed	+5%		+10%	
Extreme wave height	+5%		+10%	

Table 3: Recommended national precautionary sensitivity ranges (from PPS25, table B.2)

As recommended by the Environment Agency, a design life of approximately 60 years is assumed for a commercial development, and approximately 100 years for residential development; the current recommendation is that conditions for the years

The flooding of properties adjacent to the Creek in 2013 led the Environment Agency to take action, but only after the event...

Planned flood defence works in the Faversham area

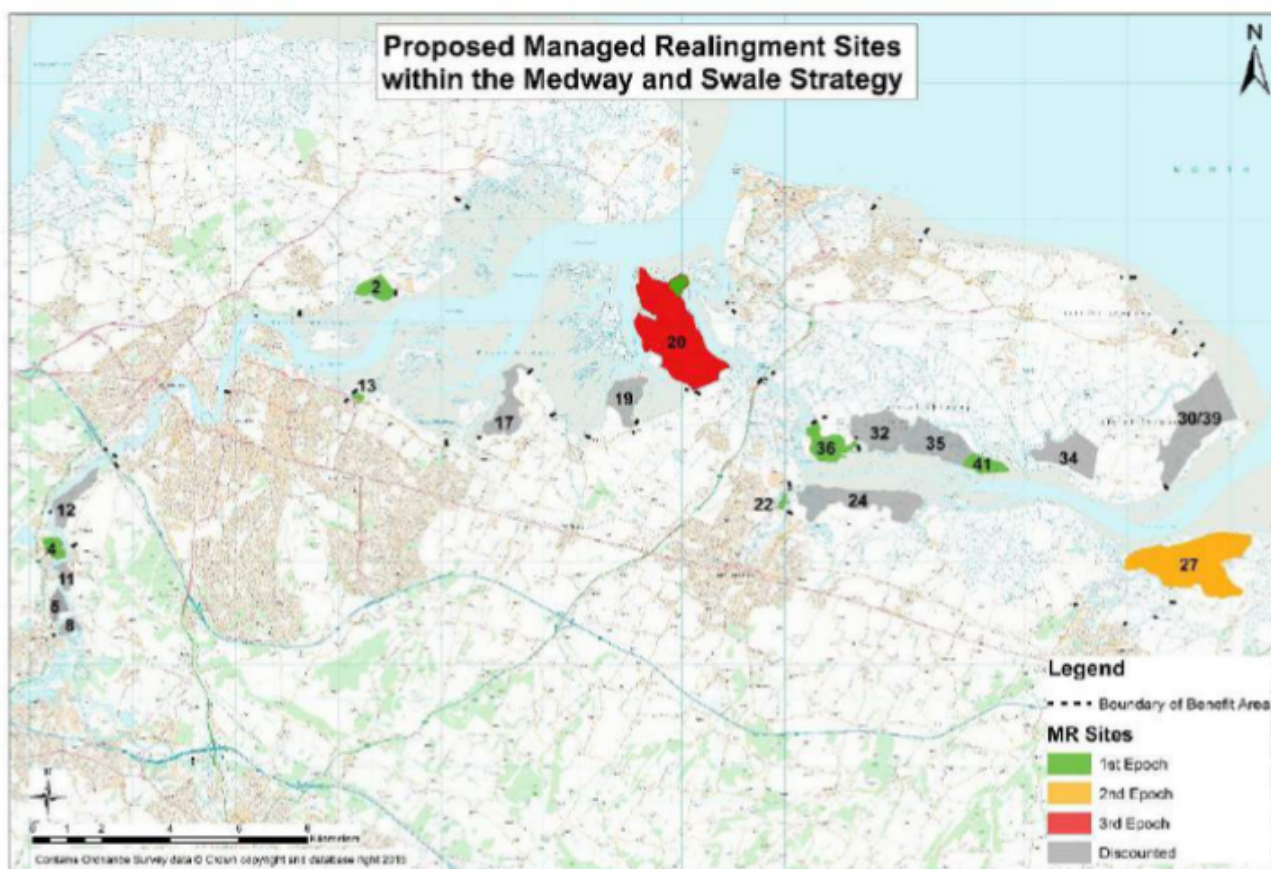
In the early hours of 6 December 2013, the largest tidal surge for 60 years resulted in internal flooding of approximately 30 homes and businesses in the Faversham area. This served to highlight that the affected properties are in one of the most vulnerable areas to tidal flooding in Kent, and do not have adequate flood defences to protect them from the effects of extreme sea levels.

In partnership with Swale Borough Council, Kent County Council, Southern Water and Faversham Town Council, the Environment Agency have developed plans for a tidal defence scheme to protect the low-lying properties on the northern side of Faversham Creek. Please see the briefing note at Appendix 5.

(reference: https://www.kent.gov.uk/data/assets/pdf_file/0010/71668/Flood-risk-to-communities-in-Swale.pdf)

The MEASS consultation shows that Cleve Hill is anticipated to be one of the most significant potential sites for Managed Realignment along the whole of the North Thames coast - and where to date **no** MR has occurred at all, in considerable contrast to the Essex coast on the other side of the Thames (see: <https://core.ac.uk/download/pdf/20321220.pdf>).

Figure 10: Map of the proposed MR sites across the Strategy area.



Source: Mott MacDonald, 2018

Yet contrary to earlier deliberations, which placed MR within the timescale of 2027 mentioned above (and within that '5-10' years statement by the EA on the NIPI consultation), the EA now takes a far more uncertain and equivocal position of proposing MR by the 2nd epoch of the MEASS, commencing 2037, **but if the Solar proposal goes ahead possibly not until 20 years after that (or realistically probably not at all?)**.

It's hard to reconcile this with the absence of any other places available along the North Kent coast that can provide the suitable and necessary Habitat for such action?

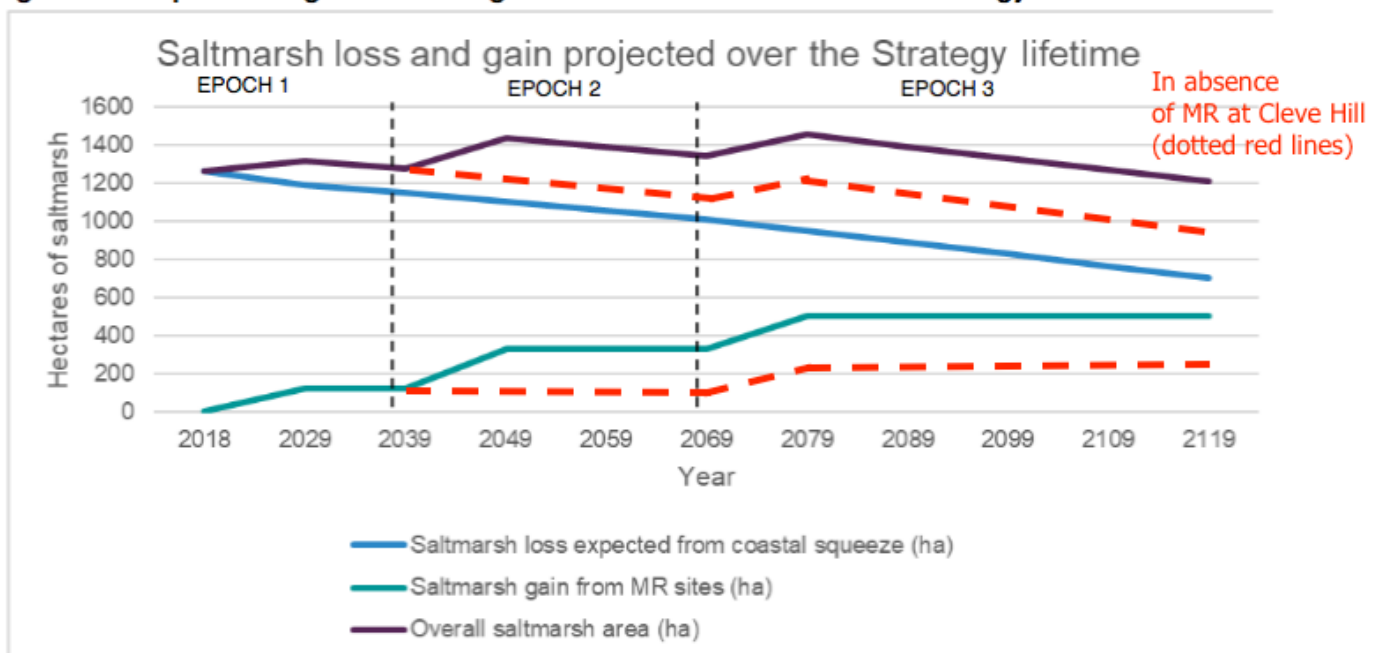
MR site 27 (Cleve Hill) has the potential to provide a large amount of the required compensation. However, the Project team are aware of a proposed solar park at Cleve Hill. There remains uncertainty about the future of the site which we have allowed for within the strategy. If the solar park does not go ahead the whole site can be used as a managed realignment site or if the solar farm is only in operation until year 40 then it could be utilised by the Strategy following decommission. Therefore, managed realignment of this site is delayed until the 2nd epoch until it is clear how the site is to be used in the long-term. If the site becomes unsuitable, Chetney Marshes adaptation policy (see paragraph below) could be accelerated with additional management/breaches to create the required intertidal habitat earlier. This would require slightly earlier compensation for impacts on freshwater habitat at Chetney, however as the plans have a conservative approach implementation of the freshwater compensation would only be bought forward by 4 years.

In the third epoch Chetney Marsh will be realised as a managed realignment site, under a Habitat Adaption approach. Modelling of this site has shown that the current topography has the potential to provide an area for saltmarsh habitat to "rollback", which reduces an immediate adverse impacts on the freshwater designated sites. This indicates that this option may allow adaptation of the habitat rather than immediate loss of all the freshwater habitat. However, it is less certain when the saltmarsh habitat in this area will develop, so although the option will be

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The potential influence of delaying/preventing MR at Cleve Hill is illustrated in the figure below from the MEASS (my red dotted lines added):

Figure 11: Graph showing the loss and gain of saltmarsh habitat over the Strategy lifetime



The paragraph below taken from the MEASS consultation strongly supports the proposed actions to carry out MR at Cleve Hill within the relatively close future, and raises the considerable conflicts of interest that result from the Solar Array application on this same area of land.

7.4 Summary of Stage 4: Approval or Refusal of Plan

It is considered that, by virtue of the continued assessment of environmental effects during the strategy process, and the method of assessing alternatives and identifying Managed Realignment sites where possible, that there are no feasible alternatives to the Strategy that are less damaging.

There are a number of imperative reasons of overriding public interest for the Strategy to proceed, relating to effective flood and erosion protection of assets, the preventions of risk to public health and safety, and the consideration of impacts on Natura 2000 sites. Over 17,266 properties will be better protected from coastal flooding and erosion over the next 100 years due to the implementation of the Strategy.

In all of this there is no mention of integration with the proposals and hopes to regenerate and revitalise Faversham Creek itself (and see: <http://www.swale.gov.uk/assets/Planning-General/Planning-Policy/Faversham-Creek/Final-doc-for-web.pdf>), which inevitably also involves the EA, Port of Sheerness Ltd and others, and with different sets of priorities, but in the round of considerable importance for the whole town along with decisions that may reduce and ameliorate future risks of flooding.

In the long term it must be that valuable changes occur as the result of partnerships and compromise, founded on the rigorous contemplation of the future and equitable and sustainable outcomes - locally as well as globally - and that moment for partnership, for Faversham, must be now.