



# CLEVE HILL SOLAR PARK

**ADDITIONAL SUBMISSION - COMMENTS ON DEADLINE 3 SUBMISSIONS  
THE APPLICANT'S RESPONSE TO GREAT AND FAVERSHAM SOCIETY  
REPRESENTATIONS ON NEED**

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Revision A

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**CLEVE HILL**  
SOLAR PARK

## **1 INTRODUCTION**

1. This document provides a response by Cleve Hill Solar Park Ltd (the Applicant) to the following representations by Graveney Rural Environment Action Team (GREAT) and the Faversham Society made to the Planning Inspectorate at Deadline 3:
  - GREAT - Response to discussion at the Special Issue Hearing on Need, July 2019
  - The Faversham Society - CHSP Submission from The Faversham Society For Deadline 3, August 1st
2. Section 2 provides the Applicant's responses to the GREAT submission and Section 3 provides the Applicant's responses to the Faversham Society submission.
3. References to the Application documentation are provided where necessary according to the reference system set out in the [Cleve Hill Solar Park Examination Library](#).
4. At the time of writing, Deadline 3 Examination Library references were not available, therefore the Applicant's Deadline 3 document references have been used where appropriate.

## 2 GRAVENEY RURAL ENVIRONMENT ACTION TEAM - ADDITIONAL SUBMISSION ON NEED (31 JULY 2019)

**Table 1: GREAT Representation and the Applicant's responses**

Ref.	Representation	Applicant's Response
1.1	<p>Firstly, there is no need for large scale solar PV to bridge a gap in supply in the UK in the immediate, medium or long term. UK policy documents and energy institutional reports such as the CCC's "Net Zero report" (2019); and the two most recent Future Energy Scenario's reports by the National Grid (2018; 2019) are consistent in highlighting the importance of small-scale solar PV, at household and community level. Furthermore, the CCC report (2019, p.157) points out that scenarios with significant emission reductions (discussed in Chapter 5) involve deploying large scale solar PV in other parts of the world, where the cost will be lower and the technology will be more efficient, because of land availability and higher levels of solar irradiation.</p>	<p>CCC, p83-84 states: "Whether the world achieves the long-term temperature goal of the Paris Agreement will depend on the actions of other countries alongside the UK. A large-scale shift in investment towards low-carbon technologies is needed and emissions need to stop rising and to start reducing rapidly. Falling costs for key technologies mean that the future will be different from the past: renewable power (e.g. solar, wind) is now as cheap as or cheaper than fossil fuels in most parts of the world." Further, p131 of that same report states: "Our scenarios in Chapter 5 also involve a significant amount of emissions removals, some of which may be cheaper to deploy in other parts of the world (e.g. where there is more land, solar or biomass resource), although sustainability concerns would need to be carefully managed."</p> <p>The CCC point out that some areas of the world may have better natural resources than others, for deployment of specific renewable energy sources, and that all countries have their role to play in decarbonisation. The Applicant agrees with this observation, but disagree in its use against the development of solar in the UK. This is for three reasons.</p> <p>1 – Just because a technology may be better suited to another geography does not mean that it is not viable in any other specific geographies. The Applicant has presented in the Statement of Need [APP-253], Chapter 6, an analysis of the economic viability of large-scale solar at the Cleve Hill location, both as a stand-alone renewable proposition, and in relation to the incremental benefits it delivers when compared to smaller solar assets.</p> <p>2 – Statement of Need, Paragraph 5.39, discusses the relevance of "specificity" in relation to the deployment of diverse forms of generation to support electricity system strength and resilience. By only deploying "the best" forms of generation where they are "best" suited, weaker and less intrinsically resilient systems are developed, which will not meet the security of supply principle. Continuing to add solar to the GB energy mix improves diversity and system strength, as described in the Statement of Need Chapter</p>

Ref.	Representation	Applicant's Response
		<p>5(v).            3 – Deploying solar in other parts of the world does not help the UK decarbonise, unless that power is transported from where it is generated to the UK. In the Statement of Need, Para 5.63 talks to the importance of power generation connecting to the NETS close to London, in order to minimise the cost of infrastructure and losses associated with long-distance power transport.</p> <p>The Applicant also notes the CCC's comment on p269 of their Net-Zero report, that: "Our recommended UK target involves lower GHG emissions per person than the global pathways consistent with limiting temperature rise to 1.5°C. That opens the possibility that even if the UK does a little less and buys carbon units from elsewhere it would still be doing at least as much as the world overall". It is therefore not the case that the CCC suggest not to deploy solar in the UK.</p>
1.2	<p>The most up-to-date scientific evidence on energy demand clearly shows that UK energy demand has been steadily decreasing and is projected to continue to do so at a rate which places it as a "first fuel". The Aurora report from May 2019 (page 10, which uses National Grid Initial Transmission System Demand Out-turn data) puts the reduction in energy demand at 21% over the past 10 years. This means that meeting energy demand will increasingly be the result of a combination of energy demand management, flexibility of the energy system and renewables such as offshore wind, with high load factor and for which the UK has a natural environmental disposition. Investment in small-scale solar PV plays a key role in both energy demand management and flexibility.</p>	<p>The Applicant recognises that energy demand management has an important role to play in the future of the energy balance of the UK. The Applicant notes National Grid's report FES 2019 (Reference 3(b) to the Applicant's DL3 response to GREAT Statement of Need, document 11.4.10), which states that currently "DSR" capacity is estimated at just 1.0 GW, with scenarios of between 1.4 GW and 4.5 GW by 2030, rising to between 2.1 GW and 6.7 GW by 2050. This growth must be viewed within the context of c. 16 GW of coal and nuclear coming offline before 2030 (also included within FES scenarios) and therefore while the Applicant does not raise a case here against DSR being "first fuel" it points to the fact that it cannot be an only fuel, and that therefore the need for alternate low-carbon generation is justified.</p> <p>The Applicant agrees that Since the 1990s, GB electricity demand has grown slowly and even fallen since 2005. Total supply in 2017 was 353 TWh (lower than 1998). The levelling off of demand reflects three underlying drivers: first, a decline in economic growth rate (particularly with the recession of 2009); second, a reduction in the level of electricity intensity as the economy has shifted to less energy-intensive activities; and third, the introduction of energy efficiency measures, especially more efficient lighting within the last seven years. Going forward, there is reason to believe that total demand will</p>

Ref.	Representation	Applicant's Response
		<p>grow. First, despite uncertainties created by Brexit, GDP is forecast to return to 2% per annum growth in 2020; Second, the move to electrify transport, and heating in later years, will put upward pressure on demand Third, the least-cost energy efficiency measures, such as introduction of low-voltage LEDs for lighting, have now been implemented across business and domestic sectors, and Fourth, economic restructuring away from manufacturing to a service-based economy has largely occurred. This view is shared by National Grid ESO and is described in the various scenarios within FES 2019.</p>
2.1	<p>Second, large-scale solar PV such as the Applicant's proposed project will block grid capacity and reduce diversity of the renewable mix at the distribution level. The Applicant's team argued for the importance of a diverse mix of renewables being developed and argued that large-scale solar PV projects (such as CHSP) are part and parcel of such diversity. Large-scale solar PV (albeit at a smaller than the proposed Cleve Hill capacity) has been part of the renewables mix so far (while the case for renewables in general was being made). However, with the increase of renewable capacities installed, grid constraints mean that the strategic emphasis across the wider industry has shifted towards more self-generation from domestic, commercial, industrial, and community solar PV projects and offshore wind. This shift is reflected in the withdrawal of the Renewable Obligation and Feed in Tariffs for large scale solar PV in the UK. Subsidised large-scale solar PV capacities already in operation will continue to contribute towards meeting the energy need for the UK, but encouraging new large-scale PV projects is not an energy industry and policy focus. If diversity is important in the future mix of renewables, the solar PV contribution can and will be from smaller projects than Cleve Hill.</p>	<p>The Applicant does not accept that the Cleve Hill Project will block grid capacity and reduce diversity of the renewable mix at the distribution level. Projects such as Power Potential (See the Applicant's comments under point 1.16 of the GREAT Statement of Need) are working already to generate additional capacity on the network. See <a href="https://www.nationalgrideso.com/innovation/projects/power-potential">https://www.nationalgrideso.com/innovation/projects/power-potential</a>, which states: "[National Grid ESO] have teamed up with UK Power Networks to launch this new initiative which aims to create a new reactive power market for distributed energy resources (DERs) and generate additional capacity on the network ... Throughout Great Britain, distribution power networks have been experiencing increased levels of renewable generation such as wind and solar, etc. As this trend continues to increase, more coordination between the Great Britain (GB) System Operator and distribution network operators (DNOs) is needed. This will increase system flexibility by using more DER capabilities and provide network support at a distribution and transmission level." Critically, PV power plants, battery and storage sites are included within the scope of the project.</p> <p>The Applicant also references the discussion held on 17 July during ISH1, and transcribed in the Applicant's document 11.1.3 Para. 4.13, thus presenting again the argument that an unsubsidised power generation facility at Cleve Hill will provide diversity to the local system, at a cheaper cost to consumers precisely because no subsidise is required, and generate enough low-carbon power for c. 90,000 homes each year. Large-scale PV projects are not policy focus because they work at as an unsubsidised investment, but they are industry focus - as referred to in the 17 July ISH1 (transcribed at Para 4.19),</p>

Ref.	Representation	Applicant's Response
		2 other NSIP solar projects are in the public domain, as well as others not yet in the public domain.
2.2	In fact, a large-scale solar PV capacity connected to the grid at the wrong place (a congested part of the transmission and distribution network) and time (when trials for battery storage services providing flexibility to the grid have just started at some parts of the network) will have the opposite effect. It will effectively block a diversity of renewables projects at the DNO (distribution network) level. This argument was detailed in Chapter 7 of the expert report prepared for GREAT, which unfortunately was misinterpreted by the Applicant in its verbal argument. DNOs will only entertain new connections for smaller projects connected at the distribution-level where National Grid has confirmed the impact on the transmission grid. Blocking the transmission grid with a plant such as Cleve Hill will automatically restrict distribution-level connections without significant new works (paid for by the new distribution-connected generators through a "statement of works").	<p>The Applicant's response to this point has previously been made in its Response to GREAT Statement of Need (Deadline 3 submission document reference 11.4.10), points 4.17 and 8.5.</p> <p>The Applicant refers to the Power Potential project discussed in 2.1 above in reference to the comments made here with respect to the availability of capacity at the DNO level.</p>
2.3	Furthermore, large-scale energy battery storage (such as the one proposed at Cleve Hill) which is not committed to specific demand customers and relies on the Capacity Market is likely to operate at low levels of efficiency because of the significantly lower than expected clearing prices of the Capacity Market for flexibility services.	The Applicant's Statement of Need [APP-253], Table 5.5, describes the various markets accessible by energy storage systems. The Capacity Market is just one of these markets. A transmission-connected storage asset, which by virtue of its connection is able to provide nationally significant balancing services is by definition likely to be of more benefit to the GB consumer than if it was committed only to specific demand customers. To do this, through its life it may be required to provide different services at different times, and capture different revenue streams in the process. In this regard the Applicant's position is that the storage asset would operate at high levels of efficiency in respect of those services which are needed, and at whichever time.
3.1	Third, an argument for the project as an example of how large-scale solar PV capacity can "stand on its own two feet" doesn't take into account the cost of transmission and distribution connection and reinforcement, which will be passed on to	All generation assets are required to pay their "Use of System" costs, whether at the transmission and/or distribution level. Cleve Hill is no different. Similarly, all generation assets are required to pay their share of connection-related costs. The costs - including wider-works packages - at

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	<p>consumers. If the proposed project is financially viable (and our argument is that it is unlikely to be, when all costs are taken into account) it will be because the cost for grid reinforcement will be paid for consumers and government. Despite the large costs of transmission and distribution reinforcement which connecting such a large capacity will incur, connection to the grid is presented by the Applicant as non-problematic. For the Applicant these costs are indeed not problematic as they will be passed on to current and future consumers and will be partly covered by government investment which comes in the form of innovation stimulus packages like the Low Carbon Network Fund (£500 million between 2010 and 2015).</p>	<p>Cleve Hill - are small, because the site is making use of spare capacity already created in readiness for the (now cancelled) London Array II wind farm. Cleve Hill is not causing the pass-through of any additional costs to consumers as a result of its connection. The Applicant's Statement of Need APP-253, Para 6.40, cites Ofgem's clear support to the utilisation of existing spare Grid capacity. As does the CCC in their 2019 Net Zero report (See Electricity Networks section, p182, which highlights the fact that even current transmission capacities are valuable - and therefore should be utilised as best as possible).</p>
3.2	<p>Thus, although the generation of large-scale solar PV is subsidy free, its transmission and distribution are not and these costs are "hidden" by current market arrangements. They are obscured from the planning process because while applications for connection are made to and granted by the National Grid at the transmission level, they also create congestion and costs at the distribution level, which need to be addressed by the DNOs. The costs of the project to the distribution part of the grid are as important as those to the transmission part of the grid. The relationship between the three could be compared to that of pollution upstream in a river which is then carried on downstream obstructing the water flow.</p>	<p>The Applicant has responded to this point in 2.1, 2.2 and 3.1 above. Further to these comments, the Applicant notes that there is a great deal of complexity (and associated cost) with the further deployment of generation embedded within distribution networks. The Applicant recognises that both distribution-connected, and transmission-connected assets are required to meet future demand in a decarbonised way, but does not agree that increased costs of system management activities at the Distribution level, many caused by the complexity of upgrading systems to cope with significant proportions of embedded generation, should be represented as being caused by the connection of transmission system assets which seek to make good use of unutilised connection capacity at the national electricity transmission system level.</p> <p>By connecting more assets at the distribution level, less power flows on the transmission system (as shown in GREAT's submission Aurora May 2019) meaning that the unit costs of running GB's national electricity backbone increase: a cost which is picked up ultimately by consumers. The Applicant therefore recognises a relationship between distribution and transmission networks, but believes that to present the relationship as a one-way flow of negative impact from transmission system to distribution system is misleading.</p>

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3.3	<p>A connection offer from the National Grid is not "supportive" of a project. When National Grid makes a connection offer, they do so because they are required to make capacity available (under a statutory obligation to make an offer for connection and to design a suitable connection in the absence of competition on a first come first served basis). An opinion from the relevant DNO (UK Power Networks) is missing and the lack of recognition by the Applicant of the impact of the project on the distribution network is worrying. However, the Applicant is aware of these costs, as evident from the Statement of Need document which concedes that "Electricity consumers, either directly or indirectly through their energy bills, pick up all of those costs related to market inefficiencies, economic decision making, asset investments, balancing actions, and transmission and distribution system enhancements".</p>	<p>The Applicant responded to this point in its response to GREAT's Statement of Need document (Deadline 3 submission document reference 11.4.10), point 8.27.</p>
3.4	<p>These costs are inherent to large-scale solar PV projects with battery storage under the current market conditions but are excluded from the economic assessment of the project represented as the Levelised Cost of Energy (LCOE). Furthermore, these costs are in addition to other significant costs to consumers and the energy system stemming from the inefficiencies of solar technology in the UK, its limited load factor and high levels of risk and uncertainty due to lack of policy support, as evidenced in the expert report. Approval of the project will effectively pass on these costs to consumers and the system. The Applicant has argued verbally that National Grid is "supportive": no evidence was provided to substantiate this contention and if National Grid are working with the Applicant on progressing the project, it is because National Grid are required to by statute, not because they consider it is a valuable addition to national generating infrastructure.</p>	<p>The Applicant has responded to these points as part of its written response under DL3 to GREAT's Statement of Need (Deadline 3 submission document reference 11.4.10). The relevant points have been made in response to paragraphs 5.16 and 6.4.</p>
4.1	<p>Fourth, the proposed project is not presenting an important opportunity to work toward developing a more flexible energy</p>	<p>The Applicant wishes to make its position on the commercial viability of the project clear. The Applicant believes that the project is commercially viable</p>



Ref.	Representation	Applicant's Response
	<p>system in the UK. Key energy documents, such as the 2019 National Grid "Future Energy Scenarios" illustrate the importance placed on promoting flexibility at the transmission and distribution level of the system at the short, medium and long-term. However, the battery storage system is not core to the CHSP application: there is limited specific detail about what technology will be used, and there are no concrete plans for its operation (outside of the Capacity Market which has effectively oversupply flexibility capacity from battery storage). Furthermore, the Applicant admitted at the hearing that the project can go ahead without the battery storage, and will likely do so, as flexibility is not part of the economic case of the project. The battery storage element is included to make a more convincing argument for connecting such a large-scale inefficient capacity to a constrained part of the grid but will make a limited material difference to National Grid's requirement for flexibility in managing energy balance and system security.</p>	<p>either as a standalone solar, or co-located solar plus storage asset. The Applicant recognises (as detailed in its response to GREAT's Statement of Need (Deadline 3 submission document reference 11.4.10), point 5.3, 5.11, 5.16 and others) that it is currently less clear exactly how the commercial case for storage on site will be constructed. This is because the future "use cases" for electricity storage systems are varied and therefore it is currently less clear exactly how much each potential revenue stream will be worth in the future. However the Applicant recognises the points made by GREAT that a more flexible energy system in the UK is important, and believes that the need for and value of flexibility will become clearer as the project, subject to granting of a DCO, moves towards commercial operation. The Applicant does not recognise the statement made by GREAT attributed to the Applicant, that the project will likely go ahead without battery storage, as this is not correct.</p>
4.2	<p>Finally, refusal of the application will not cause the UK to "lag behind" in meeting decarbonisation targets. In fact, the "Net Zero" CCC report, The Clean Growth Strategy and the National Grid "Future Energy Scenarios" are unanimous that investment in energy demand reduction, engaging consumers with wide uptake of domestic and community scale solar PV, and ramping up of offshore wind capacity is a way forward and least regret option for decarbonisation. The CCC report calls for an additional 35GW of renewable capacity by 2030 to meet the UK decarbonisation target, and the Offshore Wind Sector Deal signed by the Government in May this year will provide for an additional 30 GW of renewable capacity from offshore wind by 2030.</p>	<p>The Applicant agrees that "investment in energy demand reduction, engaging consumers with wide uptake of domestic and community scale solar PV, and ramping up of offshore wind capacity" would be important in meeting decarbonisation targets, if delivered. The CHSP project, if consented, will deliver enough low-carbon power to meet the demand from c. 90,000 homes per year, by 2023. This presents a no-regrets opportunity towards the prompt decarbonisation of the whole of GB, not just that in the South East, which would be further complemented if domestic and community scale PV came forward in an unsubsidised, privately funded way, at comparable scales.</p> <p>On p178 of the CCC report, it is stated that: "More rapid electrification must be accompanied with greater build rates of low-carbon generation capacity, accompanied by measures to enhance the flexibility of the electricity system to accommodate high proportions of inflexible generation (e.g. wind). The Energy White Paper planned for 2019 should aim to support a quadrupling of low-carbon power generation by 2050. While key options like offshore wind</p>

Ref.	Representation	Applicant's Response
		<p>look increasingly like they can be deployed without subsidy, this does not mean they will reach the necessary scale without continued Government intervention (e.g. continued auctioning of long-term contracts with subsidy-free reserve prices)". Importantly, this recognises wind as an important solution, but not the only solution, to low-carbon generation: a position consistent with that of the Applicant, and a key reason why the need for CHSP should be accepted in relation to GB decarbonisation.</p>
5.1	<p>In conclusion, a large-scale solar PV project like CHSP is going to be:</p>	
5.2	<p>Expensive, risky and inefficient in meeting key objectives of the UK energy system</p>	<p>The Applicant's Statement of Need [APP-253], Paras. 6.13 - 6.24 present evidence which demonstrates the cost-efficiency of solar power, both in the UK and in other countries. The contribution made by solar to security of supply is evidenced in the same document, Paras. 5.31 - 5.36. The contribution made by solar generation to decarbonisation of the electricity sector is modelled in Figure 5.3 of the same document. If consented, CHSP will deliver enough low-carbon energy to meet the demand of c. 90,000 homes each year, from as early as 2023.</p>
5.3	<p>Redundant in meeting security of supply</p>	<p>The Applicant refers to its response to 5.2 above.</p>
5.4	<p>Expensive and inefficient as a way of decarbonisation</p>	<p>The Applicant refers to its response to 5.2 above.</p>
5.5	<p>Counter-productive for decentralisation of energy</p>	<p>It is important to recognise the three objectives of the UK energy system as decarbonisation; security of supply; and affordability. Decentralisation is, so far, a way in which those measures have been met. But there is a balance, as demonstrated in the Applicant's response to GREAT's Statement of Need, point 3.23. In this point, the Applicant acknowledges growth in distributed generation assets, but also notes that transmission connected capacities are not expected to fall below where they are today, in any scenario. Decentralisation is therefore not in itself a strategy or a requirement of the energy system, but is a useful trend which will go some way to delivering a flexible, low-carbon and affordable energy system. Continued operation of the National Electricity Transmission System however does remain an important policy to maintain inter-regional connectedness and support the meeting of demand from geographically disparate sources. See, for example,</p>

<b>Ref.</b>	<b>Representation</b>	<b>Applicant's Response</b>
		CCC Net-Zero report, page 182.
5.6	Will make a limited material contribution to flexibility should it proceed with the battery storage component	Table 5.5 of the Statement of Need [APP-253], lists all those markets which the electricity storage asset may be able to participate in. Many of these are related to the provision of flexibility, and as such the Applicant does not recognise any material limits to the potential contribution to flexibility which its proposed energy storage facility may be able to provide.

### 3 FAVERSHAM SOCIETY COMMENTS ON NEED AND ALTERNATIVE SITES (1 AUGUST 2019)

**Table 2: Faversham Society Representation and the Applicant's responses**

Ref.	Representation	Applicant's Response
<b>B.1</b>	<b>Need and Alternative Sites</b>	
B.1	We have submitted further evidence on need for deadline 3 drawing on the recently published FES 2019 projections from the National Grid. This shows that there is no evidence of need for CHSP. The National Grid also points out that right through to its 2050 projections, future energy need will be met from distributed generation rather than centralised energy plants such as CHSP	The Applicant does not agree with this interpretation of the FES scenarios. The Applicant refers to its submission in response to GREAT Statement of Need (Deadline 3 submission document reference 11.4.10), point 3.23, which clearly states that although distributed generation will grow, the replacement and growth of transmission connected assets is also foreseen.
B.2	This authoritative and seminal view of need derived from the National Grid's FES 2018 and FES 2019 is an unexplained omission from the application which has not been raised in the Examiner's Questions nor has it been discussed in Hearings. Our view is that it is essential that the applicants provide a response and that they can be questioned on it	The Applicant refers to its Statement of Need [APP-253], Chapters 4, 5(iii), 5(iv) and 5(v). Further, the responses it has made to the GREAT Statement of Need (Deadline 3 submission document reference 11.4.10), points 1.3, 1.4, 1.5, 3.7 and 7.1 - 7.13
B.3	Having carefully read the applicant's submission and listened to their evidence, we are now firmly of the view that the location is opportunistic. The site has been chosen because of the availability of the link to the national grid due to the spare capacity from the London Array, and we would like to point out that further wind power generation would almost certainly have had less negative environmental impacts than the Cleve Hill proposal. We would like to see further evidence on need and a proper review of alternative sites	<p>The Applicant refers to its summary of Issue Specific Hearing 1 (Deadline 3 submission document reference 11.1.3), where at paragraph 4.42 the Applicant outlines that there are a number of factors under consideration when determining this site as suitable for this development. A full overview of the site selection process is set out in Chapter 4 (Site Selection, Development Design and Consideration of Alternatives) of the Environmental Statement [APP-034].</p> <p>The Faversham Society's speculation as to offshore wind having presented a favourable environmental option is mistaken. The second phase of the London Array Offshore Wind Farm was not progressed by the developer owing to ornithological impact (as well as other technical issues). To be acceptable in terms of HRA the project would have to have been reduced to an unviable small scale. In the event, the developer surrendered the agreement for lease to The Crown Estate and it no longer is a feasible option, hence the availability of connection capacity to CHSP.</p>

<b>Ref.</b>	<b>Representation</b>	<b>Applicant's Response</b>
		<p>It is worth also noting that if, hypothetically, the second phase of London Array had come forward the points about a large transmission connected project effectively blocking distribution connection capacity and diversity would apply. No doubt in those circumstances, an offshore wind connection, GREAT and the Faversham Society would not present those arguments with such vigour, if at all.</p>