

Applicant's response to LPA's question about calculating output capacity for the proposal noting that there is a statutory capacity limit of 50MW

8th July 2024

This issue has been clarified through the publication of the most recent National Policy Statement EN-3 (attached) [up-loaded separately] which was published in November 2023 and came into force Jan 2024. The Statement includes a clear directive that it is the combined capacity of the installed inverters (measured in alternating current (AC) that should be used for measuring the output of the scheme. The project has been designed so that the installed capacity of the inverters would not exceed 50MW. As such, I can confirm, with the above evidence which is combined with the description of development that this proposal will not export more than 50 MW of electricity (AC) and as such falls to be determined within the TCPA1990. Indeed, to seek to consent this scheme through the NSIP process would itself be unlawful.

For ease of reference the text taken directly from the document is copied below:

Capacity of a site

- 2.10.50 Solar panels generate electricity in direct current (DC) form. A number of panels feed an external inverter, which is used to convert the electricity to alternating current (AC). After inversion a transformer will step-up the voltage for export to the grid. Because the inverter is separate from the panels, the total capacity of a solar farm can be measured either in terms of the combined capacity of installed solar panels (measured in DC) or in terms of combined capacity of installed inverters (measured in AC).
- 2.10.51 For the purposes of determining the capacity thresholds in Section 15 of the 2008 Act, all forms of generation other than solar are currently assessed on an AC basis, while a practice has developed where solar farms are assessed on their DC capacity.

⁹⁰ As set out in EN1 1.3.5, where the need for a particular type of energy infrastructure is established in EN1, but that type of infrastructure is outside the scope of one of the technology specific NPSS, EN1 will have effect alone and will be the primary basis for Secretary of State's decision making.

- 2.10.52 Having reviewed this matter, the Secretary of State is now content that this disparity should end, particularly as electricity from some other forms of generation is switched between DC and AC within a generator before it is measured.
- 2.10.53 From the date of designation of this NPS, for the purposes of Section 15 of the Planning Act 2008, the maximum combined capacity of the installed inverters (measured in alternating current (AC)) should be used for the purposes of determining solar site capacity.
- 2.10.54 The capacity threshold is 50MW (AC) in England and 350MW (AC) in Wales.⁹¹
- 2.10.55 The installed generating capacity of a solar farm will decline over time in correlation with the reduction in panel array efficiency. There is a range of sources of degradation that developers need to consider when deciding on a solar panel technology to be used. Applicants may account for this by overplanting solar panel arrays.⁹²
- 2.10.56 AC installed export capacity should not be seen as an appropriate tool to constrain the impacts of a solar farm. Applicants should use other measurements, such as panel size, total area and percentage of ground cover to set the maximum extent of development when determining the planning impacts of an application.
- 2.10.57 Nothing in this section should be taken to change any development consent or other planning permission granted prior to the designation of this NPS. Any such permission should be interpreted on the basis upon which it was examined and granted.
- 2.10.58 In particular, any permissions granted on the basis of a DC installed generating capacity should be built on that basis, unless an amendment is made to that permission and the difference in impacts is considered.

⁹¹ The combined maximum AC capacity of the installed inverters may only exceed the aforementioned thresholds for the sole purpose of overcoming reactive power consumption within the solar farm between the inverters and the connection point.

⁹² "Overplanting" refers to the situation in which the installed generating capacity or nameplate capacity of the facility is larger than the generator's grid connection. This allows developers to take account of degradation in panel array efficiency over time, thereby enabling the grid connection to be maximised across the lifetime of the site. Such reasonable overplanting should be considered acceptable in a planning context so long as it can be justified and the electricity export does not exceed the relevant NSIP installed capacity threshold throughout the operational lifetime of the site and the proposed development and its impacts are assessed through the planning process on the basis of its full extent, including any overplanting..