From:	[redacted]
To:	Jones, Hefin
Cc:	[redacted]
Subject:	Important additional submission on NEED for CHSP Deadline 3
Date:	26 July 2019 22:14:51
Attachments:	[redacted]

Dear Hefin

Further to my previous email I attach an important new submission on NEED This was referred to in the ISH on Visual Amenity, and also forms the argument for an additional ISH.

Please note that I will be away on holiday until 12 August, with only limited access to emails.

Kind regards

David

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DEMAND FOR SOLAR POWER

Submission on behalf of the Faversham Society on the Need for CHSP - Deadline 3

1. Introduction

We recognise the urgent need to decarbonise electricity generation in the UK as outlined in the applicant's Statement of Need and Addendum submission. This paper considers the deployment projections for solar PV currently in planning against deployment projections for requirements of solar PV by the National Grid, the UK System Operator.

Comparing a case including the generating capacity of Cleve Hill against one excluding Cleve Hill, it concludes that the Solar PV deployments will be exceeded without the Cleve Hill site**, thus concluding that there is not a need Cleve Hill Solar Park.**

2.National Grid Future Energy Scenarios

National Grid in its role as the UK's System Operator managing the electricity grid, prepares annual forecasts known as the Future Energy Scenarios (FES) (http://fes.nationalgrid.com/fes-document/). This sets out the three different scenarios it considers most likely given energy demand, expectations for electricity supply, current policies, decarbonisation requirements and requirements of energy security. The most recent version is FES 2019 published in July, just before the ISH on Need. FES 2018 enables detailed forecast demand figures to be extracted up to 2030. Careful study of FES 2019 reveals that it differs only in that it takes account of a proposed zero carbon target by 2050. However, **for the period up to 2030 FES 2019 is identical to FES 2018**. We have therefore used the detailed figures from FES 2018 in this submission. We discuss the impact of the new zero carbon policy framework in **4.** below. The three scenarios identified and fully explained in FES 2018 and 2019 are:

- **Community Renewables**.
- **Two Degrees**
- **Steady Progression**
- **Consumer Evolution**

Schedule 5.4 of FES 2018 sets out the forecast demand for solar generating capacity under each of the above scenarios, identified as shown in the table below.

Table 1: Total cumulative installed Solar PV generating capacity, National Grid Future Energy Scenarios

Installed solar capacity (GW)

Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Community Renewables	12.4	13.2	14.0	15.0	16.1	17.4	19.0	20.7	22.7	24.6	26.5	28.5	30.7	33.0
Two Degrees	12.4	13.4	14.1	14.7	15.1	15.7	16.5	17.3	18.2	19.1	20.1	21.3	22.5	24.3
Steady Progression	12.4	12.9	13.3	13.7	13.9	14.1	14.3	14.5	14.7	15.0	15.3	15.6	16.0	16.4
Consumer Evolution	12.4	12.9	13.4	13.9	14.3	14.9	15.4	15.9	16.5	17.0	17.6	18.3	19.0	19.8

This is total capacity including domestic roof tops

* Years in calendar years

Based on the above cumulative projections, the new generating capacity for each year can be simply calculated as shown in table 2 below.

Table 2: New annual solar generating capacity per year, National Grid Future Energy Scenarios (GW)

Year	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Community Renewables	0.8	0.8	0.9	1.1	1.3	1.6	1.7	2.0	1.9	1.9	2.0	2.2	2.3
Two Degrees	1.0	0.7	0.6	0.4	0.6	0.8	0.8	0.8	0.9	1.0	1.2	1.2	1.7
Steady Progression	0.5	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.4
Consumer Evolution	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.8

From Table 2 the highest predicted total demand for new solar PV for the years 2019-2022 (Community Renewables) is thus **4.1GW**

3.The UK solar market

Many markets globally have ended direct subsidies in favour of unsubsidised markets or auction processes where governments procure electricity from the least expensive plants available. This has all driven the requirement for PV to become competitive with other forms of generation. The supply chain has responded in improving production efficiencies of PV systems and their constituent parts, resulting in reductions in capex of PV plants globally.

Given the costs reductions currently in train the initial costs of installing solar PV in the UK are currently estimated to be c. £400-500k/MW. Given these prices, UK solar is now on the verge of cost competitiveness, and as these cost reductions continue, it is widely considered that it will be competitive with other generation within months.

The UK solar industry is responding and localised solar PV development is increasing with many development and construction cycles which are much shorter than those for other forms of renewable generation. This is especially so for those under the less than 50MW devolved planning process undertaken for all solar PV generation to date. **CHSP is the first and only PV plant to be going through the NSIP process.**

Submissions in local planning portals provide an accurate estimate of the solar PV projects that are currently in development. These can be considered in conjunction with those in pre-application and consultation phases to give a reliable indication of solar PV coming on stream over the period 2019-2022.

Table 3. below shows the Solar PV currently in planning and development for the years 2019-22.

Estimated completion year	2019	2020	2021	2022	Total
Estimated capacity (*including Cleve Hill*) (MWp)	1,062	1,952	537	*1,088*	4,639
Estimated capacity (excluding Cleve Hill) (MWp)	1,062	1,952	537	758	4,309

4. FES 2019 and Zero Carbon by 2050

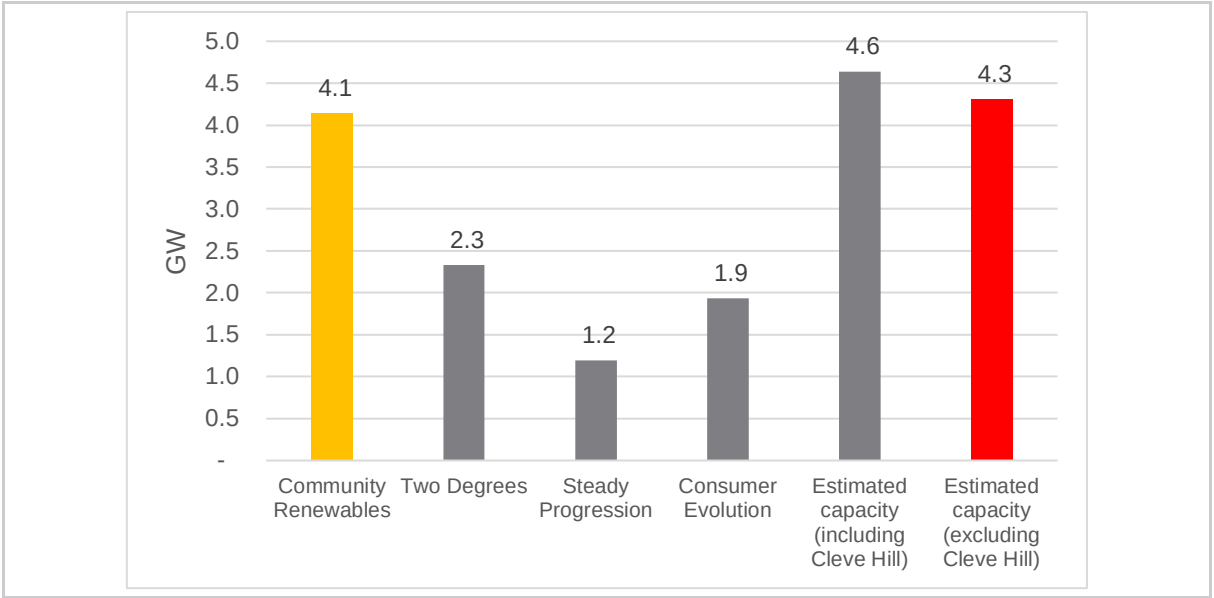
As noted above, FES 2019 takes account of the new policy framework and target for zero carbon by 2050. FES 2019, Fig 5.4 indicates a 2050 solar capacity (demand) of c52GW of which only 42% is centralised. Moreover, FES 2019, Fig.3.2 on decentralisation is also of interest since it indicates that for the Community Renewables scenario, total centralised capacity stays fairly constant right up to 2050. This indicates that even in the zero-carbon scenario there is no role to be played for massive centralised installations such as CHSP. FES 2019 projections also detail and take account of significant energy demand reduction measures up to 2050.

5.Conclusion

The chart below shows the total estimated new generating capacity outlined by National Grid in each of the National Grid deployment scenarios described above over the four-year period 2019 to 2022.

Figure 1: Forecast Solar Deployment 2019 to 2022

Source: National Grid Future Energy Scenarios, 2018, UK planning databases



As shown in Table 2 above the highest deployment projection for solar currently envisaged by National Grid (Community Renewables) is **4.1 GW** from 2019 to 2022. Even without new additional solar PV, which will inevitably come on line in the coming years, the estimated capacity currently in planning (Table 3), excluding Cleve Hill is **4.3 GW** which exceeds this projection. In addition the trend is away from centralised generating capacity such as Cleve Hill.

This indicates that by the planned completion date for CHSP there will already be sufficient solar PV capacity in the UK to meet our projected energy and decarbonisation needs.

This establishes conclusively that CHSP is not needed and will be redundant before it is completed.

Professor Sir David Melville CBE, BSc, PhD, CPhys, FInstP, Sen Mem IEEE(USA)

Vice-Chair

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