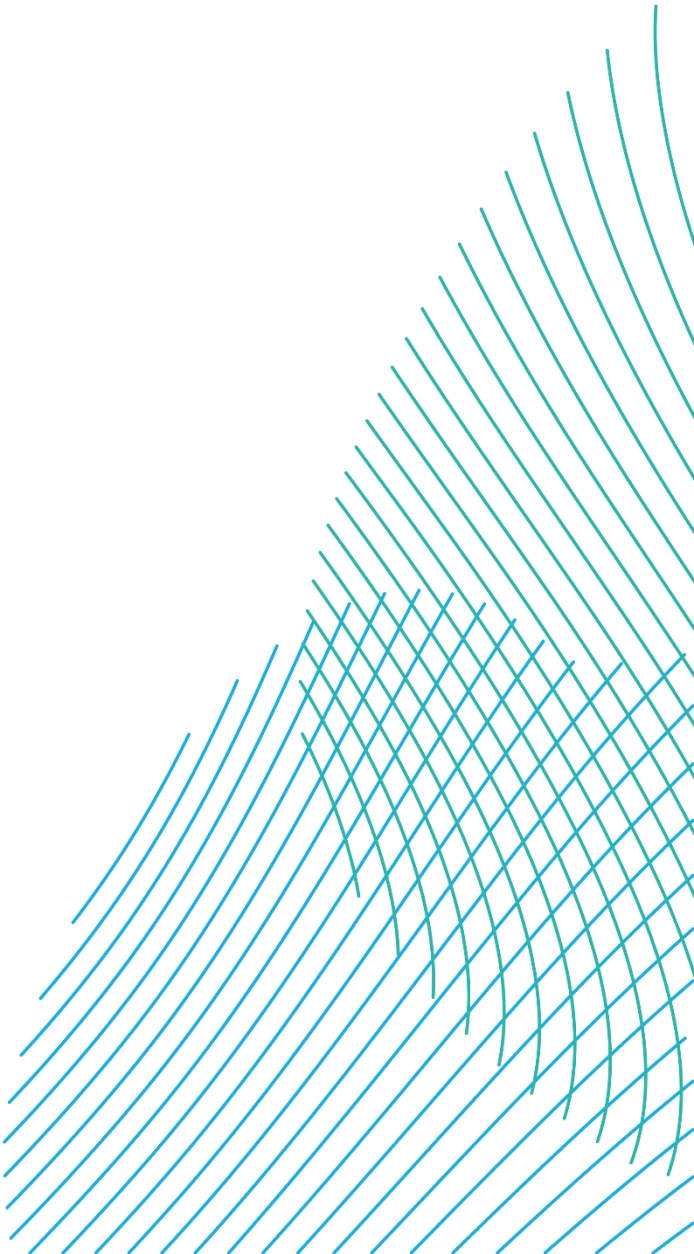
Overplanting Addendum



1. Overplanting Statement Addendum

1.1 Following the judgement in Ross v Secretary of State for Housing, Community and Local Government and Renewable Energy Systems Ltd [2025] EWHC 1183 (Admin) (hereafter the 'Ross judgment'), which was published following submission of the original application, the Appellant sets out information below which is additional to the Overplanting Statement in Appendix 5 of the Planning Statement Addendum.

1.2 The Inspector in the appeal process preceding the High Court case dealt directly with the level of overplanting of the Longhedge Solar Farm (Appeal Reference: 3330045). During the Longhedge Solar Farm Inquiry, the Rule 6 Party argued that overplanting for any reason other than the degradation of panels over time would be in contradiction of National Policy Statement for Renewable Energy Infrastructure EN-3 ('EN-3'). It was argued that any other reason for overplanting would not represent the best use of the land and as such planning permission should not be granted. The Inspector concluded that the level of overplanting in the case of the Longhedge Solar Farm site was appropriate, reasonable, not restricted only to panel degradation, and the appeal was allowed.

1.3 In the Ross judgement that followed the appeal decision, Mr Justice Eyre dealt with the interpretation of NPS EN-3 para. 2.10.55 and footnote 92. The judgement concluded that:

1. Overplanting for reasons other than module degradation is acceptable. The policy only addresses degradation but does not imply that other forms are unacceptable (paras. 75 - 85).
2. The words "such reasonable overplanting should be considered acceptable" in NPS EN-3 footnote 92 do not impose a separate requirement that the extent of the overplanting has to be reasonable (paras 89-92).
3. The Inspector was able to fully assess the impacts of the overplanting despite some flexibility in the final design. The imposing of conditions, including a final layout plan, was considered adequate to control the development.

1.4 The Ross judgment considered the Inspector's approach in assessing the justification for the overplanting. It lists the questions considered by the Inspector on this matter at paragraph 100, with the judgment identifying that in these questions the Inspector expressly addressed the issue of the additional benefits and the additional harm flowing from the overplanting and referred in terms to footnote 92 (para 101).

1.5 These questions are answered in turn, in regard to the proposed Eden Meadows Solar Farm. It reconfirms that overplanting as described in the Overplanting

Statement is justified and it demonstrates that the approach taken by the Appellant is policy compliant.

Question 1 - The first question is whether [the appropriate approach to distinguishing, on the basis of capacity, between an NSIP scheme and one which is not] could be achieved by means of a suitably worded planning condition?

1.6 Yes, the appropriate approach to distinguishing, on the basis of capacity, between an NSIP scheme and one which is not could be achieved by means of a suitably worded planning condition. As per the Ross judgment, the Appellant would be agreeable to a suitably worded planning condition that limits the installed export capacity for the development to not exceed 49.9MWac. The Appellant provides the below suggested draft condition wording should the Inspector be minded to allow the Appeal:

> *"The installed export capacity for the development hereby permitted shall not exceed 49.9 MWac. No development shall take place until there has been submitted to and approved in writing by the local planning authority details about inverters for the development. Inverters shall be installed in accordance with the approved details and shall be retained for the duration of the development."*

1.7 To provide assurance on this approach, as confirmed in the Ross judgment, *"If there are two potential statutory regimes governing developments of different kinds there is nothing improper in an applicant so arranging matters as to ensure that a proposed development does not cross the threshold which would bring it under one of those regimes. In practice here it cannot be said that there was any material difference in the rigour of the approach taken in considering the application"* (Para 15).

Question 2 - If the answer is yes, would it be the case that 'overplanting' would no longer be a consideration that was relevant to answering the NSIP question – irrespective of the dc/MEC ratio for a scheme?

1.8 Yes, with the imposition of the above condition it is the case that 'overplanting' would no longer be a consideration that was relevant to answering the NSIP question, irrespective of the dc/MEC ratio for a scheme. This is because, as explained within the previously submitted Overplanting Statement and as will be secured by the above mentioned proposed planning condition, the export of active power will never exceed the NSIP threshold of 49.9MWac.

Question 3 – If that is correct whether overplanting should nonetheless be taken into account in considering the planning merits of the proposal?

1.9 Yes, the benefits of overplanting should nonetheless be considered in the planning merits of the proposal. As set out in the Overplanting Statement, the benefits of the Eden Meadows Solar Farm in a scenario where overplanting is included are significantly larger than if no overplanting is included, and according to national policy these overall benefits should be given significant weight.

Question 4 – If so, would the extent of overplanting be a consideration likely to affect the area of land occupied by PV panels?

1.10 Yes, overplanting is likely to affect the area of land occupied by PV panels. As per the previously submitted Overplanting Statement the acres for each MW output sits between 2-4 acres and is therefore compliant with national policy parameters set out in NPS EN-3 Paragraph 2.10.17.

Question 5 – If the PV panels in the local context would be likely to result in some harm to relevant planning considerations would there be more harm with more overplanting?

1.11 It is acknowledged that overplanting can result in more harm to relevant planning considerations.

Question 6 – If so, would additional overplanting increase the quantum of harm in the planning balance

1.12 As required by Footnote 92 of EN-3, the Proposed Development and its impacts (harms and benefits) are assessed through the planning process on the basis of its full extent, including any overplanting.

Question 7 – If overplanting would be likely to utilise the available grid connection more effectively by exporting at MEC for a greater proportion of the time, would that increase the MWh/year of renewably generated electricity exported to the grid above that which would be exported from a scheme with less overplanting?

1.13 Yes. As per Figure 1 of the Overplanting Statement, the increased output (MWh/year) results in significantly more benefit, most notably increased clean, renewable electricity supply for more households and CO_2 reduction. As stated above, the export will never exceed the NSIP threshold of 49.9MWac but the benefits will increase. The export capacity can be controlled via a suitably worded planning condition.

Question 8 – If so, would that increase the quantum of benefit in the planning balance.

1.14 Yes, the proposed overplanting has the potential to increase the quantum of benefit in the planning balance. This is because the overplanting allows for greater energy generation over a longer period of time - overplanting enables more of the energy curve to be utilised in the morning and evening. When power production from *the solar panels exceeds the capacity of inverters for example potentially at times of*

peak radiation (usually around midday), this results in 'clipping' [1] *of the energy produced, although in this instanced not all of the energy produced is foregone as battery storage units are included as part of the proposals which will store some of this energy and then allow it to be released at times of lower energy production*

1.15 In addition to the increased benefits highlighted above in the answer to Question 7, the biodiversity benefits also increase. The larger land area required for an overplanted solar farm means that the absolute BNG unit increase is higher than for a project that is not overplanted. Business rates are also increased for an overplanted project.

1.16 As required by Footnote 92 of EN-3, the proposed development and its impacts (harms and benefits) are assessed through the planning process on the basis of its full extent, including any overplanting.

Question 9 – In that scenario, would the appropriate planning balance weigh any overall harm from the scheme over the duration of the development, along with any legacy harm, against the overall benefits of the scheme, including the addition to the grid of x MWh/year of renewably generated electricity for the duration of the development, along with any legacy benefit?

1.17 Yes, in the scenario outlined at question no. 6 and question no. 8, the appropriate planning balance weighs any overall harm from the scheme over the duration of the development, along with any legacy harm, against the overall benefits of the scheme, including the addition to the grid of 63,122 MWh/year of renewably generated electricity for the duration of the development, along with any legacy benefit. This is the approach endorsed in Footnote 92 of EN-3.

1.18 The overall scheme/ legacy harm and benefits are weighed in the planning balance that was presented within the originally submitted PDAS and updated within the Statement of Case.

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[1] It is notable that the Ross judgment with regard to 'clipping' found that "It is highly debateable whether, having concluded that the overplanting was justified, it would have been open to the Inspector then to have regard to the potential energy foregone as a freestanding and separate consideration operating against the Solar Farm in the planning balance. I am very far from being persuaded that, even if it would have been open to the Inspector to do that, this limited adverse factor was an obviously material consideration of which the Inspector was required to take account in order to avoid Wednesbury irrationality. If the Inspector was required to take account of the potential energy foregone as an adverse factor then he would have to take account of the benefits of overplanting as a factor on the other side of the balance. I note that in footnote 50 the Inspector was saying that overplanting had benefits and disadvantages. He was not required to do more. (paragraph no. 130)

Question 10 - If so, how would that approach to the assessment of overplanting square with Footnote 92 of EN-3?

1.19 Footnote 92 of EN-3 provides that *"Such reasonable overplanting should be considered acceptable in a planning context so long as it can be justified and the proposed development and its impacts are assessed through the planning process on the basis of its full extent, including any overplanting."*

1.110 The approach taken within the Proposed Development squares with Foot 92 of EN-3 as the approach to overplanting has been justified in the submitted Overplanting Statement.

1.111 In summary, it is justified because:

a. Solar farms operate by converting sunlight into usable electricity through a few key components. PV modules Produce direct current ('DC') electricity from sunlight. This DC electricity is then fed into inverters, which transform it into alternating current ('AC') at an acceptable voltage and frequency for export to the grid network. Transformers may further adjust the site specific grid connection. The nameplate power of a PV module is rated in watts by manufacturers under Standard Test Conditions (STC). These standard test conditions consist of an irradiance level of 1000 W/m^2, an atmospheric mass (AM) of 1.5, and a PV cell temperature of 25°C. The purpose of these STC serves as a baseline for comparing the performance of different PV modules. For example, a Trina 610W panel, rated at 610W under STC, might only produce 465W under typical real-world operating conditions (such as higher cell temperatures or lower irradiance). Since solar farms rarely fulfil STC in actuality, solar farms have to increase the DC capacity of the solar farm above the AC grid export capacity to compensate for these real world scenarios.

b. Optimizing the DC capacity through over-installation maximises the grid connection utilisation. The strategy addresses multiple factors: it compensates for lower module performance under non-STC conditions, mitigates energy losses inherent in the DC-to-AC conversion, proactively counters the natural degradation of modules over their operational lifetime, and allows for greater energy generation over a longer period of time at times of low irradiation, especially at the beginning and end of each day and throughout the seasons of the year - overplanting enables more of the energy curve to be utilised in the morning and evening.

1.112 In addition, as confirmed above, a planning condition is proposed to limit the installed export capacity for the development to not exceed 49.9MWac so that the electricity export does not exceed the relevant NSIP installed capacity threshold throughout the operational lifetime of the site. Moreover, the development and its impacts have been assessed through the planning process on the basis of its full extent, including any overplanting.