



Mallard Pass

Solar Farm

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**Applicant's Response to Mallard Pass
Action Group Deadline 3 Submissions**

Deadline 4 - July 2023

EN010127

EN010127/APP/9.34

1.0 APPLICANT'S RESPONSE TO MPAG DEADLINE 3 SUBMISSION

- 1.1 This document forms part of the Applicant's submission at Deadline 4 and sets out the Applicant's response to Mallard Pass Action Group's (MPAG) Deadline 3 submission '*Comments on responses to Examining Authority's First Written Questions*' [REP03-042].

FWQ ref	MPAG response to Applicant's response to FWQs	Applicant response to MPAG comments
Q1.0.2(a)	<p>The Applicant's answer includes "If the height or mass of any of the individual components were to increase but within the parameters set out in Appendix 5.1, this would not alter the conclusions of the LVIA."</p> <p>Whilst this may or may not be technically correct, at the moment, the maximum height is determined by the harmonic filters only. Any increase in the height of the bulk of the building itself would have a material impact, especially as the substation will be so visible to A6121 road users, residents in Essendine and beyond in the distance.</p>	<p>The parameters set out in Appendix 5.1 [REP2-016] have formed the basis of the Landscape and Visual Impact Assessment (LVIA) [APP-036]. The parameters set out the maximum height and footprint of the ancillary buildings within the Onsite Substation compound. The photomontages [APP-168 - APP-172] provide an illustration of one way the onsite substation may be constructed to help inform the LVIA. The photomontages are not the sole basis of the assessment. Further information on this is set out in the Applicant's Summary of Oral Submissions at ISH1 submitted at Deadline 4.</p>
Q1.0.5(c)	<p>In a replying, the Applicant answer includes "The dDCO does not propose an upper limit on installed DC capacity." The Applicant does not propose any specific installed capacity. It therefore follows that</p>	<p>The Environmental Statement has been based on the assumption of the installation of 530,303 panels as set out in paragraph 5.4.6 of Chapter 5: Project Description [REP2-011]. Based upon available technology during the design development stage this was the number of panels required to</p>

	<p>the Applicant cannot make any statement regarding the number of solar panels, solar stations, and inverters. It is also the case that the Applicant cannot make any claims regarding the power output and possible carbon saving unless the necessary performance factors are quantified in the DCO. Giving “indications” for the purpose of examples, are not suitable substitutions for providing a more definitive worst case scenario</p>	<p>achieve an installed capacity of approximately 350MW. The Climate Change Assessment [APP-042] has assessed the embodied carbon associated with the installation of 530,303 panels with an installed capacity of 350MW. This is considered to be the worst case as any reduction in the number of PV Modules would also result in a reduction in the amount of embodied carbon associated with the PV Modules. Requirement 5 of the dDCO [REP3-005] puts in place the necessary safeguards that require that any approvals for the amendments to any of the Approved Documents, Plans, Details or Schemes must not be given except where it has been demonstrated to the satisfaction of the relevant planning authority or both relevant planning authorities (as applicable) that the subject matter of the approval sought is unlikely to give rise to any materially new or materially different environmental effects from those assessed in the environmental statement. Requirement 6 of the dDCO will also allow the LPAs to consider the layout that is proposed.</p>
Q1.0.6	<p>Having viewed field 19 many times it does not seem feasible that it can be a primary construction compound, substation and car park for at least 150 cars, HGVs and LGVs, even if some are just there temporarily.</p>	<p>Field 19 is approximately 6.5ha, the Onsite Substation Compound is 2ha which leaves approximately 4.5ha for use at the primary construction compound. It should also be noted that Field 18 can also be used as a Temporary Construction Compound (Work No 5) as shown on the Works</p>

		Plans [REP2-004], which will provide sufficient flexibility to accommodate the temporary uses as well as the Onsite Substation.
Q1.0.9	<p>The Applicant states “It is not considered appropriate to attempt to assess either the current or predicted future mental health status of residents living in the locality of the Order limits, as every person will have different subjective and objective reactions, thoughts, and feelings towards changes to, or influences upon, their environment, whatever those changes or influences may be caused by or attributed to.” The question refers to well-being as well as mental health. It is of course the case that the Applicant cannot assess the impact on the mental health of individuals. Presumably this was not the purpose of the question. However, the Applicant could have commented in the general sense on the likely impact of the proposed development on the well-being of residents and visitors. The Applicant chose not to do so, presumably because the Applicant could not conclusively demonstrate that the</p>	<p>The Applicant has assessed the impact of the Proposed Development on environmental factors relevant to wellbeing and mental health throughout the Environmental Statement. This includes the potential for the Proposed Development to affect health outcomes through changes in the following factors:</p> <ul style="list-style-type: none"> • Recreation and amenity – these impacts are addressed in ES Chapter 6 Landscape and Visual [APP-036]. This chapter explains the extent of large-scale visual effects as follows: “<i>The extent of Large scale visual effects, where the Proposed Development would form a major alteration to key elements, features, qualities and characteristics of the view such that the baseline will be fundamentally changed, would generally be limited to locations within or immediately surrounding the Solar PV Site and Onsite Substation.</i>” In this way, some significant adverse impacts are identified within the hyper-locality of the site. • The plans submitted for Deadline 3 at Appendix B [REP3-037] illustrate the network of PROW within the locality and their spatial relationship to the Proposed Development and indicate a

	<p>Proposed Development would not have a major impact on well-being. Based on extensive and continuous feedback from residents at all stages of the process, the message is clear about the impact the Proposed Development is having on many people. The Applicant goes on to say visions for the development included seeking to “Respect and enhance features in the landscape and promoting connectivity”. If that was the vision the Applicant has demonstrably failed. It is not understood how the Proposed Development would “enhance features in the landscape.” The Applicant continues the “Proposed Development, will mean that there will not be an industrialisation of the landscape and the recreational resource will still be able to be enjoyed by residents”. This is at direct variance to previous statements made by the Applicant such as “Landscape and visual effects are considered to be of major/moderate significance.” In the summary of the Main Consultation Document Mallard Pass admits that after mitigation “residual significant</p>	<p>network of routes would remain unaffected. The Proposed Development will not affect the ability of residents of, or visitors to, Essendine and the surrounding villages to use existing public rights of way and roads in the locality, and those plans demonstrate that for the vast majority of those routes, they will not be affected significantly by the Proposed Development. As such, the Proposed Development will be affecting a short portion of some routes in the vicinity, whilst also putting planting in place. As such, it is recognised there will be visual impacts to those users, whose view for that portion of time using that route will be affected, but that does not automatically mean that their health and wellbeing will be adversely affected.</p> <ul style="list-style-type: none"> • The Design and Access Statement (DAS) [REP2-018] sets out the Project Principles that have underpinned the design of the Proposed Development and the Design Guidance that will ensure the detailed design of the Proposed Development continues to respond appropriately to its context so that potential adverse impacts are minimised but also enhancement opportunities are realised.
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	<p>effects” will exist. The final comment of the Applicant in answering to this question is “Taking all of this into account, the Applicant considers that the well-being and mental health of residents in the locality will not be affected by the Proposed Development.” In making this comment the Applicant has overlooked that earlier in the answer the Applicant stated “It is not considered appropriate to attempt to assess either the current or predicted future mental health status of residents living in the locality of the Order limits.” Those most likely to be able to comment on mental health and well-being are the residents themselves. Given over 1200 people registered as an Interested Party and 95.7% of them are opposed to the Proposed development, the potential for damage to physical/mental health and well-being is enormous, and already very apparent in the community.</p>	<ul style="list-style-type: none"> • The impact of changes in traffic and travel access – these impacts are addressed in ES Chapter 9 Highways and Access [APP-039] with some adverse effects identified, though none are significant. • The impact of changes in noise and vibration – these impacts are addressed in ES Chapter 10 Noise and Vibration [APP-040] with some adverse effects identified in the construction phase, though none are significant. • The impact of climate change – these impacts are addressed in ES Chapter 13 Climate Change [APP-043] and concludes that beneficial impacts will arise, though none are significant in the main assessment (with the cumulative assessment identifying significant beneficial impacts). • The impact of employment generation – these impacts are addressed in ES Chapter 14 Socio-Economics [APP-044] and concludes that beneficial impacts will arise, though none are significant. <p>Based on the conclusions of the technical assessments in the Environmental Statement, it is considered highly unlikely that the Proposed Development would result in a significant effect on wellbeing</p>
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		<p>or mental health outcomes at receptor populations including Rutland and South Kesteven residents. The Applicant recognised that this does not mean that no individuals would experience adverse impacts on their health outcomes on the basis of the experience of their walks being affected, but considers that this is not necessarily automatically the case. However at a reasonable population health/study area level, no significant effects on human health would occur.</p>
Q1.0.10	<p>In part of the answer to this question, the Applicant states “a number of 30MW blocks of PV Arrays will be constructed concurrently, which will also overlap with the construction of the Onsite Substation and will allow similar activities to be undertaken across the site as required.” The Applicant is unable to give any further details. However, working concurrently across the site could have an impact on noise emission.</p>	<p>The assessment of construction noise in ES Chapter 10: Noise and Vibration [APP-040] was based on worst-case assumptions when construction activities would be occurring at the closest distance to any receptor (see paragraph 10.8.2 and Table 10-2 of Chapter 10). If work for another activity is also undertaken simultaneously at another location, this would be located further away with reduced noise levels, which would either represent a negligible contribution or only marginally increase noise levels such that the assessment outcome would not change.</p>
Q1.0.11	<p>The Applicant has not answered the question. The proposed working hours have been re-iterated without justification. The Applicant has qualified the answer given stating “noise disturbance will be</p>	<p>The proposed working hours for activities generating potential noise (aside from HDD), from 7am to 7pm on weekdays and 7am to 1pm on Saturdays, are considered commonplace as they are referenced in the British Standards Institution code of practice for construction noise and</p>

	<p>minimised as far as reasonably practicable.” Given the length of the construction period, if the Application is approved, the Applicant should use its “best endeavours” to minimise noise disturbance, a legal term against which the Applicant’s performance could be measured. The proposed working hours should finish before 19.00. Working until 19.00, with the consequent noise of up to 400 workers then leaving the site, will intrude on the on the residents evenings for a period of at least two years. Construction work should cease at 17.00. Many residents are retired and some others work from home. Thus they will be exposed to noise from construction during the week. The residents and those visiting the area for recreation should, if the scheme is approved, be allowed respite during the weekend and Bank holidays. Construction activity, including deliveries to the site, should not take place during those periods. Percussive piling, if used, should not take place for eight hours a day. Even with the proposed one hour break, eight hours</p>	<p>vibration control, specifically in Annex E of BS 5228-1 (see relevant extract attached in the Appendix to this document).</p> <p>Given the nature of the piling work, construction hours for this activity were restricted further as a good practice measure.</p> <p>If construction hours are restricted further, for example avoiding noisier activities beyond 5pm on any given day, this will likely extend further the overall duration of the construction.</p> <p>Whilst audible noise from some activities is inevitable during the construction period, the associated disturbance will be minimised through several measures set out in the outline CEMP [REP3-011].</p> <p>This will include obtaining an agreement with the Local Planning Authorities under Section 61 of the Control of Pollution Act which would include agreed construction noise limits for nearby noise sensitive receptors. The final CEMP is secured through a DCO requirement (paragraph 11 of Schedule 2 of the draft DCO) which requires a CEMP to be prepared by the Applicant and to be submitted and approved by the relevant local authorities.</p> <p>Matters relating to piling are discussed further in the Applicant’s summary of oral submissions at ISH2.</p>
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	<p>would an excessive noise burden for residents. It might be useful to understand what precedent, if any, has been set by the councils when looking at other planning applications with significant and persistent noisy construction activity.</p>	<p>Deliveries by HGVs from the A1 to the primary compound via Route 1 will be restricted to avoid any impact on the schools located within Great Casterton prior to 09:00 and after 15:00 on weekdays.</p>
<p>Q1.0.16</p>	<p>Paragraph 3.10.46 of the March 2023 Draft Revised National Policy Statement for Renewable Energy Infrastructure (NPS EN-3) “The direct current (DC) installed generating capacity of a solar farm will decline over time in correlation with the reduction in panel array efficiency. Light induced degradation affects solar panels differently depending on the technology used to construct the panel and is one factor, along with price, that developers need to consider when deciding on a solar panel technology to be used. Applicants may account for this by over-planting solar panel arrays.” The footnote (84) to paragraph 3.10.46 referred to by the Applicant reads ““Over-planting” refers to the situation in which the installed generating capacity or nameplate capacity of the facility is larger than the</p>	<p>As the Applicant has made clear in its Application, the parameters against which the Proposed Development will be assessed allow for the development of a scheme which optimises generation from the scheme via the Ryhall substation. The Applicant’s Response to First Written Questions [REP2-037], Q1.0.16 and Section 7.7 of the Statement of Need [APP-202] explain the principle of overplanting, and explain why the parameters have been set.</p> <p>The Applicant does not agree with MPAG’s assessment that “Over-planting ... is a direct consequence of the limitations of the Ryhall sub-station”.</p> <p>Overplanting is a characteristic of all solar farms which have suitable and available land in proximity to the specified point of connection because of the additional benefit brought forwards by a scheme which is overplanted versus a scheme which is not overplanted, in relation to the lifetime generation expectation from the scheme.</p>

	<p>generator’s grid connection. In the case described in paragraph 2.10.46 solar generators may install but not initially use additional panels to act as a back-up for when panels degrade, thereby enabling the grid connection to be maximised across the lifetime of the site. For planning purposes, the proposed development will be assessed on the impacts of the over-planted site.” (It is assumed that the reference to the footnote should read 3.10.46 and not 2.10.46) Thus to the extent that the Applicant proposes to overplant panels, in order to account for panel degradation, the Applicant will be able to install but not initially use those panels. Over-planting, to allow for variations in light intensity, as referred to by the Applicant, is a direct consequence of the limitations of the Ryhall sub-station. In other solar farm proposals, batteries are used to fulfill this function. This is dealt with further under comments on Q1.2.4 and in MPAG’s WR (REP2-090).</p>	<p>The Applicant also puts that it would be counterproductive to allow for overplanting without allowing for the initial use of those panels, as is described in the 2023 Draft EN-3 (Para 3.10.46) for three reasons. Firstly, restricting use in such a way would not be necessary in planning terms. Secondly, restricting use would reduce the overall lifetime generation from the Proposed Development, i.e. it would unnecessarily reduce the benefit derived from the scheme. And thirdly, panels are likely to degrade whether they are used or not; so delaying their use would not preserve the effect for which their delayed use is intended to mitigate.</p>
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<p>Q1.0.17</p>	<p>Whilst the Applicant is correct in stating that the lack of storage in the proposed Development does not totally destroy the rationale for the Development it weakens it significantly. Lack of storage will reduce the flexibility of the Proposed Development in supplying the Grid.</p> <p>Normally, batteries are used to store power in periods of high light intensity when demand is low. Then, in periods of low light intensity, when generation is also low and normally demand high, power can be supplied to the Grid from the batteries.</p> <p>As limitations in the Ryhall substation effectively rule out the installation of batteries, the Applicant is proposing to overplant panels in order to supply power to the Grid in periods of low light intensity. This “solution” will use more land than would otherwise be necessary if batteries could be employed. The Applicant has not quantified the area of land required for this purpose.</p>	<p>The Applicant is seeking to make the best possible use out of the available connection at Ryhall substation. The Applicant’s Written Summary of Oral Submissions for ISH1 explains why batteries are not proposed as part of this project. As explained at that Hearing, it is not a case of applicant needing to make a choice between batteries <u>or</u> overplanting for solar farms. The Applicant also refers to its response, above (in response to MPAG comments on Q1.0.16) in terms of the rationale behind overplanting.</p> <p>As described in the Statement of Need [APP-202] at Table 8.1 and associated commentary, all assets which connect to the National Electricity Transmission System (NETS) are required as part of their connection agreement, to deliver reactive power. Solar is no different, and the Proposed Development will be technically capable of delivering both leading and lagging reactive power when National Grid Electricity System Operator requires reactive power to be supplied from the facility. Reference 82 to the Statement of Need (Alice Grundy. Lightsource BP delivers night time reactive power using solar in ‘UK first’. Solar Power Portal, 2019) provides evidence in support of this point.</p> <p>The Applicant therefore does not agree with the conclusion drawn by MPAG, that “any over supply will require the production of reactive power [which] ... will be generated at Drax Power Station using fossil</p>
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	<p>Overplanting will give rise to more power being generated during periods of high light intensity. This will lead to “curtailment” effectively wasting energy produced by the panels on the extra land. Also, in order to stabilise the voltage in the grid, any over supply will require the production of reactive power. This will be generated at Drax Power Station using fossil fuels thereby increasing emissions.</p> <p>Thus, without batteries the Proposed Development would consume more arable land than would otherwise be the case, lower the output per acre and efficiency and require the generation of reactive power.</p> <p>Not being able to use batteries does impact on the viability of the Proposed Development and question the original site selection. Even if battery storage were viable the location of the substation and the proximity of local villages would render battery storage totally inappropriate for the area.</p>	<p>fuels”; whilst also noting that any decision on such a matter would be for National Grid ESO to determine, balancing the needs of the grid.</p>
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<p>Q1.1.3</p>	<p>In answering this question the Applicant notes “that the definition of maintain in the draft DCO [PDA-003] means that the Applicant cannot wholesale replace the Proposed Development” This begs the question as to the definition of ‘wholesale’ in the context of the statement. This is material as most of the proposed development will be comprised of solar panels having a life of 25 to 30 years. The Applicant should be clear on the definition of ‘wholesale’ and, specifically, whether or not such a replacement would be within or without the definition of wholesale. In giving an answer regarding the Applicants position on the potential life of the proposed Development, the Applicant states that “whilst the EIA has assessed the operational impacts of the Proposed Development as permanent, it is the case that any impacts that are caused by the Proposed Development related to the use of the land are considered to be reversible, pursuant to the management plans secured by the DCO Application.” Surely it is</p>	<p>The definition of ‘not wholesale replacement’ is elements of the solar infrastructure (amends to the draft DCO at Deadline 4 have made this clear) that are no longer functional and require replacement for the Proposed Development to operate. Maintenance activities are constrained by article 5(3) which requires that such activities do not lead to effects that are materially new or materially different to those assessed in the ES.</p> <p>The oOEMP has been updated at Deadline 4, further to the ExA’s questions, to require that the Applicant must provide a yearly maintenance schedule to the LPAs and demonstrate that the maintenance activities proposed do not lead to effects materially new or materially different to those assessed in the ES which will provide a check that this constraint is being adhered to.</p> <p>Impacts during operation have been considered to be permanent as a worst case scenario given that the Applicant is not pursuing a time limited consent. However, the impacts would be reversible under a scenario in which the Proposed Development was decommissioned and returned to agricultural land use or an alternative.</p> <p>Following decommissioning of the Proposed Development, landowners may change land use practices resulting in a change to the carbon</p>
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	<p>axiomatic, that if permanent, the impacts will not be reversed. As an aside, if the impacts referred to were to be reversible the same would apply to carbon sequestration and BNG as some of them are reversible too. Additionally where is the evidence to confirm that the soil quality will be no worse after 25, 40 or 60 years than its original baseline?</p>	<p>sequestration of the land and remove vegetation. This is not within the Applicant’s control and would not negate the carbon sequestration and BNG benefits delivered during the lifetime of the Proposed Development.</p>
Q1.2.1	<p>MPAG has already responded to this question in their D2 submission REP2-089. In referring to the “Skidmore Report the Applicant quotes “The benefits of net zero will outweigh the costs” and believes that “This is too important to get wrong.” This refers to the generality of renewable energy and not just the Proposed Development where the benefits will not outweigh the costs if judged on the “planning balance.”</p>	<p>The generality of renewable energy includes utility scale solar development, which is identified as a vital part of the future energy mix. As set out in the Planning Statement [APP-204] the Applicant considers the planning balance weighs significantly in favour of the Proposed Development. The Applicant’s position is consistent with that proposed by the Secretary of State in the 2032 draft National Policy Statement EN-1 at Paras 3.2.5 & 3.2.6, in which the SoS has determined that the benefits of low-carbon electricity generation facilities should be given significant weight when considering applications. The Applicant considers that this need, alongside the benefits of the project, far outweighs the limited negative impacts of the Proposed Development in the planning balance</p>
Q1.2.2	<p>Graph 8.1 is not exactly the same as that shown in The Statement of Need. The graph in the Statement</p>	<p>The Applicant stands by Figure 8.1 of the Statement of Need [APP-202], and the additional information provided in [REP2-037], Q1.2.2.</p>

	<p>of Need does not have a quantified y-axis but is shown as “illustrative.” However, the key point made in the answer is “the combined portfolio of (solar + wind), when averaged over a period of time, is lower than the variation of each of the portfolios separately, although the Applicant notes that not all individual days will always conform to this observation.” Averages are not entirely useful when discussing renewable energy. Renewable energy is highly variable from “minute to minute” especially within the context of the UK. The Grid is managed on a “minute by minute” basis. Thus, in general, whilst the wind tends to be stronger in the winter and solar in the summer the contribution of solar and wind to the combined portfolio of the two are more variable than the graph suggests.</p>	<p>In the commentary provided to the additional graph in answer to Q1.2.2, the Applicant noted that: “As an illustration of this, the graph below replicates the analysis using the same data and methodology but using data from 1 January 2019 to 31 December 2020.” Using different data changes the shape of the graph but critically the conclusion is the same, adding further support to the Applicant’s evidence.</p> <p>The Applicant reiterates that “the combined portfolio of (solar + wind), when averaged over a period of time, is lower than the variation of each of the portfolios separately, although the Applicant notes that not all individual days will always conform to this observation”.</p> <p>Additionally, the Applicant does put that averages are useful when “discussing renewable energy” particularly from a system adequacy perspective. A combined portfolio of solar and wind is likely to provide a higher system adequacy for a lower total installed capacity across a combined portfolio, as demonstrated in the Figure 8.2 of the Statement of Need [APP-202] and related commentary (Para 8.8.14 & 8.8.15 especially), and in answer to Q1.2.3 of the FWQ [REP2-037].</p>
Q1.2.4	<p>Whilst the Applicant is correct in stating that the lack of storage in the Proposed Development does not totally destroy the rationale for the</p>	<p>Please see responses to lines Q1.0.16 and Q1.0.17, above.</p>

	<p>Development, it does weaken it significantly and tips the planning balance strongly away from the approval of the scheme.</p>	
<p>Q1.2.6(a)</p>	<p>In answering the question the Applicant gives a considerable amount of background. To address the question directly the `Governments has an ambition for 70GW of solar by 2035. There is around 14GW of solar already installed leaving 56GW solar to be put in place. This, if the capacity of the Proposed Development is taken as 350MW it would satisfy 0.5% of the remaining requirement. The requirement of 56GW equals 160 solar farms the size of the Proposed Development, again assuming it has a capacity of 350MW. On the basis of the Proposed Development, it would require some 160,000acres for solar panels and equipment and a total of 400,000acres if all of the additional solar developments had an order limit the same size as the Proposed Development. By way of comparison the county of Bedfordshire has an area of around 300,000acres. The above comments are</p>	<p>The Applicant refers to its Responses to Interested Parties' Deadline 2 Submissions – Climate Change [REP3-029].</p>

	<p>based on the data given and calculations made by the Applicant. However, the Applicant has made a number of errors in its calculations and interpretation of data. This is dealt with in detail in the Written Representation (REP2-090) submitted by the Mallard Pass Action Group. To summarise, for the purpose of commenting on the Applicants answer, the Applicant has claimed that the Proposed Development would generate 350,000MWh/annum. The Applicant has made an arithmetic mistake in coming to this figure and then has not allowed for panel degradation and power lost in the conversion of DC to AC. Taking all of these into account the annual output would equal 253,000MWh/annum only 72% of the figure claimed by the Applicant. As far the impact on carbon is concerned the Applicant has stated that the embodied carbon of the Proposed Development will be 672,000teCO₂. Due to the decarbonisation of the grid over time, the total CO₂ reduction over 40 years would only be 423,580</p>	
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	<p>teCO2 which means the Proposed Development will never actually pay back the carbon used in manufacturing, transportation, construction and so on. Even based on the inflated energy output calculated by the Applicant, the contribution of the Proposed Development carbon saving would be negative. Thus, the achievement of Net-Zero would be improved without the Proposed Development.</p>	
<p>Q1.3.1</p>	<p>The fact "the Applicant sought to start from a position of seeking to minimise the extent of compulsory acquisition powers that would be required to be utilised on the basis that deals would be able to reach with those willing landowners" means the landowners knew they were likely to be subject to compulsory acquisition powers from the beginning if they didn't agree to leasing their land. Is it the case that all the farmers are entering into this with their full support, or that they feel they have no option if CPO is the fallback?.</p>	<p>As summarised in the Applicant's Responses to ExA's First Written Questions [REP2-037] Q.1.3.1 exploration of the site as a potential location for solar development was undertaken with the positive support of the four key landowners as a starting point, on the basis that compulsory acquisition should be a matter of last resort. Negotiations have progressed throughout the preparation of the draft DCO application, with the latest position summarised in the Schedule of Negotiations (Rev 3).</p>

<p>Q1.3.4</p>	<p>The Applicant has again made a statement in answer to the question that the Applicant cannot quantify namely, “the Proposed Development proposes a substantial infrastructure asset, which will deliver large amounts of cheap, low-carbon electricity during and beyond the critical 2020s timeframe if consented.” Without quantification of the output and an agreed timeline, it makes it extremely difficult to determine the exact benefits of the Proposed Development. The Applicant goes on to say part of the vision is to “enhance the local environment and be a responsible neighbour (see paragraph 4.2.1 of the Design and Access Statement”). Just how the proposed Development will enhance the local environment is difficult to see and the Applicant has already proved that it is not a responsible neighbour in the way in which it has communicated with the residents through consultation, particularly in the early days of the process. A site of smaller size could be more sensitively and discreetly located, and present</p>	<p>The applicant refers to the response provided in Responses to ExA’s First Written Questions [REP2-037] Q.1.0.16 which explains the generation output of the Proposed Development in the Grid Connection Statement [APP-205]. This confirms that the Applicant has requested consent for a project which includes the installation of over 50MW(p) of solar generation capacity. The parameters applied for in the Development Consent Order (DCO) application allow for the generation of an indicative 350 MW (DC) layout which is deliverable within those parameters, but 350 MW(DC) does not constitute a limit to the size of the scheme and, if consented, a detailed design phase will deliver the aims of the Proposed Development within the approved parameters but accounting for the latest engineering and technological information. Further, the response to Q1.3.4 is clear that one of the key benefits of the Proposed Development is that it makes use of existing grid connection capacity which facilitates a connection in 2028, confirming both the output and timeframe of the Proposed Development.</p> <p>In addition to meeting the urgent national need for secure and affordable low-carbon energy infrastructure the Proposed Development delivers</p>
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	<p>fewer challenges for landscape & visual, residential and recreational amenity, noise, and the many species that will have to grapple with the miles of fencing.</p>	<p>wider benefits to the environment and the local community. Amongst these benefits are:</p> <ul style="list-style-type: none"> • Habitat creation and enhancement within the Order limits which will provide a high net gain in biodiversity value for the area within it. This has been shown to be just over 72% for habitats with the use of the Biodiversity Metric 3.1. this is described in more detail in the Biodiversity Net Gain calculation at Appendix 7.6 of the ES [APP-064]. • Three new permissive paths approximately 8.1km in total length connecting into the wider network of PRow. These routes are shown on the Green Infrastructure Strategy Plan included in the oLEMP APP-173 and include opening up access to the West Glen River corridor, a route not previously accessible to the general public. <p>The Applicant has demonstrated a high degree of public engagement, over and over statutory requirements, consultation reports detailed in the Consultation Report [APP-205] and confirmed in the Adequacy of Consultation responses [AoC-001 – AoC-005].</p> <p>As stated in the response to Q1.3.4 , smaller scale alternatives would not meet the project vision or objectives in terms of capacity to the extent that the Proposed Development does; they would not therefore be considered reasonable alternatives in the meaning of paragraphs 4.2.21 and 4.2.22 of draft EN-1.</p>
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Q1.3.5	<p>Whilst the topography may lend itself to meeting the design and construction needs of the site, it does not improve the landscape and visual impact. Equally as detailed in our Written Representation (REP2-089) irradiance and topography are not optimal relative to other areas of the UK.</p>	<p>The Applicant's view is that the local topography, coupled with the approach set out in the Design and Access Statement [APP-204] to work within and retain the existing landscape structure, assists with the ability to accommodate solar in the landscape. Figure 6.6: Zone of Theoretical Visibility Study Representative Viewpoint and Illustrative Viewpoints [AAP-138] demonstrates the limited nature of longer distance views, generally broken up by hedgerows. Please see the Applicant's response to FWQ 1.3.5 which explains this further. Paragraphs 6.3.5 to 6.3.8 of the LVIA [APP-036] and Figure 6.1 [APP-133] illustrate the topography of the Order limits and wider area, the gently undulating nature of which assist in screening views of the Proposed Development.</p> <p>Whilst there are some areas of the country with high average irradiance levels, Lincolnshire has comparatively good irradiance levels and also large areas of undeveloped land, a sparser settlement pattern and with significant available grid capacity (see Statement of Need, [APP-202], paragraph 7.5.20). Irradiance is also only one of the factors taken into account, as explained in the Site Selection Report [APP-203]. Irradiance levels are shown in Figure 7.4 of the Statement of Need.</p>
Q1.3.6	<p>The Applicant correctly states that, normally, each field is farmed as a whole irrespective of soil type.</p>	<p>The Applicant refers to the response to the ExA's First Written Questions [REP2-037] Q1.3.6 which, alongside the Site Selection Report [APP-203],</p>

	<p>Modern farming requires large fields and so it is likely that in many instances fields will contain soils of different ALC grades. As a consequence of how a farm is managed, and in order to prevent the use of Best and Most Versatile land, fields containing any grade 2 and 3a land should not be used for solar panels. Given the marginal difference between 3a and 3b the default should be if any land parcel has a combination of 3a and 3b, that the whole of the land parcel should not be used for solar. In its answer the Applicant states “The Proposed development approach taken is consistent with the terms of draft NPS EN-3 paragraph 2.48.15, which explains that solar farm developments are not prohibited on ‘best and most versatile ’agricultural land and that “it is recognised that at this scale, it is likely that applicants’ developments may use some agricultural land.” It has not been possible to locate paragraph 2.48.15. However, paragraphs to 3.10.13 to 3.10.19 deal with the points raised. Paragraph 3.10.14 states “While land type should not be a</p>	<p>confirms approach to reducing impacts upon Best and Most Versatile agricultural land which is considered to be in line with Paragraph 3.10.14 and 3.10.16 of the draft revised NPS EN-3. It is acknowledged that the reference to paragraph 2.48.15 should have been to 3.10.16. The Site Selection Report also explains the Applicant’s consideration of non agricultural land of any grade, and how such sites within the vicinity of Ryhall substation are not suitable.</p> <p>It is suggested by MPAG that where a field contains a mixture of Subgrades 3a and 3b, the whole land parcel should not be used for solar, given the marginal differences between Subgrades 3a and 3b. This is not considered to be necessary or appropriate, not least as 3b is not protected by BMV policy.</p> <p>The land across the Order limits is suited to cereals and break crops and there will be marginal differences in production in most years between Subgrade 3a and Subgrade 3b land. It would be neither likely nor practical to be able to identify sufficient land in this area where fields are wholly Subgrade 3b, and would be likely to lead to a much wider distribution area for the Proposed Development.</p>
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	<p>predominating factor in determining the suitability of the site location applicants should, where possible, utilise previously developed land, brownfield land, contaminated land and industrial land. Where the proposed use of any agricultural land has been shown to be necessary, poorer quality land should be preferred to higher quality land (avoiding the use of “Best and Most Versatile” agricultural land where possible)” And “3.10.16 It is recognised that at this scale, it is likely that Applicants’ developments may use some agricultural land. Applicants should explain their choice of site, noting the preference for development to be on brownfield and non-agricultural land.” The proposed Development will be using all ‘agricultural land’ not just some, as stated in 3.10.16</p>	<p>As the Applicant has consistently made clear, the land quality is not affected further to the measures in the oSMP, and the food production implications are acknowledged to be marginal.</p> <p>There is no policy requirement to produce food. In that context the benefits of avoiding fields containing a mix of BMV and non-BMV land quality is negligible. Policy does not require this.</p>
Q3.0.3	<p>Did the Applicant consider the impact on the local community’s recreational amenity as many of the access points are located next to or close to a PRoW? Has the Applicant identified the hedgerow</p>	<p>The Amenity and Recreation Assessment [APP-058] provides an assessment of the potential impacts to the recreation amenity of PRoW both within and in the vicinity of the Order limits for both</p>

	<p>and trees being removed to facilitate visibility for the access points that are not within the Order Limits but on the opposite side of the road and may be the subject of CA?</p>	<p>construction/decommissioning and operation of the Proposed Development.</p> <p>All access points, and associated visibility splays, are located within the Order limits. The ES assesses the impacts of vegetation management.</p>
<p>Q3.0.17</p>	<p>Given the majority of the woodland is encapsulated within the Order Limits but not part of the Order Limits, how can the Applicant promote talk about connectivity and wildlife corridors when they are not in control of all the rich ecological assets inside the Order Limit boundary? The existing landowners will have little interest in maintaining and promoting these isolated woodland areas, and may not even have access. It is critical that all ecological assets within or adjacent to the Order Limits are not compromised in any way and there is a joined-up plan for ongoing management.</p>	<p>The Design and Access Statement (DAS) [REP2-018] sets out the Project Principles that have underpinned the design of the Proposed Development and the Design Guidance that will ensure the detailed design of the Proposed Development continues to respond appropriately to its context so that potential adverse impacts are minimised but also enhancement opportunities are realised.</p> <p>Page 49 of the DAS illustrates conceptually the ecological habitats that the Proposed Development seeks to better connect.</p> <p>Woodland outside the Order limits would remain under the control of existing landowners and there is no reason, in the Applicant's view, why the current management of these areas is likely to significantly change. The re-connection of existing habitats, regardless of their future quality, is considered by the Applicant to be a positive joined up enhancement at the landscape scale the Proposed Development can successfully deliver.</p> <p>The framework for the management for landscape and ecology habitats within the Order limits, including areas of mitigation and enhancement,</p>

		<p>is set out within the Outline Landscape and Ecology Management Plan (oLEMP) [REP3-014] and secured through Requirement 7 of the draft DCO.</p>
<p>Q4.0.8</p>	<p>- PRowS surrounded by solar panels, fencing, solar stations, even with the extra permissive paths are not seen as a benefit by locals. Retaining the PRowS which already exist is not a benefit of the scheme. Moreover, the PRow will be substantially degraded as a result of the physical impacts of the proposed development including impacts on the landscape, visual amenity, and tunnelling effects caused by the extensive fencing and built features. It is a dis-benefit of the Proposed Development.</p> <p>- MPSF suggests 50% of the staff will be sourced from the local area. Of the communities affected, MPSF has not understood the demographic and skill set of the local area. Local employment on this project will, in all likelihood, be very low.</p>	<p>The impacts to PRow both within the Order Limits and in the vicinity has been assessed with the Amenity and Recreation Assessment (ARA) [APP-058] which forms Appendix 6.5 to the LVIA [APP-036]. The ARA was informed by desktop analysis and fieldwork that entailed walking the PRow network within the Order limits and local area and considers the potential impact to the recreational amenity to each route as a result of the Proposed Development. Design Guidance set out within the DAS [REP2-018] seeks to mitigate potential impacts to PRow including the offset of the Proposed Development by at least 15m to the perimeter fencing (with panels set even further back) to avoid potential tunnelling effects to PRow. The ability to use the PRowS will not be affected by the Proposed Development.</p> <p><u>Employment</u></p> <p>Please see the response to Q5.2.8 below.</p> <p><u>Energy generated</u></p>

	<ul style="list-style-type: none"> - All the energy generated goes direct into the National Grid which could go anywhere in the country. - There are no lower tariffs for the local communities, so only the developers and middle men will benefit financially. - According to MPSF the carbon effects will be adverse for a minimum of 10+ years, some of them felt in the local community by the impacts of the construction traffic. MPAG's calculations suggest 18-24 years. 	<p>The energy generated would go directly into the National Grid and be distributed where needed, nationally.</p> <p><u>Local communities</u></p> <p>The Planning Statement [APP-203] at section 3.5 sets out benefits of the scheme, principally being through the delivery of low-carbon, low-cost and UK-located solar electricity generation capacity connecting to the National Electricity Transmission System from 2028. Wider benefits of the scheme include habitat creation, provision of new permissive paths and employment during the construction phase of the Proposed Development.</p> <p>While not a consideration for the planning balance, the Applicant is keen to deliver wider community benefits for communities that host their developments. To ensure benefits are delivered locally, the Applicants preference is to deliver specific projects in the vicinity of the proposed development. Both the Stage 1 and Stage 2 consultations included questions related to how the proposals could contribute towards environmental, recreational and community benefits. The responses ranged from enhanced habitat creation, provision of education facilities, provision of play or recreational facilities, improving walking cycling and bridleway infrastructure. In addition, the host local authorities will benefit</p>
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		<p>from considerable business rate receipts over the life of the development between £1m and £1.4m. The Applicant has confirmed they will continue to discuss wider community benefits with the host authorities, whilst acknowledging that they can be shown to be directly related to the impact of the project, they cannot be taken into account by the Secretary of State.</p> <p><u>Carbon effects</u></p> <p>The Applicant refers to its Responses to Interested Parties' Deadline 2 Submissions – Climate Change [REP3-029].</p>
Q4.0.9	<p>The applicant states “The Applicant will, however, still need the ability to be able to make a choice, as even if design approval is given, a range of Agreements will need to be entered into, and the Applicant would need the ‘backstop’ of being able to use its powers. “ Is this absolutely necessary? Surely the cabling routing is a key variable of the project and the Applicant has had ample time to agree the final option since inception of the project. It appears from Network Rail’s Relevant Representation that negotiations started rather</p>	<p>The power for compulsory acquisition within the DCO is required to ensure that there are no impediments or delays to the implementation of the Proposed Development.</p> <p>The Applicant has made substantial progress in the option selection and discussions with Network Rail and fully anticipates that this will be able to be resolved in good time before the end of Examination, as discussed at the Hearings. As set out at the Hearing, once this has been confirmed, amendments may be able to be made to the DCO to provide more certainty that only one option will be able to be used. Furthermore, updates have been made to the oCEMP at Deadline 4 to provide for information sharing in relation to this issue.</p>

	<p>late in the day. However the local residents should not continue to bear the burden and worry of a 'backstop' option being allowed in the DCO and effective for the lifetime of the scheme.</p>	
<p>Q5.0.03 (b)</p>	<p>This resolves one of the points made with regard to the Applicants answer to Q1.1.3. The Applicant, under the definition of "maintenance", would be able to replace all of the 530,000 panels, the definition would allow replacement of solar panels at the end of their lifetime without the need for a new DCO. Maintenance is "The work of keeping something in proper working condition care or upkeep including: taking steps to avoid something breaking down (preventative maintenance) and bringing something back to working order (corrective maintenance)." This definition does not cover the total replacement of 530,000 solar panels with such replacement being made as a result of the life of the panels being exceeded. Nor does it cover the replacement due to advances in technology. As the Applicant's definition does seem to include the</p>	<p>Whilst Article 5(1) of the dDCO grants the power to maintain the authorised development, this is subject to Article 5(3), which confirms that Article 5 does not authorise the carrying out of any works which are likely to give rise to any materially new or materially different effects which have not been assessed in the ES.</p> <p>The definition of maintain would allow the replacement of solar PV panels in the manner described and assessed in the ES, which will include the replacement of individual solar PV panels.</p> <p>No systematic upgrading or re-powering of the Solar PV arrays are proposed as part of the Proposed Development such that it would influence the CO2 calculations. Furthermore, the definition of 'maintain' means that no wholesale replacement of the authorised development can take place. Following Issue Specific Hearing 3, the Applicant has updated the definition of 'maintain' for further clarity to distinguish between solar infrastructure and other works within the dDCO submitted</p>

	<p>replacement of panels (even though that is not regarded as 'repowering'), then shouldn't the Applicant also demonstrate worst case scenario in terms of all the environmental impacts e.g carbon cost.</p>	<p>at Deadline 4, and updated the oOEMP to provide for the provision of a maintenance schedule, as discussed above.</p> <p>Panel degradation is accounted for in the conclusions of Chapter 13 of the ES and presented in the GHG Calculation Table (Appendix G). As such, they are accounted for in the calculation of annual output, CO2 savings and emissions displacement for the Proposed Development presented in Chapter 13 of the ES [APP-043].</p>
Q5.2.8	<p>The Applicant may have a vision but it is clear they have little understanding of the demographic and availability of local people. The opportunity for the employment of local people will be negligible. Most of the construction workers will, it is assumed, have specialised skills and be contracted in from outside the area. After all the area they are seeking to recruit from is rural with a relatively small cohort to recruit from. The operation of the Proposed Development will require few people, and effectively may only replace the jobs that will be lost through the farming supply chain. In any event the wider area is one of low unemployment and a</p>	<p>Information on the population demographics, labour market, types of employment and other relevant baseline conditions for the assessment of socio-economic impacts are presented in ES Chapter 14 Socio-Economics [APP-044]. This information has been used to inform the assessment of socio-economic impacts. For example, the assessment of the significance of the impact on employment generation considers the existing presence of the types of employment in the study area to determine the ability of the Proposed Development to generate economic opportunities through its supply chain.</p> <p>ES Chapter 14 Socio-Economics [APP-044] identifies that during the construction phase there would be an average of 150 full-time equivalent</p>

	<p>sizeable proportion of the residents of the local villages are retired.</p>	<p>workers (FTEs) throughout the construction phase, with a similar level of employment generation during the decommissioning phase (over a shorter period). During the operation phase a total of up to 20 workers (the equivalent to 10 FTEs) will be required on site per day to undertake activities relating to the maintenance and cleaning of panels and landscape management. Local residents and businesses will be encouraged to take up the opportunities associated with this.</p> <p>Requirement 17 of the dDCO [REP3-005] provides that the Applicant will identify opportunities for the involvement of local companies in the construction and operation supply chain and the ability for local residents to access employment opportunities associated with the construction and operation of the Proposed Development. The Employment, Skills and Supply Chain Plan must be substantially in accordance with the Outline Employment, Skills and Supply Chain Plan [REP2-024].</p> <p>Many of these job opportunities will be able to be taken up by local residents and businesses, noting that whilst there are some solar specific aspects to the construction phase, many of the activities will be similar to other generic construction activities. The assessment estimates that 50%</p>
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		<p>of the employment generated during the construction phase could be filled by residents from the study area of Rutland and South Kesteven, corresponding to the 'high' ready reckoner figure for leakage identified in the HCA Additionality Guide (2014). The assessment has therefore taken account of the local demographics.</p> <p>Through the approval of the detailed employment, skills and supply chain plan, the LPAs will be able to consider how local employment has been sought to be supported.</p> <p>ES Chapter 14 Socio-Economics [APP-044] estimates that there will be an uplift in employment across all development phases. Once the Proposed Development is operational, the owners of the four farm operations within the Order limits predict that the 13 FTEs currently directly supported will remain the same and that the diversification of operations will help to sustain their commercial viability. For the four impacted farm businesses, the land within the Order limits represents only a proportion of their wider holdings. No key infrastructure, such as agricultural buildings, would be affected by the Proposed Development. The farm businesses have stated that although agricultural practices within the Order limits will change, continued arable use is considered very unlikely to change across their wider land areas outside the Order limits. Within the Order limits a proportion of the mitigation and enhancement areas</p>
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		will continue to be farmed, whilst land management, which could include sheep grazing, will take place within the Order limits.
Q 6.0.12	The Applicant seems to only consider the intervisibility between the Proposed Development and any heritage assets and historic landscape/area. The fact these assets are on the doorstep of the Proposed Development and people would regularly have to go past the Proposed Development on their outward or return journey means these areas could be tainted by the industrial nature of the development, diminishing the importance of the asset or landscape character.	<p>Chapter 8: Cultural Heritage of the ES [APP-038] and the Cultural Heritage Impact Assessment [APP-068] detail the specific methodological approaches taken to considering the effects of the Proposed Development of heritage assets. Intervisibility is a key consideration, but not the sole one.</p> <p>The Proposed Development does not have an industrial character. This misnomer is discussed within the assessment reports referred to above. Suggesting that the presence of the Proposed Development would ‘taint’ one’s experience is without merit or evidence, and if one were to assuming that this is the case, then this assumption would conflict with guidance and good practice in the assessment of ‘setting issues’.</p> <p>Applicant is of the opinion that no ‘diminution’ of any designated heritage asset’s importance would occur.</p>
Q7.0.6	The Applicant is correct in stating that currently only Manor Farm has sheep. These are not owned by the landowner nor managed by the staff of Manor Farm. They are kept on permanent grassland. Comments regarding opportunities for	In terms of the assessment of the biodiversity net gain metric, the type of grassland proposed within the Solar PV Areas has been proposed as Modified Grassland in moderate condition, which can be managed via grazing and the general principles for this are set out in the oLEMP.



	<p>existing farmers in the area or for new entrants are entirely speculative. The Applicant appears to be envisioning a commercial breeding flock, commenting that ewes can lamb outside. The BRE Agricultural Good Practice Guidance for Solar Farms states “Some hardier breeds of sheep may be able to produce and rear lambs successfully under the shelter of solar farms, but there is little experience of this yet.” All of the local farms with breeding flocks lamb inside. In order to manage sheep correctly the flock needs to be in clear view of the shepherd so that they can see those animals that may carry injuries, are lame and so on. It is not possible to do this under a block of solar panels in a large solar farm comprising 52 field parcels. The Applicant fails to understand what is required as handling facilities stating that all that is required are “hurdles” and not a fixed feature. The Applicant is referred to the 92 page document - A Guide to Designing a Sheep Handling Unit published by the Irish Agriculture and Food Development Authority.</p>	<p>The grazing of sheep under and around solar panels is feasible and is increasingly common practice. The position has significantly evolved since the BRE Agricultural Good Practice Guidance for Solar Farms (BRE, 2014).</p> <p>Whether the land will graze breeding sheep, or lambs being reared-on, or overwintering hill sheep, will depend upon the business wishes of the shepherds and on other economic considerations, and may change over time.</p> <p>The overall scale of the Proposed Development is not relevant to sheep farming considerations. The size of the fenced panel blocks is the relevant consideration, as that defines the size of each block of grazing.</p> <p>How tightly grass is grazed, and when, is a management consideration influenced by stocking density, how often and when sheep are moved. Moving animals between grazing areas, and grazing for part of a year, is normal farming practice and falls fully within the definition of “agriculture” in the Town and Country Planning Act 1990, section 336.</p> <p>Visibility around and under panels is not as restricted as is suggested. The following photographs show examples of views under panels.</p>
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The Applicant points to a number of examples where sheep are farmed under solar panels. BRE Agricultural Good Practice Guidance for Solar Farms. These examples have little bearing on sheep farming in the Proposed Development as all of the examples given involve solar farms that are minuscule in comparison to the Proposed Development. Of the eight examples given, two kept poultry, one was constructed on an airfield, four already had live stock enterprises and the necessary infrastructure. It is not clear as to whether or not the farm in the last example previously kept sheep. It is perhaps important to understand the purpose of the intended sheep grazing. If the sheep are to graze all year around as part of a sheep farming business, they will destroy any biodiversity created with the grassland as they crop the land very tightly. That would not be to the benefit of the project ecologically. If the sheep are required periodically to keep the grassland down for a couple of months during the year (portable



Handling pens do not need to be complicated fixed structures. A handling unit on the edge of a solar farm is shown below.



	<p>lawnmowers), then that does not constitute continued agricultural use in the true sense of the meaning. Either way it is a hugely impractical and unrealistic undertaking for a solar farm of this scale.</p>	 <p>This is not dissimilar from examples in the Irish Agriculture and Food Development Authority booklet referenced by MPAG, shown below.</p>  <p>Traditionally sheep lambed outdoors. Indoor lambing became fashionable to enable earlier lambing, for marketing reasons. Whether the lambing takes place indoors or outdoors will be a management consideration and does not diminish the potential for the solar areas to be grazed.</p> <p>In bringing forward this option for sheep grazing the Applicant is anticipating that it may be able to support new entrants to this market.</p>
Q7.0.11	The Applicant has failed to look at the other solar farm applications in Rutland and Lincolnshire and	The Applicant refers to its Responses to Interested Parties' Deadline 3 Submissions – Land Issues [REP3-027].

	<p>the likely cumulative BMV impact if they apply the ALC Provisional maps BMV %. Para 13.6.3 of MPAG's WR (REP2-090) identifies 8,339Ha of applications (this is growing all the time). The BMV area could be as low as 3,769Ha or as high as 5,937Ha. That is just for Rutland and Lincs and takes no account of the national impact which we believe to be in excess of the size of the county of Bedfordshire (ref. Q1.2.6).</p>	<p>Agricultural land quality can only be determined by field survey. It is not, therefore, appropriate to apply the percentage from the "provisional" ALC maps to all the sites proposed in the two counties.</p> <p>The Utilised Agricultural Area in England is 8.9 million hectares (Agricultural Land Use in England at 1 June 2022, National Statistics (29th September 2022)).</p> <p>Natural England estimate that 42% of agricultural land is of BMV quality (Technical Information Note TIN049, Natural England (December 2012)).</p> <p>On that basis there is an estimated 3.74 million hectares of BMV agricultural land in active agricultural use in England.</p> <p>Cumulative BMV land affected by proposals solar NSIPs in Lincolnshire and Rutland was considered by the Applicant in [REP3-037] and concluded that 0.5% of BMV land in that area will be affected.</p>
Q8.0.1	<p>MPAG's Landscape & Visual expert in her full report (REP2-075) also identifies many inconsistencies and errors with the Applicant's methodology. There are key baselines and principles that need to be followed according to the guidance, without a robust methodology the conclusions cannot be deemed to be robust.</p>	<p>The LVIA [REP-036] has been undertaken in accordance with best practice and industry standards within the Landscape Institute's Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3, April 2013). The approach and methodology for the LVIA has been independently assessed and peer reviewed by Stantec Consultants. The methodology for the LVIA was considered acceptable by Stantec [REP3-039] in their review on behalf of the LPAs. The Applicant responded to MPAG's contentions in its Deadline 3 submissions [REP3-032].</p>

<p>Q8.0.4</p>	<p>Unfortunately this new photomontage is still too close to VP6B. If it were slightly further North on the corner of BrAW/1/1 as highlighted on the map, it would show you the full extent of the view all the way to Carlby, you can even see the church in the distance. All the fields that can be seen from the revised suggested VP are highlighted in yellow. The original VP6B was taken in a completely inappropriate location at a lower level by the side of the railway line.</p> <p>AUTHOR, PLEASE SEE PAGE 17 OF MPAG RESPOSNE FOR IMAGES</p>	<p>The additional Photomontage F [Appendix N of REP2-038] was provided on the request of the ExA to provide additional photomontages of the Proposed Development from Field no. 35, approximately 50m north of VP06B. The additional photomontage is considered to be in accordance with this request from the ExA.</p> <p>The additional photomontage illustrates the nature of the visual effects along bridleway BrAW/1/1 and the proposed landscape mitigation at this location. The Applicant has included bridleway BrAW/1/1 on the Accompanied Site Inspection (ASI) to observe the viewpoint suggested by MPAG in the field.</p>
<p>Q8.0.10</p>	<p>Most of the documents talk about the solar arrays, but little attention is paid to the visual impact of the tracks, inverter and transformer containers or solar stations, fencing and signage, CCTV etc, which when combined create this industrial unfriendly feel, changing the character and desirability of the area, particularly when in any proximity to residential or recreational amenity</p>	<p>The components of the Proposed Development are listed at paragraphs 6.5.2 to 6.5.3 of the LVIA [APP-036] and considered throughout the LVIA with specific comments/observations made where required. Reference is also made to these individual components in the Residential Visual Amenity Assessment (RVAA) [APP-057] and Amenity and Recreation Assessment (ARA) [APP-058] where appropriate.</p> <p>The Applicant acknowledges there would be a change to the character and recreational amenity of PRow that run within the Solar PV area but</p>

		<p>once mitigation planting has matured the recreational amenity would not be out of character to that of other routes in the locality that are enclosed by vegetation, such as the Macmillan Way to the south of Belmesthorpe.</p> <p>The Project Principles and Design Guidelines set out in the DAS [REP2-018] seek to avoid or reduce potential impacts that may arise from components of the Proposed Development recognising that a degree of flexibility is needed as the exact locations are not fixed at this stage. The LVIA uses a maximum parameters based approach so that the ‘maximum impact’ is assessed wherever the components sit within the parameter.</p> <p>Further information on this topic is included in the Appendices to the Applicant’s Oral Submissions at ISH1.</p>
Q8.0.11	<p>The topography of field 18 and 19 is such that it will be almost impossible to screen effectively. MPAG has watched some farm machinery work in field 18, there is already mature hedgerow which has no impact and the fact the large hard core mound in field 19 (behind field 18) is visible from many directions (not just Essendine) demonstrates the challenge of using that area for the substation location. Field 19 is also not level and slopes</p>	<p>The topography of Fields 18 and 19 falls northward toward the West Glen River. The mitigation planting proposed for this area is illustrated on the Green Infrastructure Strategy Plan [APP-173].</p> <p>Illustrative long sections that depict potential levels across Field 19 and beyond have been provided by the Application for Deadline 4 noting that the detailed design would be secured at a later stage if the DCO is granted, pursuant to Requirement 6.</p> <p>The Applicant agrees that given the nature of solar developments the way they are experienced visually will vary depending on the location on</p>

	<p>downhill towards the railway line, so how will the Applicant manage that with the new substation? Some consideration with the visual impact should be given to seeing the solar panel infrastructure from the rear, not just from the front as described like “a body of water”. There are plenty of cases on the north east and north west end of the site where that will be the case, hence the industrial look and feel.</p>	<p>which it is viewed. In some instances, when viewed from the front with panels face on the solar PV array will appear as what can be best described as a ‘body of water’, from side on the spacings between rows will be discernible. Given that the Proposed Development may utilise fixed south facing or single axis tracker solar PV arrays it is not possible at this stage to comment specifically about the orientation of panels for a particular view within the LVIA. As the LVIA assesses the maximum parameters, the conclusions of the LVIA and impacts identified would not alter as a result of the orientation of solar PV panels.</p>
Q8.0.16	<p>The Applicant says that “no significant effects are anticipated to arise from the Proposed Development to humans, including within their residential properties.” It is not clear as to whether this includes gardens where many residents spend a lot of time.</p>	<p>The consideration of effects on residential properties includes external private amenity spaces, such as gardens. For example, the noise assessment is based on guidance which sets out recommended noise levels within these spaces. Furthermore, baseline noise monitoring was undertaken at closer proximity to the Order limits than external private amenity spaces.</p>
Q 9.0.1	<p>Can the Applicant identify a benchmark or guidance on noise levels suitable for horses? They hear noise differently to humans and can be very unpredictable. Given some brideways are surrounded on both sides by solar panels and</p>	<p>Available research (Heffner H. and Heffner R., Equine Practice, Vol.5, 3, March 1983) has shown that horses’ hearing is less sensitive than humans over most of the frequency range, and particularly at lower frequencies, with the exception of very high frequencies (ultrasound) which is not relevant for the sources of noise considered. Although experience shows</p>

	<p>associated infrastructure, it is essential that the noise in terms of level and tone is safe for horse riders.</p>	<p>that horses can fear impulsive or sudden noises, the sources of operational noise associated with the Proposed Development operate at a relatively constant level and would not produce sudden loud noises. Warnings will be given to PRoW users during the construction phase as set out in the outline CEMP [REP3-011].</p> <p>Therefore, no additional measures to control noise to account for horses using the bridleways are required.</p>
<p>Q9.0.7</p>	<p>This comment could apply to most of the noise questions. How has the Applicant taken into account noise travel from wind? What is their baseline, should worst case wind effects be taken into account rather than applying normal conditions if that is the case. Some parts of the site are very exposed and noise travels a long way.</p> <p>The response from the Applicant “Minor adverse residual effects were identified in some cases. Based on the guidance of Planning Practice Guidance [Ref 10-13] quoted in Table 4 of Appendix 10.1 of the ES [APP-077], this may correspond to some small changes in behaviour, attitude or other</p>	<p>As noted in response to the Applicant's Response to the Interested Parties Deadline 2 Submissions, the predictions of noise assumed favourable propagation conditions, such as those which may be experienced when the wind blows from sources to receivers. This therefore provides a precautionary assessment.</p> <p>The assessment presented in the Chapter 10: Noise and Vibration of the ES [APP-040] presented a robust assessment in line with relevant guidance and standards which was the basis on which it was determined that no significant adverse noise impacts would arise following implementation of the proposed mitigation measures. This also accounted for baseline noise conditions in the area. Whilst some noise from the Proposed Development could be audible at times, this would</p>

	<p>physiological response effects, as well as in some instances to a small actual or perceived changes in quality of life, but these would be limited and not significant.” This is somewhat worrying, even that so-called small change can have a huge impact on mental health. Given much of the noise is continuous rather than transient, the impact however slight the Applicant believes it to be, should be treated as significant.</p> <p>The 8 hour piling activity still seems far too intrusive. Reports from other solar farms a fraction of the size have caused significant upset amongst residents unable to escape the persistent noise for weeks and months on end. Will there be a specific phasing plan to mitigate the impacts further across the site, to avoid several locations all piling at the same time and there being a cumulative effect for the residents.</p>	<p>only represent minor adverse impacts at most (which are not significant) and should not a be cause for concern.</p> <p>The assessment of operational noise concluded that the predicted worst-case levels of noise from the plant associated with the Proposed Development were either below or only marginally above baseline background noise levels during quiet day-time periods, when the plant is most likely to operate at full duty. At night-time, the noise from the plant is likely to be lower than predicted levels due to reduced solar and heat loads. Therefore, the expected effects of noise during the operational phase would be limited in practice.</p> <p>The proposed restrictions on piling noise were proposed as further reductions from the standard construction hours referenced in BS 5228-1. Further time restrictions or phasing of the piling work could potentially extend further the overall duration of the construction. The final construction phasing and construction methods and management would be determined as part of the CEMP which is secured through a DCO requirement (paragraph 11 of Schedule 2 of the draft DCO), which requires a CEMP to be prepared by the Applicant and to be submitted and approved by the relevant local authorities. Further discussion of piling is</p>
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		<p>set out in the Applicant’s Summary of Oral Submissions at Deadline 2 submitted at Deadline 4.</p>
<p>Q10.0.4</p>	<p>The Applicant states “Section 4 of the plan has been updated to make it a requirement that modern slavery and human trafficking statements prepared by relevant suppliers are uploaded to the Home Office Register for such statements. This will enable the relevant planning authorities to monitor compliance with the ethical procurement policy. If the requirements of the plan are not adhered to then this would represent a breach of the DCO requirement and the relevant planning authorities could take enforcement action under the Planning Act 2008 in the normal way.” Uploading statements to the Home Office Register does not mean that they are complied with nor does it mean that the statements can be monitored in respect to their implementation. The recent statement and evidence presented by Alicia Kerns M.P. regarding the activity of Canadian Solar still presents major</p>	<p>The Outline Employment, Skills and Supply Chain Plan [REP2-023] was updated at Deadline 2 by the Applicant in response to the Ex A’s First Written Questions. The requirement for any supplier’s modern slavery and human trafficking statement to be published on the home office website does allow the local planning authorities to scrutinise the requirement in the ethical procurement policy for each supplier to have such a statement and to be able to scrutinise it. This was the question posed by the ExA which has now been resolved by the amendment.</p> <p>MPAG state that this amendment does not mean that the statements are complied with or that the implementation can be monitored. However, section 4 of the plan already says that the Applicant will monitor the success of the plan which would include monitoring supply chain and employment information from the main suppliers. This information would be made available to the local planning authority on request, again subject to GDPR obligations. This means that the LPAs are able to request information from the Applicant demonstrating suppliers' compliance with the modern slavery and human trafficking statements.</p>

	<p>concerns about points to the general disregard the Company has to ethics</p>	
<p>Q10.0.7</p>	<p>In answering this question the Applicant primarily refers to wind-farms, not solar. There is no logic to this comparison, solar and wind farms being of an entirely different nature. Also there is no suitable precedent to use for solar farms as Shotwick Park at 72MW and 101Ha is a fraction of the size and sited next to an industrial paper mill to which it is supplying energy.</p>	<p>The question asked for examples of research on the impact of large-scale renewables on holiday/leisure decisions. The response referred to examples of research for both solar and wind farms in the UK. Case study evidence on the impact of wind farms in the UK is significantly more established than that of solar farms, as more wind farms have been completed to date. Evidence of wind farms is presented to supplement existing evidence of the impact of solar farms.</p> <p>Whilst wind and solar farms have distinct characteristics, the research on wind farms can provide useful insight into the potential impact of solar farms on holiday/leisure decisions. As acknowledged in the response, the visual impacts of such developments are considerably greater than solar farms, and therefore could represent a potential worst-case scenario for the impact on holiday/leisure decisions resulting from a solar farm development.</p> <p>The socio-economic assessment presented in Chapter 14 Socio-economics [APP-044] provides an assessment of the impact of the Proposed Development on tourism. This assessment has been undertaken by independent assessors who have experience of appraising</p>

		<p>the potential impacts of a wide variety of infrastructure projects in the UK. The assessment of tourism impact has been informed by the findings of other chapters in the Environmental Statement, as well as existing research on the impact of solar and wind farms on tourism in the UK.</p> <p>The conclusion of the assessment of the effect of the proposed development on tourism Chapter 14 Socio-economics [APP-044] aligns with the findings from other case studies of both solar and wind farm projects, with the proposed development anticipated to result in a relatively minimal impact.</p>
Q12.0.3	<p>In addition to concerns about the impacts of climate change negatively affecting the baseline, there is also the concern of the subsequent impact of off-site flooding both in Greatford and Essendine as a result of faster water run-off from the panels into water courses and the River Glen. It is clear the Applicant has mitigated the effects onsite by removing panels from areas sensitive to flooding, but has not specified definitive measures to mitigate impacts off-site to residential areas.</p>	<p>The Applicant has explained how the Proposed Development is likely to lead to reduced surface water run-off rates compared to the baseline agricultural scenario in its answer to Q12.0.6 a) in the Applicant's Responses to ExA's First Written Questions [REP2-037].</p> <p>Also, Section 3.1 of Appendix 11.6: Outline Surface Water Drainage Strategy [APP-087] concludes that the introduction of planting within the Mitigation and Enhancement Areas will increase the interception potential of surface water within the Solar PV area. This is evidenced by the 2D surface water model which shows increasing the roughness of</p>

	<p>MPAG's Written Representation (REP2-090) goes into extensive detail about flood risk impacts. If the land is trafficked during construction before a grass ley is suitably sown and robust, the ground will be compacted installation of the piles and assembly activity. The Applicant has acknowledged the faster water runoff but believe the grassland will compensate for that. That is only possible if it is not compacted and if the land has not reached field capacity, which normally lasts around 115 days in the local area over the winter months.</p>	<p>the surface cover within the Order limits, specifically under the PV Array drip lines, retains water onsite for longer <i>i.e.</i> reducing the surface water run-off rate compared to the baseline agricultural scenario and therefore having a beneficial impact on surface water flooding.</p> <p>The Outline Soil Management Plan (oSMP) [APP-213] was updated at Deadline 3 and it outlines that prior to construction commencing, a Soil Management Plan will be produced as required by the Development Consent Order and in accordance with the OsmP.</p> <p>Paragraph 4.12 of the oSMP outlines the procedures for the appointed contractor to follow to avoid soil compaction during the construction phase. Should localised soil compaction occur during the construction phase, paragraphs 4.13 to 4.18 outline the mechanisms by which these areas should be ameliorated by the contractor.</p> <p>As such, the Proposed Development will not lead to an increased risk of off-site flooding.</p>
Q13.0.3	<p>Firstly, the median range referred to in parentheses is 18 to 48 kgCO₂eq/MWh and not 8 to 48 as given by the Applicant. To be clear, it is the Applicant, not the IPCC that selected the 48kgCO₂eq/MWh number. The Proposed Development is expected to</p>	<p>The IPCC (2014) estimated full life-cycle emissions of CO₂ for a range of electricity generation types. For utility scale solar photovoltaic cells, it estimated an emission intensity of 48 kgCO₂eq/MWh (based on the median value from a range between 18 and 180 kgCO₂eq/MWh), which includes manufacturing, construction, operations and decommissioning</p>

	<p>be significantly over the median due to manufacturing in China. Articles discussing Lifecycle Emissions identify that 70% of the Lifecycle CO2 comes from the manufacturing of panels (Reference: Harvard Kennedy School, Journalist Resource) and compared with panels manufacture in Europe or North America, panels manufactured and shipped from China have the highest embodied carbon dioxide, due to the 50% Coal-fired power-stations used in China's energy grid. Transportation to the UK from China will be at the higher end of embodied CO2 as well. It is therefore expected that the Proposed Development life time emissions will be in the range 72- 96kgCO2eq/MWh.</p>	<p>carbon emissions. In 2014, solar farms were expected to operate for 25 years, and the emissions data would have been based on this lifetime. The Mallard Pass DCO submission makes use of the IPCC's median lifecycle (I.e. including manufacturing, construction, operation, maintenance and decommissioning) emissions value of 48 kgCO2eq/MWh in its conservative assessment of overall avoided emissions as a result of manufacturing, construction, 40 years of operation, maintenance and decommissioning of the project.</p> <p>The recently consented Longfield Solar Farm development (PINS Ref EN010118) includes a Lifecycle GHG Impact Assessment. The assessment considers the carbon emissions associated with the manufacture, construction, operation and decommissioning of both the PV Arrays and Battery Energy Storage System (BESS) along with transportation of materials from China, replacement of electrical components and changes in land use. The carbon intensity of the project, considering all of these factors, is 49.2gCO2e/kWh.</p> <p>It should be noted however that this carbon intensity value includes the embodied carbon of the Battery Energy Storage System element of the project. Mallard Pass does not include a BESS. By removing the emissions quoted in the Longfield Solar Farm DCO submission associated with the BESS from the total emissions, and dividing the resulting figure</p>
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		<p>by Longfield Solar Farm’s expected lifetime generation gives a lifecycle carbon emissions intensity of 38.3 gCO₂e / kWh. This is significantly lower than the IPCC median value of 48 gCO₂e / kWh.</p> <p>In addition, the environmental product declaration for the 196 MW El Romero Solar project [Appendix H] identified an emissions intensity of 29.2 gCO₂e/kWh which includes emissions arising from transportation of the solar panels. This illustrates that the IPCC emissions intensity value is conservative.</p> <p>Therefore, the median figure of 48kgCO₂eq/MWh is considered a conservative figure, i.e. it overestimates the likely carbon costs of the Proposed Development. This is demonstrated in reference Longfield and El Romero Solar referred to above. These are both comparable in scale to the Proposed Development and include international transportation of PV arrays.</p>
Q13.0.5	It is suggested that the Applicant has mis-calculated the likely output of the Proposed Development by a significant amount, one of the incorrect calculations being a simple arithmetic mistake. This has a considerable impact on the Applicants claimed beneficial effect on climate change. Details	Please see the Applicant’s responses to this submission at Deadline 3 [REP3-029].

	are given in the Written Submission of MPAG (REP2-090).	
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Appendix

Extract from Annex E of British Standard BS 5228-1:2009+A:2014 ‘Code of practice for noise and vibration control on construction and open sites – Part 1: Noise’.

This part of the standard provides an example of significance criteria for construction noise, based on different periods. Category A criteria would generally apply to rural areas such as that around the Proposed Development. Note that different criteria apply for different times of day, with day-time periods comprising 07:00 to 19:00 on weekdays, and Saturdays 07:00 to 13:00. More stringent criteria apply to other evening, weekend and night-time periods. This was the basis for the assessment presented in Chapter 10: Noise and Vibration of the ES [APP-040].

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E.3.2 Example method 1 – The ABC method

Table E.1 shows an example of the threshold of potential significant effect at dwellings when the site noise level, rounded to the nearest decibel, exceeds the listed value. The table can be used as follows: for the appropriate period (night, evening/weekends or day), the ambient noise level is determined and rounded to the nearest 5 dB. This is then compared with the site noise level. If the site noise level exceeds the appropriate category value, then a potential significant effect is indicated. The assessor then needs to consider other project-specific factors, such as the number of receptors affected and the duration and character of the impact, to determine if there is a significant effect.

Table E.1 Example threshold of potential significant effect at dwellings

Assessment category and threshold value period	Threshold value, in decibels (dB) ($L_{Aeq,T}$)		
	Category A ^{A)}	Category B ^{B)}	Category C ^{C)}
Night-time (23.00–07.00)	45	50	55
Evenings and weekends ^{D)}	55	60	65
Daytime (07.00–19.00) and Saturdays (07.00–13.00)	65	70	75

NOTE 1 A potential significant effect is indicated if the $L_{Aeq,T}$ noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level.

NOTE 2 If the ambient noise level exceeds the Category C threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a potential significant effect is indicated if the total $L_{Aeq,T}$ noise level for the period increases by more than 3 dB due to site noise.

NOTE 3 Applied to residential receptors only.

^{A)} Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.

^{B)} Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.

^{C)} Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.

^{D)} 19.00–23.00 weekdays, 13.00–23.00 Saturdays and 07.00–23.00 Sundays.

