Great North Road Solar and Biodiversity Park

Written Summary of Oral Submissions from Issue Specific Hearing 1 and Responses to Action Points

Document Reference – EN010162/APP/8.19

Revision number 1

December 2025

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, APFP Regulation 5(2)(q)

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1 WRITTEN SUMMARY OF THE APPLICANT'S ORAL SUBMISSIONS AT ISSUE SPECIFIC HEARING 1

1.1 INTRODUCTION

1.1.1 This section of the document summarises the oral submissions put forward by Elements Green Trent Limited ('the Applicant') at Issue Specific Hearing 1 ('ISH1') which took place in a blended format at the Newark Showground and on Microsoft Teams on 26 and 27 November 2024.

1.1.2 In what follows, the Applicant's submissions on the points raised broadly follow the Agenda for the ISH1 set out in the Examining Authority's ('ExA') letter which was published on the Planning Inspectorate's website on 14 November 2025 [ISH1 Agenda].Where the comment is a post-hearing note submitted by the Applicant, this is indicated.

1.1.3 The Issue Specific Hearing (ISH1) was led by Dr Andrea McGeehan (Lead Panel Member), with supporting panel members Mr Graham Hobbins and Dr Philip Brewer.

1.1.4 The Applicant, which is promoting the Great North Road Solar and Biodiversity Park ('the Development'), was represented by Mr Peter Nesbit of Eversheds. The following speakers were present at the hearings for the Applicant:

- Miss Elena Sarieva (Head of Planning, Elements Green Trent Limited);
- Mr Matthew Sharpe (Senior Director, Quod);
- Dr Paul Phillips (Director, Envams); and
- Mr Tony Kernon (Director, Kernon Countryside Associates);
- Ms Mary Fisher (Director, Abseline);
- Mr Tony Kernon (Director, Kernon Countryside Associates);
- Dr Mike Gray (Ecology Director, Envams);
- Mr Liam Nevins (Director, Raincloud)

1.1.5 The attending authorities and interest parties of ISH1 included:

- Newark & Sherwood District Council (NSDC);
- Nottinghamshire County Council (NCC);
- Environment Agency (EA);
- Joint Parishes Action Group (JPEG)
- Norwell Solar Farm Steering Group (Norwell SFSG);
- Carlton-on-Trent Parish Council; and
- local residents.

1.2 AGENDA ITEM 1: WELCOME AND INTRODUCTIONS

1.2.1 *The ExA* welcomed attendees to ISH1 and provided introductory remarks about how the hearing would be conducted. *The ExA* confirmed that action points would be circulated shortly after the close of the hearing.

1.3 AGENDA ITEM 2: PURPOSE OF THE ISSUE SPECIFIC HEARING

1.3.1 *The ExA* explained that the purpose of this ISH1 is to inquire into the draft Development Consent Order ('**Draft DCO**' or '**dDCO**') to provide the ExA to explore initial questions about the following points:

- Site Selection and design evolution (Agenda Item 3.1)
- Climate and Sustainability (Agenda Item 3.2)
- Biodiversity and Ecology (Agenda Item 3.3)
- Cumulative environmental effects (Agenda Item 3.4)

1.3.2 Agenda Items 3.1 and 3.2 were covered on Wednesday 26 November, and Items 3.3 and 3.4 were covered on Thursday 27 November.

1.4 AGENDA ITEM 3.1 : SITE SELECTION AND DESIGN EVOLUTION

Overview

1.4.1 *The ExA* asked the Applicant to provide an overview of the development, including the design of the application, the approach to site selection, and whether or not the legislative requirements have been met.

1.4.2 *Peter Nesbit (Applicant)* confirmed the proposed development complies with the Planning Act 2008 procedures, statutory consultations, and EIA Regulations; scoping informed the Environmental Statement; compliance with other applicable legislation (e.g., Habitats Regulations) is set out in application documents.

1.4.3 *Elena Sarieva (Applicant)* introduced the development consent application, with a focus on an overview of the proposed development, approach to site selection, design evolution and relevant planning policy. *Miss Sarieva (Applicant)* explained that the development is located northwest of Newark-on-Trent and includes solar PV arrays, ancillary infrastructure (transformers, inverters, internal roads, access, fencing), cables, substations, and an associated Battery Energy Storage System (BESS); the eight work nos. were identified, and the large areas of mitigation and enhancement were emphasised.

1.4.4 It was confirmed that the Order limits totalled 1,764 ha, with approximately 550 ha dedicated to mitigation/enhancement, and that an 800 MW AC grid connection has been secured at National Grid's Staythorpe substation, with a target energisation date of 2028, aligning with Clean Power 2030 and draft NPS EN-1/EN-3.

1.4.5 *Miss Sarieva (Applicant)* set out that in order to optimise the grid connection and to make the proposed development as optimal as possible, an overplanting ratio of 1.4 has been targeted for over-sizing the AC capacity, resulting in a direct current (DC) capacity of 1,120MW. This was principally to account for any panel degradation and the latitude and location of the proposed development, an approach which is supported by NPS EN-3.

Site Selection and Design Evolution

1.4.6 *Miss Sarieva (Applicant)* advised that to deliver 1,120MW, a land take of approximately 2000 hectares had been targeted and, as set out in policy,

solar projects should be located close to the grid connection. This was therefore the starting point. Other factors included irradiance and topography, public rights of way, flood zones, avoiding specific land designations and higher grades of agricultural land and minimising effects on residential properties and settlements.

1.4.7 Design evolution was carried out in 6 stages; it was an iterative process informed by policy criteria, but also following extensive consultation at different stages:

- Stage 1 – Defining Search areas
- Stage 2 – Refining the search areas and targeting parcels of land
- Stage 3 – Land assembly
- Stage 4 – Devising the Order Limits, including indicative areas for solar PV and mitigation for scoping, which formed the basis for non-statutory consultation
- Stage 5 PEIR – Devising the PEIR Order Limits and preliminary Work Areas, and a preliminary Masterplan. This iteration included Biodiversity Park in the name of the Order, highlighting the Applicant's commitment to Biodiversity.
- Stage 6 – Final iteration of the Order Limits and design for the DCO submission, based on statutory consultation.

1.4.8 In terms of alternatives, *Miss Sarieva (Applicant)* confirmed that these were set out in **ES Volume 2, Chapter 4: Alternatives [EN010162/APP/6.2.4]** [APP-047].

1.4.9 *Miss Sarieva (Applicant)* concluded by setting out that the Applicant has complied with all relevant policy in relation to site selection and good design, and the development makes a significant contribution to Clean Power 2030 by delivering 800MW by 2028. Environmental effects are also minimised and significant BNG will be delivered.

1.4.10 *The ExA* queried that to deliver 800MW AC, the proposed development would need to provide an installed capacity of around 1,120MW DC, based on a ratio of 1 to 4 for overplanting and it has been assumed that 4.5 hectares would be needed to generate 1MW and therefore 2000 hectares in total. Dr McGeehan asked the Applicant to help *the ExA* understand a little more about how those figures had been arrived at.

1.4.11 *Miss Sarieva (Applicant)* set out that the starting point was the 800MW grid connection contract that the Applicant has with National Grid. From there, the Applicant's target ratio of 1.4 was determined, with reference to the degradation rate of the panels and the latitude of the location. For this area, 1.4 is a relatively standard market assumption.

1.4.12 *The ExA* sought to clarify that the assumptions, particularly around the land area required for 1MW of solar, were based on the 800MW starting point and the overplant ratio of 1.4.

1.4.13 *Miss Sarieva (Applicant)* confirmed that that was correct, because in order to make the 800MW optimal, the Applicant needed more land for the 1,120MW. So, the starting assumption was bigger than what the Applicant thought was

needed. It was pointed out that as part of the design process, some land had been removed due to environmental constraints and factors such as buried archaeology and flood risk. The assumption is very much consistent with what is set out in EN-3, which references 2 to 4 acres per megawatt.

1.4.14 *The ExA* queried how the proposed development would provide secure and clean energy for approximately 400,000 homes and how the installed capacity related to that number of homes.

1.4.15 *Miss Sarieva (Applicant)* confirmed that, broadly, you take DC capacity multiplied by the proposed development's yield (known as the P50 yield) which returns the GW/hrs per year. This is then divided by 2,700kWh of electricity per year for the average household in the UK.

1.4.16 *The ExA* asked for a note of how the figures have been derived and no. of homes determined, which *Miss Sarieva (Applicant)* confirmed would be provided.

1.4.17 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 1 below.*

1.4.18 *The ExA* set out that in ES Chapter 4: Alternatives, it is acknowledged that improvements in panel efficiency over the years is a factor that has enabled the Applicant to consolidate the design and reduce land take. It was asked how ongoing efficiency gains impacted the assumption that approximately 4.5 hectares would be needed for 1MW and whether this had been factored in.

1.4.19 *Miss Sarieva (Applicant)* responded that the land take proposed is the optimal land take, taking into consideration available optimisations in the recent years and that the panel technology at the moment is more efficient in terms of the MW/hr output. In terms of land take, what the Applicant is proposing is accurate with reference to the latest design efficiencies.

1.4.20 *The ExA* queried how the Applicant could factor in the efficiencies that continue to be realised as technology improves.

1.4.21 *Mr Nesbit (Applicant)* suggested that the ExA was referring to technology advancement and technology choice, setting out that it certainly had been possible throughout the course of pre-application to adapt to what was available on the market and how that has shifted. It was emphasised that it is important for applicants to be able to maintain flexibility in terms of technology choice and what is the best technology solution for a project is not necessarily the highest watt panel, which depends on a number of factors. The way this is managed in this application is by proposing parameters that are set to accommodate future technology choice. There may be increased efficiency by the time the project is constructed, which is a relatively short period of time bearing mind when the grid connection is available. The project is up-to-date in terms of design at the moment and the 1.4 overplanting ratio encompasses that technology choice at the moment.

1.4.22 *Simon Betts (NSDC)* asked whether there was an ability or mechanism within the DCO to potentially scale back the scheme, if changes in

technology can be realised because this also relates to some of the points in terms of environmental impacts and use of BMV land.

1.4.23 *Anthony Northcote (JPAG)* referred to the Applicant being 'wedded' to the 800MW grid capacity but raised that the Applicant has not in any way considered aggregating that across different projects – a reasonable alternative of sub-aggregation had not been considered and that is something that specifically should be considered. Site selection choices were also questioned, suggesting that 15km from the grid connection was unnecessarily close and that other schemes, e.g. West Burton, have connections much further away. Not crossing the River Trent was also questioned. The fundamental point for JPAG was that site selection was considered robust – it was suggested that the process had not been proportionate to the scale of development and the Applicant was aiming to retrofit criteria for choices of land take.

1.4.24 It was further raised that the Applicant set out in the PEIR that flood risk was a very significant factor but that if that were the case, the Applicant would not have taken out a large part of the 'doughnut' in the south and north Muskham areas that were in flood zones. It was suggested by *Mr Northcote* that removing areas after PEIR is not sufficient; it should have been in a criteria fundamental to the Applicant's starting point.

1.4.25 It was submitted that, overall, very serious doubt is cast on whether the Applicant's site selection methodology had following the correct procedure – it has been led by the land available to the Applicant, who have then tried to fit criteria relate to that.

1.4.26 *The ExA* advised that alternatives would be considered later this afternoon and asked the Applicant to respond to Mr Betts in relation to 'future proofing' the land take area first, before addressing any general statements to make in response to Mr Northcote.

1.4.27 *Mr Nesbit (Applicant)* responded to Mr Betts' first point by setting out that the overplanting ratio was indicative – it would be achievable within the design parameters but it was at the lower end of the scale in terms of potential overplanting available and of which many schemes would take advantage. It is not something the Applicant would seek to fix, which was important because the final electrical design of the scheme had not yet been completed. That will be a process of optimisation and finding the right technology – finding the right balance to take full advantage of the grid connection and overplanting is part of that exercise, as is the design of the ultimate BESS.

1.4.28 On the point of designing to reduce solar, it was suggested that that would be counterproductive. In terms of a design development that is being constructed, it was submitted that it would not be reasonable to be looking to take out panels and replace them with higher rated panels or redesign the scheme midway through its operational period. Mr Nesbit suggested that this would not be an economic way to proceed or appropriate. The scheme had to be designed to take best advantage of the grid connection, which would be done through a choice of technology at the relevant time. This may well change but has to fall within the project's parameters.

1.4.29 In relation to site selection and alternatives, Mr Nesbit set out that, broadly, there were some important considerations in relation to the viability and cost of a project. Firstly, the further away from the grid point, the more expensive the grid solution would be, which would affect the overall viability of the project – as would options such as crossing the River Trent.

1.4.30 It was outlined that these matters were set out in the Alternatives chapter of the ES and that they had been considered, leading to the project now being examined.

1.4.31 *The ExA* moved on to discuss design parameters, summarising that the Design Approach Document sets out that the project-specific design principles were based on the National Infrastructure Commission's overarching principles of climate, people, places and value. The **Design Approach Document [EN010162/APP/5.6A]** also refers to the good design criteria and guidance set out in EN-1 and EN-3. It was suggested that the proposed development had evolved around the availability of land and that some parties to the examination had suggested that site selection had been driven by landowners.

1.4.32 Noting the criteria on good design in EN-1, it was requested that the Applicant be clearer about how they have sought to embed good design within the development of the application; for example, had a design champion been appointed or had a design panel been used to maximise the value provided by infrastructure, as set out in EN-1?

1.4.33 *Miss Sarieva (Applicant)* advised that in terms of good design principles, the design process was iterative and responsive in the context of sensitive receptors, environmental surveys and stakeholder feedback. It was outlined that the aim was to balance maximising energy generation with minimising and mitigating adverse effects, in addition to providing environmental enhancements, in line with NPS EN-1.

1.4.34 In terms of key design principles, these included: climate – contributing to net zero, minimising emissions and adapting to climate change; people – having open communication and regular consultation and seeking voluntary agreements when taking land; places – considerations included the design of enhancement areas, as well as the recreational routes being provided. It was emphasised that the project was also providing 27 new permissive routes to enhance connections between existing rights of way and to enable access to previously unavailable green space; and value – this included measuring performance and encouraging local engagement.

1.4.35 In terms of a design champion, it was noted that the Applicant had a specific team working on the design masterplan, which included the masterplan lead working with all other disciplines, such as: flood risk, ecology and other disciplines which have spatial implications, in order to find the optimal solution and to deliver the proposed development in the best possible way.

1.4.36 *The ExA* raised that they did not have a sense of how the design process has been informed from day one and raised that the **Design Approach Document [EN010162/APP/5.6A]** was not clear in that regard. The ExA

confirmed they would be happy to receive more information on that in written form, which the Applicant confirmed would be forthcoming.

1.4.37 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 2 below.*

1.4.38 *The ExA* then referred to the concept design parameters and principles document, which sets out the technical design parameters that have informed the design and EIA and which is to be secured by a requirement in the DCO. The ExA asked how the principles of good design would continue to inform the decision-making process post-consent.

1.4.39 *Matthew Sharpe (Applicant)* raised that a key point was the parameter-based approach that has been adopted by the Applicant. The site selection criteria and the principles of good design set out in the **Design Approach Document [EN010162/APP/5.6A]** explains the design process and that the purpose of the concept parameters and principles set out in the concept design parameters and principles document are intended to ensure that those parameters that are important to deliver a well thought through scheme are followed through into the detailed design process. Securing those principles through the **Draft Development Consent Order [EN010162/APP/3.1B]** is how the Applicant will ensure good design is embedded at the later stage.

1.4.40 *The ExA* asked for more assurance that the post-consent process will be more informed by the principles of good design than the concept design parameters and principles document suggests, and invited a written note on the same, which the Applicant confirmed would be provided.

1.4.41 The final issue raised by *the ExA* was the layout of the development and the fact it differs from some other large scale solar projects in the UK, i.e. it was not one that uses continuous fields but a number of islands of land connected by fields, as set out in **ES Volume 2, Chapter 4: Alternatives [EN010162/APP/6.2.4]** [APP-047], paragraph 100. The Chapter concludes that this approach leads to lower overall environmental impacts. Interested parties have raised layout concerns, particularly that the scheme would arc around a number of settlements and the Applicant was asked to respond to those concerns.

1.4.42 *Mr Nesbit (Applicant)* advised that the approach was that rather than simply identifying a piece of land that was an appropriate size, close to the grid connection, that could also be assessed and found to be acceptable, the Applicant instead looked for suitable land, using the identified criteria, across a wider area, with a view to finding the best sites and locations from an environmental perspective but also that met the technical requirements of the proposed development. This approach led to the formation of the project that is now being examined.

1.4.43 It was accepted that some elements of the proposed development were closer to certain communities than if it were located in a single location but that did not mean that either approach was better or worse. Rather, the approach that has been taken is to find the right sites, to look at them in

terms of the identified criteria and let that approach lead the design process rather than a single block of land.

1.4.44 It was clarified that the approach was design-led, rather than simply looking at a single block of land and judging it by how many communities are close-by.

1.4.45 *Mr Northcote (JPAG)* raised that the scale of the proposed development amounts to 181 square kilometres, which was considered to be very large. It was also outlined that centre of the 'doughnut' shape of the layout is filled by other permitted solar and BESS schemes. It was suggested that *the ExA* should not lose sight of the cumulative impact of those projects, in addition to the present scheme.

1.4.46 *Mr Northcote* raised that the rationale as to why certain land had been discounted remained unclear to him and suggested that it would be helpful to *the ExA* to understand the rationale behind the discounting of land as much as the rationale behind the land that had been chosen.

1.4.47 *Mr Nesbit (Applicant)* replied on the topic of site selection, submitting that it was not an exercise of the Applicant justifying every single piece of land not used, which would be tortuous and not particularly helpful. The application is presented on the basis that the site selected is suitable, resulting from a sensible and logical approach to site selection supported by policy and that the purpose of the examination was to discuss the impacts and benefits of that.

Consideration of Alternatives

1.4.48 *The ExA* referred to **ES Volume 2, Chapter 4: Alternatives [EN010162/APP/6.2.4]** [APP-047] and asked the Applicant to provide a further explanation as to why a smaller solar park would not be financially viable.

1.4.49 *Mr Nesbit (Applicant)* responded by setting out that there was a clear policy initiative to take best advantage of grid connections and, given they are in short supply, they needed to be optimised as far as possible when granted. It was suggested that looking at smaller sites is contrary to government policy in terms of maximising both the available grid connection and electricity generation. A smaller site would not meet the policy requirements and would not be an effective use of the grid connection.

1.4.50 Mr Nesbit added that having identified a larger site and one that meets the grid connection requirements (and ideally allows that to be exceeded through overplanting), in the Applicant's view this approach is an appropriate response to policy.

1.4.51 It was accepted that it remained for the Applicant to demonstrate that the impacts of a larger scheme would be acceptable by reference to national policy and the tests therein but the objective was not to find a smaller site.

1.4.52 *The ExA* queried whether scaled back biodiversity enhancements would be a viable alternative and whether that would be considered by the Applicant.

1.4.53 *Mr Nesbit (Applicant)* responded by setting out that biodiversity enhancements were something that the Applicant wanted to maximise, as it is seen as an important benefit of the proposed development and one which justified the land within the Order limits. The concept of providing fewer benefits was not part of the Applicant's approach – whilst this would increase the proposed development's footprint, it would do so in a way that contributed significantly as a benefit.

1.4.54 *The ExA* asked whether the project would be viable without the BESS.

1.4.55 *Mr Nesbit (Applicant)* advised that he would need instructions on that point but that the approach taken by the Applicant was in accordance with national policy, which recognises the benefits of electricity storage co-located with renewable energy projects – particularly solar, where there is intermittent generation. Mr Nesbit added that the Applicant would have to manage the ongoing needs of the grid and so in terms of considering a project with or without a BESS, whilst he could not comment on viability as such, it was an opportunity that the Applicant considered important in terms of maximising the grid connection, the benefits of which are outlined in national policy. The Applicant to note this would be confirmed in writing.

1.4.56 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 3(i) below.*

1.4.57 *The ExA* asked whether the inclusion of a small nuclear modular reactor would still be considered unviable, as set out in Chapter 4 of the ES. The Applicant to note this would be confirmed in writing.

1.4.58 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 3(ii) below.*

1.4.59 *Simon Betts (NSDC)* raised a query in the context of the obligation in the EIA Regulations to consider alternatives, in that Chapter 4 of the ES focuses on constraints but is not clear in its spatial presentation of genuine alternatives, as it uses heat maps to show preferred areas, for example. Mr Betts considers that this approach does not allow the areas that have been ruled out to be presented very well.

1.4.60 *Mr Nesbit (Applicant)* submitted that it was a complex exercise and is difficult to convey, applying all of the different factors that go in to site selection. Heat mapping was one way to do it and it would be difficult to show extensively across an area which sites were rejected and the reasons for that, without presenting something that was overly complicated and difficult to interpret.

1.4.61 *Mr Northcote (JPAG)* returned to the topic of the BESS and raised that the Applicant had now acquired the permitted BESS scheme at Staythorpe, which is currently under construction. *Mr Northcote* set out that he understood that EDF Energy had signed a long-term arrangement with the Applicant to operate that BESS and queried what impact this would have on the Applicant needing, what he said, would be a third BESS scheme.

1.4.62 *Mr Nesbit (Applicant)* clarified that he would not be commenting on the commercial arrangements mentioned by *Mr Northcote* but in terms of the

BESS sites, he had already mentioned that national policy seeks to highlight the benefits of such battery energy storage schemes and, further, there are a range of different functions of a BESS in relation to how they interact with the grid. The project mentioned by *Mr Northcote* would have a particular function, whereas the BESS in the Applicant's proposal is predominantly to take power from the solar panels and store it at times of over provision of electricity on the grid, so it can be released at times when it is most needed.

1.4.63 This was in simple terms and there are a lot of complexities that sit behind that in terms of the full utilisation of batteries on the grid and the range of tasks that they perform over different periods. From the Applicant's perspective, government policy advises that all opportunities to develop projects that assist balance the grid should be taken.

1.4.64 *The ExA* asked the Applicant to provide a summary of how the BESS would operate and the benefits and advantages it would include. The Applicant confirmed that this would be provided in writing.

1.4.65 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 4 below.*

1.4.66 *Paul Williams (Norwell SFSG)* advised that they would be submitting a report on the proposed development proceeding without a BESS, along with a report on generating capacity load factors.

1.4.67 *Mr Northcote (JPAG)* clarified that the reason it was important for the ExA to consider the permitted BESS scheme was because it is within the Order limits, but not part of the Scheme.

1.4.68 *Mr Nesbit (Applicant)* responded first to Mr Northcote's comments and advised that the reason for the Order limits overlapping with the BESS scheme consented under the Town and Country Planning Act 1990, was because it was intended that one of the grid connection options for the DCO scheme was to utilise the infrastructure that would be associated with the TCPA BESS. The TCPA BESS would have a substation that could be efficiently used by the proposed development to connect into the grid.

1.4.69 It was outlined that this would have the advantage of not having to recreate that facility elsewhere, in addition to there being an efficiency and cost advantage. The extent to which this would be possible depended on timing and the TCPA BESS being fully constructed and available. The other option would be to go directly into the Staythorpe grid and both options were presented as part of the application.

1.4.70 Mr Nesbit further explained that the reason the Order limits wrap around the TCPA BESS site is because there is some degree of flexibility in how it was constructed and a desire to ensure that any necessary works to enable the Applicant to connect could be accommodated within the Order limits.

1.4.71 With regards to Norwell SFSG's comments, Mr Nesbit confirmed the Applicant would review the reports when available and respond in writing.

BMV Land

1.4.72 *The ExA* queried why avoidance of BMV land when scoping the Order limits for the proposed development (stages three and four, as set out in**ES Volume 2, Chapter 4: Alternatives [EN010162/APP/6.2.4]** [APP-047]) did not appear to have been described in detail. Mr Hobbins asked whether avoidance of BMV land, in particular grade two, was part of the stage three and four process.

1.4.73 *Miss Sarieva (Applicant)* confirmed that BMV land was one of the key site selection criteria from the outset and that the proposed development would be sited, so far as possible, on lower grades of BMV land, as shown on the agricultural land classification plans in the soils chapter of the ES.

1.4.74 *Tony Kernon (Applicant)* added that there are difficulties with published maps, which make it very difficult to identify land quality and particularly BMV and the sub-grades. The only way to correctly identify what the land quality was, would be to undertake physical surveys, which would require landowner consent. As such, to do so would be slow and expensive. Mr Kernon explained that in any event, land quality would not be affected by the installation of solar panels and, given that the proposed development is temporary, the land would be restored following decommissioning.

1.4.75 In terms of land use, Mr Kernon confirmed that there is no policy for producing food and so when assessing the importance of BMV land and where it fits into the design of a scheme, the lack of policy on the use of BMV land needed to be borne in mind.

1.4.76 Mr Kernon submitted that the land classification maps need to be treated with a great deal of caution due to their age.

1.4.77 Mr Kernon set out that Natural England had requested more information about micro-siting, which concerned situations where components of the proposed development would physically affect the soil, for example substations or where fixed equipment, such as roads and tracks were to be constructed, and whether there had been a consideration as to the extent to which land quality may be affected. Mr Kernon confirmed the Applicant was in the process of providing the information requested by Natural England.

1.4.78 *The ExA* asked the Applicant for further detail of micro-siting in relation to BMV land and respond to Natural England's comments about the effects of woodland planting on BMV land. The Applicant to note this would be confirmed in writing.

1.4.79 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 5 below.*

1.4.80 *Simon Betts (NSDC)* raised, that NPS EN-1 and EN-3 set out a preference for using poorer quality agricultural land and that NSDC had expressed concern since statutory consultation stage about the loss of BMV land proposed by the proposed development. 62% of land included in the scheme is BMV and of that 62%, 8% is grade 2, which should be avoided. Only

grade 3a, 3b or lower should be considered on the basis that there is a potential loss to long term food production.

1.4.81 Further concern was expressed that there is no real detailed analysis on BMV alternatives within **ES Volume 2, Chapter 4: Alternatives [EN010162/APP/6.2.4]** [APP-047].

1.4.82 *Mr Kernon (Applicant)* responded, with reference to Natural England statistics, that half of the Newark and Sherwood District is BMV land and that this does not come in identifiable blocks – the grading is intermixed across all kinds of areas. In relation to grade 2, it was suggested that these areas were likely to form part of a bigger field and, from a farming point of view, as well as from a scheme design point of view, it would be illogical to leave areas of grade two within panel areas or on the edges of panel areas, on the assumption that a farmer might go back and farm those fields afterwards – farmers farm square or rectangular fields, not parts of fields interspersed with solar panels.

1.4.83 Further, Mr Kernon suggested that the remaining fields within the Order limits are mostly cereals and bread crops and there is not much yield difference between grades 2 and 3 for those types of crops. Ultimately, it was submitted that agricultural land availability or food production would not be impacted in any significant way.

1.4.84 *Mr Northcote (JPAG)* supported NSDC's view and also added that the written ministerial statement needs to be taken into account which says that BMV land should be avoided when undertaking site selection.

1.4.85 *Sam Franklin (NSDC)* raised that he considered that the Applicant had not done a very good job in terms of site selection. He pointed out that, given the Applicant admits the District is 50% BMV land, the Order limits cover 62% BMV, which he suggested showed the Applicant had not done a good job in identifying poorer grade land.

1.4.86 *Miss Sarieva (Applicant)* responded by submitting that it was important to acknowledge that agricultural land classification was one of the many site selection criteria as set out in policy. Whilst the Applicant had tried to avoid BMV land, there were other factors to consider, such as access and flood risk. It should also be noted that some of the grade 3b BMV land had to be removed due to being located in flood zone 3. This approach has allowed the Applicant to achieve no above ground infrastructure in flood zone 3.

1.4.87 *Mr Kernon (Applicant)* added that an element of realism had to be applied in terms of how easy it was to find the various grades of BMV land. All of the figures are based on provisional maps but to ground truth the data from the provisional maps would take a disproportionate amount of work. So, whilst there will be poorer quality land, the problem is finding it and, in any event, it was considered unlikely that a large block of poorer quality would be identified, as all of the evidence and data points to an interspersed pattern of different grades of BMV.

1.4.88 *Mr Williams (Norwell SFSG)* asked the Applicant to confirm how many fields and what acreage have been ALC tested that do not appear in the Order limits at present.

1.4.89 *Mr Kernon (Applicant)* confirmed that an area of 2,850 hectares was surveyed.

1.4.90 *A resident* raised a concern that from the community's perspective, the inability to farm land for 40 years is concerning and will change the whole outlook of the community.

1.4.91 *Mr Kernon (Applicant)* reiterated that there is a distinction between whether the land quality would be affected compared to land use. Whilst land use, in terms of ability to undertake arable farming would be affected, the land's underlying soil quality would not become poorer as a resource. Additionally, whilst arable farming would not be possible during the operational lifetime of the development, an alternative type of farming, such as sheep farming, would remain possible.

The Role and Status of NG+

1.4.92 *The ExA* asked for clarity from the Applicant as to whether the NG+ scheme could be afforded any material weight in the decision-making process, given that the environmental and socio-economic enhancement measures that are referred to would only proceed if the proposed development proceeds, and that the planning statement noted that such measures would not be secured as part of the DCO application.

1.4.93 *Mr Nesbit (Applicant)* confirmed that it is correct to say that the NG+ measures are not part of the DCO proposals; they do not feature in the Works packages and they are not set out in the description of development. They are entirely separate and offered as a community benefit, which the Applicant has been open about with members of the public. It was confirmed that the Applicant is not asking *the ExA* to attach any weight to them and, as they do not form part of (nor are they secured by) the DCO, the Applicant could not ask *the ExA* to do so.

1.4.94 *The ExA* asked the Applicant to review how the planning statement refers to the NG+ benefits, which was confirmed by Mr Nesbit.

1.4.95 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 6 below.*

1.4.96 *Mr Northcote (JPAG)* raised that there were 3 elements falling under this topic: NG+, the pre-existing flood alleviation proposals, together with the proposals for education and the academy. Mr Northcote suggested that all of these were integral and referred to in documents produced throughout the consultation process by the Applicant. He concluded that he considered their inclusion to be misleading and agreed that no weight should be afforded to any of the matters listed, citing a Supreme Court judgement in support.

1.4.97 *Mr Nesbit (Applicant)* responded by confirming that these items were presented as community benefits and reiterated that the Applicant was not

asking the ExA to attach any weight to them. However, there were other benefits within the application, to which the Applicant would be asking the ExA to attach weight and, to the extent that this division needed to be made any clearer, this would be addressed in the note being provided relating to the community benefits.

1.5 AGENDA ITEM 3.2: CLIMATE AND SUSTAINABILITY

Carbon Emission Savings

1.5.1 *The ExA* started by referring to the Norwell SFSG's relevant representation, where it referred to the Applicant having overstated the greenhouse gas emission savings, before concluding that the scheme would actually add to global warming by a significant amount. Dr Brewer asked the Applicant to briefly explain the emissions analysis as set out in Chapter 15: Climate Change of the ES.

1.5.2 *Paul Phillips (Applicant)* explained that in relation to carbon emission savings, the Applicant engaged with the Department for Energy Security and Net Zero in June 2024 and was advised to use the marginal long run carbon intensity for generation, including the projections of this for future years, per the Treasury Green Book appraisal process, resulting in almost negligible emissions from around 2035. It was confirmed that the long run marginal carbon intensity of generated electricity in 2035 is predicted to be 12% of the 2025 value because the process assumes substantial implementation of renewable energy and other low carbon generation.

1.5.3 Dr Phillips continued by setting out that the Applicant's assessment assumes the development's solar energy will displace electricity from the grid, with emissions at a future projected grid carbon intensity, which decreases over time. Dr Phillips confirmed that this approach is consistent with the revised approach taken for the Stonestreet Green Solar DCO application (revised at the request of *the ExA* part way through its examination). This differed from previous Solar DCO applications, which used present day or construction year carbon intensity from combined cycle gas turbine electricity, resulting in a much higher carbon intensity from which to calculate carbon emission savings.

1.5.4 Dr Phillips set out that the emission savings from the export of electricity from solar for the proposed development are approximately 0.7 million tonnes of carbon dioxide equivalent. It was further explained that this method involved an element of circular argument, in that the future projected grid carbon intensity could only be realised if substantial solar generation, such as the proposed development, is implemented: if renewable and low carbon electricity generation projects were not granted consent, the future carbon intensity of the grid would be higher than projected.

1.5.5 Alternative calculations for the proposed development were presented by Dr Phillips, as detailed in Section 15.4.1 of **ES Volume 2, Chapter 15: Climate Change [EN010162/APP/6.2.15]** [APP-058] and which used the grid average carbon intensity from 2024, being a more factual report based on data rather than a future projection. This approach (which has, until recently, been used by other solar DCO application) provides a carbon intensity that is

substantially more conservative than assuming a saving relative to combined cycle gas turbine electricity generation emissions and which results in greater savings. For the proposed development, it was confirmed that using this method, the emission savings would be approximately 6.5 million tonnes of carbon dioxide equivalent.

1.5.6 Dr Phillips also explained the assessment of savings related to the export of electricity from the BESS, based on the assumption that batteries will displace electricity generated by gas combustion. Calculated emission savings from batteries was confirmed to be approximately 3.2 million tonnes of carbon dioxide equivalent.

1.5.7 *The ExA* recapped that using the Applicant's worst case scenario, the benefit of solar PV tends to drop over the next five to ten years because the grid will be highly decarbonised and will be using renewable sources. However, by contrast, battery storage essentially stays the same because the assumption is that it will always displace combined cycle gas turbine peak shaving generation. Dr Brewer asked if that was a fair summary, which was confirmed by Dr Phillips.

1.5.8 The ExA proceeded to explore the figures specified in the ES for the proposed development's CO_2 savings from the BESS and Solar PV (being approximately 3.2 million and 0.8 million tonnes of CO_2 equivalent over the project lifetime) and sought clarification from the Applicant that in EIA terms, this constitutes a significant benefit, which Dr Phillips confirmed.

1.5.9 The ExA asked how the benefit would be secured in the DCO.

1.5.10 *Dr Phillips (Applicant)* explained that the Applicant had taken a worse case assessment based on the maximum parameters, which were secured through **Concept Design Parameters and Principles [EN010162/APP/7.14A]**. However, the savings would not be in the Applicant's control because they are a result of the electricity the proposed development would displace or are compared against in the baseline scenario.

1.5.11 *The ExA* asked whether the Applicant would accept a requirement in the DCO which specified that the batteries may not export electricity below a specified threshold.

1.5.12 *Dr Phillips (Applicant)* responded that it was not considered possible to prove what electricity is displaced and it is not the case of one being switched off for another to be switched on.

1.5.13 *Mr Nesbit (Applicant)* clarified that the Applicant would not secure GHG benefits directly, as some sort of minimum requirement. The proposed development had been designed to operate in a particular way at a particular capacity to meet the grid connection and what is presented in the ES Chapter 15 is an assessment of that design.

1.5.14 *The ExA* queried whether the assumptions in the ES Chapter 15 had been 'peer reviewed', to which *Dr Phillips (Applicant)* confirmed they had not.

1.5.15 *The ExA* then queried whether the potential for other types of renewable energy sources to come forward to meet peak demand in the future had been considered in any way, referencing demand issues set out in Clean Power 2030. *Dr Phillips (Applicant)* confirmed they had not.

1.5.16 *The ExA* moved on to query the position if the Applicant lost 25% of the BESS benefit and whether, in that case, the whole life benefit would disappear. *Dr Phillips (Applicant)* confirmed that is correct with the numbers the way that they are at the moment.

1.5.17 *The ExA* asked whether that would change the conclusion in terms of the EIA assessment; *Dr Phillips (Applicant)* said that it would but the assessment would have to be carried out again by looking at the applicable criteria – it was not possible to give a revised conclusion on the spot.

1.5.18 *Dr Phillips (Applicant)* also refuted the ExA's suggestion that the proposed development's BESS would be competing with others that have been approved or are under construction, meaning the full cost savings may not be realised. This was on the basis that over 40% of electricity generation was from fossil fuel sources as of 2023 [post-hearing correction: the correct number is 36%, as stated in paragraph 70 of **ES Volume 2, Chapter 15: Climate Change [EN010162/APP/6.2.15]** [APP-058] and so zero/low carbon supply at peak times is a long way off.

1.5.19 *Mr Williams (Norwell SFSG)* questioned the Applicant's adoption of the 354 figure for the next 40 years and raised the point that there is already 940 MW hours of consented BESS just in the Staythorpe area, with 351 GW hours in scoping nationwide. Mr Williams then explained that in Norwell SFSG's forthcoming report, based on the Applicant's highly unlikely scenario with pegged intensity, the proposed development would be responsible for 1,099,611 tonnes of carbon. In Norwell SFSG's own scenario, this goes up to 2.24 million and it is 2.7 million using the Department of Energy Security and Net Zero's.

1.5.20 Mr Williams also advised that they had looked at the position with the BESS removed and the PV panels going straight to grid. They could not find any solution where there was a net saving of CO_2.

1.5.21 *Mr Betts (NSDC)* raised that they would like the Applicant to commit to some carbon emission savings as part of the construction phase, possibly in terms of local manufacturing.

1.5.22 *Mr Nesbit (Applicant)* advised that sourcing construction locally would be difficult to secure via the DCO, in terms of agreeing in advance precisely how the Applicant would construct the proposed development and from where you would source resources. As such, this would not be proposed as a requirement.

1.5.23 Mr Nesbit confirmed that there was Requirement 17, being the supply chain, skills and employment plan, which would capture certain benefits but that locking in a particular supplier for technology or similar would not be something the Applicant would be able to do.

1.5.24 *Mr Sharpe (Applicant)* noted, in relation to BESS need comments, that it had been alluded to that the pipeline suggests that the country is comfortably meeting what is required to meet the aims of Clean Power 2030. Mr Sharpe submitted that this position is not consistent with the Government's Clean Power 2030 Action Plan and it is also inconsistent with the draft NPS, which are clear that the nation is not where it should be in terms of delivery of both renewable energy and also supporting infrastructure (which includes the necessary component of battery storage). This is clear both in terms of policy support and Clean Power 2030. Mr Sharpe stated that there is around 4.5GW of installed battery capacity nationwide, whereas there is a need to deliver between 23 and 27GW by 2030. As such, what is in the pipeline does not reflect what can realistically be built by 2030. Mr Sharpe pointed out that the Applicant is in a unique position in terms of trying to meet that urgent and nationally important requirement within the required timeframe.

1.5.25 *Dr Phillips (Applicant)* further contextualised the carbon emission savings, pointing out that the proposed development's savings per MW hour are lower than previous DCOs, due to applying a decarbonised baseline. Additionally, if a CCGT comparator is used, savings per MWh become comparable to previous DCOs that were assessed on the same basis, being approximately 0.28 tCO2e/MWh. It was also highlighted that NPS EN-1 emphasises the need for increased low-carbon generation regardless of net savings comparison. Dr Phillips offered to submit tables and comparisons including carbon budget alignment in accordance with the Stonestreet Green Solar precedent.

1.5.26 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 7 below.*

1.5.27 *The ExA* asked for a statement of common ground to be prepared between the Applicant and the Norwell SFSG.

1.5.28 *Mr Nesbit (Applicant)* asked when Norwell SFSG would be providing their representations, which would be useful to inform the SoCG. *The ExA* would be happy to receive those by Deadline 1 but that they can be uploaded at any time.

1.5.29 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 8 below.*

Household Bills

1.5.30 *A resident* asked what the benefits of the proposed development would be with regards household bills, noting that this is outlined on the Applicant's website as a key benefit.

1.5.31 *Mr Nesbit (Applicant)* responded by advising that as it is not a commitment from the proposed development, it is not something the Applicant can comment on.

1.6 AGENDA ITEM 3.3: BIODIVERSITY AND ECOLOGY

Overview

1.6.1 *The ExA* asked the Applicant to provide an overview of the approach to the biodiversity mitigation and enhancement.

1.6.2 *Mike Gray (Applicant)* provided an overview of the mitigation and enhancement, management plans, the LEMP Timing, and the provision for a steering group. The Development has undergone a lengthy iterative design process which has resulted in a design which has avoided and reduced many potential adverse ecological effects. The design process therefore had a strong influence on which parts of the Order Limits were more or less suitable for development, mitigation and enhancement. Broadly speaking, much of the mitigation and enhancement is provided in Work Area 3, but all of the other work areas may include elements of either mitigation or enhancement.

1.6.3 555 ha has been allocated solely to mitigation and enhancement in Work Area 3, which is almost one third of the total area of the Order Limits. This amount is unprecedented in solar DCOs and reflects a commitment to providing biodiversity enhancement at scale. To put the area into context, it far exceeds the single largest Biodiversity Net Gain providers in Natural England's Biodiversity Gain Sites Register.

1.6.4 A range of factors influenced the selection of areas for development, mitigation and enhancement, including:

- The ecological requirements of important ecological features
- The location of retained and existing important ecological features
- The potential to provide multiple benefits
- The potential to provide benefits at scale
- The practicalities of long-term management, and
- Other environmental considerations

1.6.5 The influential 2010 Making Space for Nature report established the key principles needed to support nature recovery in the UK – Bigger, Better, More and Joined-up habitats – and these also influenced the selection of areas for mitigation and enhancement, especially those that could provide multiple benefits at scale. Such areas were identified early in the design process and retained throughout in the areas around Maplebeck and Moorhouse Beck, and the areas in the south-east of the Order Limits. The provision of habitats away from areas of Development or even off site is now recognised, particularly in the context of biodiversity net gain (BNG), as an effective way to deliver greater benefits for biodiversity.

1.6.6 *Dr Gray (Applicant)* then explained the management plans. Broadly speaking, habitats will be retained, enhanced or created. Retained habitats will be safeguarded through the Development design and by the measures specified in the **ES Volume 4, Appendix A5.3: Outline Construction Environmental Management Plan (CEMP) [EN010162/APP/6.4.5.3A]**, the **ES Volume 4, Appendix A5.5: Outline Operation Environmental Management Plan (OEMP) [EN010162/APP/6.4.5.5A]** , and the **ES Volume 4, Appendix A5.6: Outline Decommissioning and Restoration Plan (DRP) [EN010162/APP/6.4.5.6A]** and **ES Volume 4, Appendix A5.2: Outline Construction Traffic Management Plan (CTMP) [EN010162/APP/6.4.5.2A]**.

1.6.7 The **ES Volume 4, Appendix A5.1: Outline Landscape and Ecological Management Plan (LEMP) [EN010162/APP/6.4.5.1A]** provides the methods by which habitats will be enhanced or created and specifies monitoring and remedial measures through a programme of adaptive management. **ES Volume 4, Appendix A5.1.1: oLEMP Appendix [EN010162/APP/6.4.5.1.1A]** provides the LEMP Masterplan showing the locations of the habitats. The LEMP also takes account of the requirements of other environmental disciplines such as Landscape and Visual. Consequently, the role of LEMP is multifaceted, but broadly speaking it is to deliver mitigation commitments of the Environmental Statement, to provide biodiversity enhancements, and to deliver biodiversity net gain.

1.6.8 *Dr Gray (Applicant)* advised that the LEMP will function during all stages of the Development. Some measures will be implemented in the pre-construction period, but most will be implemented during the construction phase and will continue to be managed throughout the 40-year operational phase. Many habitats will revert to their baseline condition during decommissioning, but those that will be retained will be safeguarded through the measures in the Outline Decommissioning and Restoration Plan.

1.6.9 The LEMP also includes a provision for a Steering Group to advise on the development and implementation of the LEMP. The Steering Group has met three times since November 2024 with further meetings planned throughout all future stages of the Development.

1.6.10 As a consequence of the design work and the mitigation and enhancement secured in the management plans, no significant adverse ecological effects are predicted in **ES Volume 2, Chapter 8: Ecology and Biodiversity [EN010162/APP/6.2.8]** [APP-051]. The Development will also enhance biodiversity through a range of beneficial effects, some of which will be significant in EIA terms, whereas other important benefits will be more generalised but are not readily captured by the EIA process or the biodiversity net gain metric.

Biodiversity Mitigations and Enhancements

1.6.11 *The ExA* asked for clarity on the difference between mitigation and enhancement within the proposals, including how they relate to the Landscape and Ecology Masterplan (LEMP) and the overall masterplan, and where they sit within the mitigation hierarchy.

1.6.12 *Dr Gray (Applicant)* explained that nearly all habitats provide some form of enhancement to some ecological feature, but only some habitats also provide mitigation, making the two concepts difficult to disentangle.

1.6.13 He provided examples to illustrate the distinction:

- **ES Volume 2, Chapter 8: Ecology and Biodiversity [EN010162/APP/6.2.8]** [APP-051] identified no woodland loss, and therefore no need for compensatory woodland planting. The proposed 30

hectares of woodland creation on the landscape plans therefore represents enhancement.

- Hedgerow planting provides both compensation and enhancement. Approximately 1 km of species-poor hedgerow may be removed in a reasonable worst-case scenario, but instead of 1:1 replacement, the proposal is to plant 49 km of species-rich hedgerows.

1.6.14 *The ExA* sought clarification and summarised their understanding that enhancement effectively accompanies mitigation, functioning almost as a natural by-product of the mitigation measures.

1.6.15 *Dr Gray (Applicant)* confirmed this and emphasised that this is now recognised as good practice, where mitigation measures are taken further to provide additional ecological benefits where possible.

1.6.16 *The ExA* asked the Applicant to clarify the provision of the long term management for the measures outlined in the oLEMP.

1.6.17 *Dr Gray (Applicant)* responded that the Applicant would be responsible for the implementation of the **ES Volume 4, Appendix A5.1: Outline Landscape and Ecological Management Plan (LEMP) [EN010162/APP/6.4.5.1A]**. It is very likely that specialist contractors will be appointed by the Applicant to undertake the works on site.

1.6.18 *The ExA* noted that the Countryside Stewardship Scheme is one of the measures outlined in the **ES Volume 4, Appendix A5.1: Outline LEMP [EN010162/APP/6.4.5.1A]**. *The ExA* asked the Applicant to provide more detail on the countryside stewardship scheme.

1.6.19 *Dr Gray (Applicant)* explained that the **ES Volume 4, Appendix A5.1: Outline LEMP [EN010162/APP/6.4.5.1A]** is divided into three categories of land management. They include:

- semi-natural habitats such as woodland and grassland creation;
- freshwater habitats, ponds and the riparian corridors;
- agricultural land management

1.6.20 He then explained that the **ES Volume 4, Appendix A5.1: Outline LEMP [EN010162/APP/6.4.5.1A]** includes provision for about 144 hectares of retained arable land. Arable land will be retained but enhanced to benefit ground-nesting and farmland birds, rather than kept in its current use. Many measures come from Countryside Stewardship grants, being evidence-based, familiar to landowners, and effective, making them ideal for achieving habitat goals.

1.6.21 *The ExA* raised questions regarding the grazing regime for the land under the panels. *The ExA* asked Dr Gray for further details on how the grazing would be implemented and managed to avoid potential harmful effects.

1.6.22 *Dr Gray (Applicant)* responded that the proposed grazing regime aligns with conservation grazing principles. He noted that local farmers have dispersed flocks and that the aspiration is to gradually build up the flock within the site over several years.

1.6.23 He further explained that a rotational grazing regime will be implemented. The site is sufficiently large to create a mosaic of grazed and ungrazed areas, which will develop over time, broadly aligning with conservation grazing strategies.

1.6.24 *Mr Sharpe (Applicant)* added to Dr Gray's response, noting that the **ES Volume 4, Appendix A5.1: Outline LEMP [EN010162/APP/6.4.5.1A]** includes sections on roles and responsibilities and on monitoring. He explained that the detailed management and monitoring arrangements will be secured through the detailed LEMP.

1.6.25 There have been discussions with Nottinghamshire Wildlife Trust. A draft of Statement of Common Ground has been provided to them, submitted as **Draft Statement of Common Ground with Nottinghamshire Wildlife Trust [EN010162/APP/8.11]** and the Applicant is working through the points raised in their relevant representation, with progress expected to be reported at Deadline 1.

1.6.26 *The ExA* requested the Applicant to report back on the discussion with NWT on the grazing regime within the SoCG. The Applicant to note this would be confirmed in writing.

1.6.27 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 9 below.*

1.6.28 *The ExA* pointed to the community orchard included in the **ES Volume 4, Appendix A5.1: Outline LEMP [EN010162/APP/6.4.5.1A]**. *The ExA* noted that this plot is separate from other areas of the proposed development, located along the side of the main road, and asked why this site was chosen and how it would be managed. *The ExA* also sought clarification on whether management would involve volunteers or another arrangement.

1.6.29 *Dr Gray (Applicant)* responded that the site selection was a fairly iterative process which was developed in discussion with the local community. The plot is accessible from the road, making it suitable as a community orchard, and is situated between Bathley and North Muskham, serving two local communities while being separate from the main development.

1.6.30 The exact way in which the community can be involved is yet to be determined and would be clarified in the final version of the **ES Volume 4, Appendix A5.1: Outline LEMP [EN010162/APP/6.4.5.1A]**. The Applicant will cover the costs of implementation and any remedial works needed during the orchard's lifespan, but community involvement in active management or ownership is still to be defined.

1.6.31 *The ExA* asked the whether any high-level principles of potential management could be provided to illustrate a strategy over the long term. The Applicant to note this would be confirmed in writing.

1.6.32 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 10 below.*

1.6.33 *The ExA* referred to the oLEMP Masterplan (reference APP 031) Sheet 3. The ExA noted that on the right-hand side of the sheet there is an area of land set aside, partially wooded, which does not appear to be included within the Order limits and is not defined on the plan. *The ExA* asked for clarification on what is envisaged for this area.

1.6.34 *Dr Gray (Applicant)* responded that his understanding is that the area outside the Order limits is an existing Local Wildlife Site and is not captured by the development. He noted it is displayed on the plan for referencing purposes.

1.6.35 *The ExA* sought clarification on what is envisaged on the plot of land that is shown in the oLEMP masterplan but not within the Order Limits.

1.6.36 *Dr Gray (Applicant)* responded that the area outside the Order Limits is an existing Local Wildlife Site which is not captured by the development. It is displayed for reference purposes.

1.6.37 *The ExA* requested the Applicant to clarify the plot of wood pasture on the oLEMP plan A5.1.3 (sheet 3), as well as sheet 5 on wood pasture. The Applicant to note this would be confirmed in writing.

1.6.38 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 11 below.*

1.6.39 *A resident* asked clarification about the community orchard, stating that the community orchard is in Bathley, not in North Muskham. It is a slightly misleading record. He noted that a newly approved Nottinghamshire County Council footpath passes through the orchard site and some maps within the application papers still show old footpaths that no longer exist.

1.6.40 *Miss Sarieva (Applicant)* responded that the Applicant has been in discussion with Dr Gray, and confirmed that the Legal Footpaths Plan was obtained during the latest design iteration. To the Applicant's knowledge, the plans submitted are accurate. If any updates have occurred since, the Applicant will confirm the latest position with Nottinghamshire County Council.

1.6.41 *Liz Hopkins (member of Carlton-on-Trent Parish Council)* queried whether the Applicant's Countryside Stewardship measures can form part of the planning proposals, noting her understanding that existing stewardship schemes cannot be counted toward planning obligations.

1.6.42 *Dr Gray (Applicant)* clarified that the countryside stewardship prescriptions specified in the **ES Volume 4, Appendix A5.1: Outline LEMP [EN010162/APP/6.4.5.1A]** are not being used to generate income for the landowners. These are just the methods by which certain things can be done for skylark and biodiversity. There is no conflict in terms of income with the current landowners or existing stewardship schemes.

1.6.43 *Mr Northcote (JPAG)* raised three points:

- Mitigation vs Enhancement: Many proposed hedgerows are required to mitigate landscape and visual impact, and therefore should not be double-counted as biodiversity enhancement;
- Flooding: Many proposed biodiversity areas lie within flood zones that flood regularly It is unclear whether the proposed habitats are compatible with repeated flooding.
- Land Availability: He referred to land parcel 3092, shown in the Land Plans (APP-018), south-southwest of South Muskham, which is subject to a Section 106 obligation linked to planning permission 06/01180/FULM for compensatory flood storage for a 15-dwelling scheme. *Mr Northcote* noted that the development is being marketed as lawfully commenced. If commencement occurred, the compensatory flood storage must already have been delivered and must be retained in perpetuity. He therefore questioned how the same land can be proposed for a different development, and suggested this raises concerns about whether all land parcels proposed for biodiversity enhancement are actually available.

1.6.44 In response to the flood zone, *Dr Gray (Applicant)* confirmed that the proposed habitats are compatible with their locations in flood zones. Habitat design was informed by hydrologists and aligns with Environment Agency guidance. Proposed habitats are primarily grassland with scattered trees, and no blocks of woodland are proposed in flood-prone areas. Specifications will be adapted to local conditions, including periods of inundation.

1.6.45 *Mr Nesbit (Applicant)* then added that the Applicant will provide a note on the land parcel matter as a written summary note.

1.6.46 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 12 below.*

1.6.47 *Councillor James Campbell*, asked why Nottinghamshire Wildlife Trust was not present. *The ExA* responded that they are statutory consultees and would have been invited; attendance depends on availability.

1.6.48 Councillor Campbell raised concerns that the Rochdale envelope would affect the certainty of mitigation and biodiversity impacts. He requested clarity on the livestock grazing, reiterating that many landowners are already in Countryside Stewardship.

1.6.49 *Mr Nesbit (Applicant)* confirmed that the use of Rochdale parameters is correct and forms the basis of the Environmental Statement. These parameters are clearly defined and supported by a suite of control documents and outline plans that provide the necessary flexibility for later technology choices. All of these would be secured in the DCO.

1.6.50 *Dr Gray (Applicant)* confirmed that the proposed grazing follows conservation principles in the **ES Volume 4, Appendix A5.1: Outline LEMP [EN010162/APP/6.4.5.1A]**, and so are adequate.

1.6.51 *Morgan Hangman (EA)* stated that there is an outstanding issue on flood zones. The EA noted that there is environmental mitigation area and supported the adoption of the Riparian corridor. He sought clarification on

the planting and mitigation proposed to ensure their access for inspection and maintenance during floods is not impeded.

1.6.52 *Mr Nesbit (Applicant)* responded that further detail will come at the detailed design stage, with full consultation as required by the DCO.

1.6.53 *Councillor Campbell* reiterated concerns about the Rochdale envelope, noting that uncertainty over hedgerow placement and fencing removal could affect bat commuting corridors. Solar PV was cited as having potential negative impacts on bat populations.

1.6.54 *Dr Gray (Applicant)* referred to Section 8.9.7 of **ES Volume 2, Chapter 8: Ecology and Biodiversity [EN010162/APP/6.2.8]** [APP-051] for the assessment of effects on bats.

1.6.55 *Mr William (Norwell SFSG)*, referenced GLVIA3 guidance, noting mitigation and enhancement were being conflated in the ES. He supported earlier comments raising this issue.

1.6.56 *Dr Gray (Applicant)* stated he could not comment on LVIA guideline specifics.

1.6.57 *Councillor Campbell* asked whether the Biodiversity Park has been fully budgeted and whether funding would remain fixed or change alongside mitigation measures if plans are altered under the Rochdale Envelope approach.

1.6.58 *Miss Sarieva (Applicant)* responded that given the Rochdale envelope and the nature of the DCO, the full funding and budget requirements will be determined pre-construction and post-consent.

1.6.59 *The ExA* requested the Applicant to clarify what constitutes enhancement or measures. The Applicant to note this would be confirmed in writing.

1.6.60 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 13 below.*

BNG Assessment

1.6.61 *The ExA* invited the Applicant to provide a brief summary of the methodology and assumptions used for the assessment.

1.6.62 *Dr Gray (Applicant)* provides an overview of the assessment background, summarising the BNG results, method, surveys. He explained the assumptions and the benefits that are not reflected in the BNG calculations. Biodiversity net gain is an approach to development which makes sure that habitats for wildlife are left in a measurably better state than they were before the development. Mandatory biodiversity net gain was introduced for most major developments in early 2024, but Nationally Significant Infrastructure Projects are not yet legally required to deliver biodiversity net gain and there is currently no guidance for such projects. However, biodiversity net gain is promoted by Overarching National Policy Statement EN-1 and National Policy Statement EN-3 and these policies also encourage

environmental and biodiversity gains beyond those embodied in biodiversity net gain.

1.6.63 **ES Volume 4, Appendix A8.13: Biodiversity Net Gain (BNG) Assessment [EN010162/APP/6.4.8.13]** [APP-226] follows the current Defra methods and demonstrates a net gain of 60% for habitats, 26% hedgerows and 11% for watercourses. These values exceed the minimum 10% net gain required by Newark and Sherwood District Council, and, for habitats and hedgerows, exceed the aspirational 20% target set by Nottinghamshire County Council. The Development will also secure these benefits over a 40-year period rather than the standard 30.

1.6.64 He explained that biodiversity net gain is calculated by comparing the baseline or pre-development habitats to those that will be present following development. In order to do this, baseline surveys are undertaken to classify and map habitats and assess their condition, whereas post-development habitat data are derived from landscape plans and the Development design.

1.6.65 Baseline habitat surveys were initiated across much of the study area in 2022 before the now standard UKHab survey method became widely adopted and before the current Defra biodiversity metric was released in early 2024, which includes habitat condition assessment criteria and a reliance on the UKHab method. Consequently, due to the long duration of the Development's pre-submission phase, the habitat surveys were undertaken against a backdrop of changing methods and guidance and reasonable efforts were taken to adapt the surveys so that they remained fit for purpose.

1.6.66 The BNG assessment includes assumptions arising from the challenges of applying the Defra metric to a very large area and a complex illustrative design. However, over the large extent of the Order Limits these are extremely unlikely to substantively affect the calculations and would not affect the conclusions of **ES Volume 2, Chapter 8: Ecology and Biodiversity [EN010162/APP/6.2.8]** [APP-051].

1.6.67 Furthermore, the illustrative design will be developed into a final design following consent and so the biodiversity net gain calculation will be updated post-consent to reflect the final design. Additional habitat surveys and condition assessments will also be undertaken post-consent to provide up-to-date baseline data for use in the metric. These measures will help ensure that the biodiversity net gain assessment accurately reflects the baseline and post-development habitats.

1.6.68 The main driver of the net gains and wider beneficial effects is the favourable landscape-scale management of large areas habitats described in the **ES Volume 4, Appendix A5.1: Outline LEMP [EN010162/APP/6.4.5.1A]**. Many of these habitats will replace intensively farmed arable land which is recognised to be of relatively limited ecological value and one of the key drivers of biodiversity declines in the UK. As well as reducing these adverse effects, the wider beneficial effects for biodiversity include landscape-scale habitat creation and connectivity for a wide range of wildlife, buffering and connecting valuable retained habitats and sites, and the favourable management of retained features.

1.6.69 *Dr Gray (Applicant)* concluded that these wider benefits are not accurately reflected in the BNG calculations, but will make meaningful contributions to local and national biodiversity policies and strategies.

1.6.70 *The ExA* asked whether changes between the outline and final design could affect the assessment conclusions, and whether the metric reflects the quality and delivery timeframe of habitat enhancements.

1.6.71 *Dr Gray (Applicant)* responded that the assessment is robust and any changes in design or baseline habitats are expected to be minor. The biodiversity net gain metric sets habitat condition targets and timeframes, which are accounted for in the **ES Volume 4, Appendix A5.1: Outline LEMP [EN010162/APP/6.4.5.1A]**. Targets were established based on the Applicant's extensive experience and evidence, and are considered realistic and implementable.

1.6.72 *The ExA* asked whether the metric reflects the quality of habitat enhancements, how they will establish over time, and any assumptions about how this might change.

1.6.73 *Dr Gray (Applicant)* explained that the biodiversity net gain metric sets targets for habitat condition and the timeframe for achieving them, reflecting the complexity of delivering certain habitats, which will be addressed in the Landscape and Ecological Management Plan.

1.6.74 *The ExA* asked how the habitat condition targets were established, whether that was through the Applicant's expertise, selected criteria, or a standardised methodology.

1.6.75 *Dr Gray (Applicant)* responded that the targets are based on extensive experience and expertise in habitat management, predating biodiversity net gain. The assumptions draw on evidence and precedents, making the targets realistic and implementable.

1.6.76 *The ExA* asked whether the assessment includes both enhancement and mitigation elements of the proposed development, or if it considers enhancement separately.

1.6.77 *Dr Gray (Applicant)* confirmed that the **ES Volume 4, Appendix A8.13: BNG Assessment [EN010162/APP/6.4.8.13]** [APP-226] includes both enhancement and mitigation. He noted that government guidance allows mitigation and compensation to count towards biodiversity net gain, but at least 10% must come from additional activities, which is met in this development.

1.6.78 *The ExA* asked whether that would be consistent with NPS EN-1, which requires BNG to be applied after compliance with the mitigation hierarchy.

1.6.79 *Dr Gray (Applicant)* confirmed that the approach is consistent with NPS EN-1 and the **ES Volume 4, Appendix A8.13: BNG Assessment [EN010162/APP/6.4.8.13]** [APP-226] follows the mitigation hierarchy; it is embedded in the approach undertaken.

1.6.80 *The ExA* requested the Applicant to provide a summary note on the BNG assessment to provide more context about the assessments and to show the discussion progress on the BNG in the **Draft Statement of Common Ground with Newark and Sherwood District Council [EN010162/APP/8.2]**. The Applicant to note this would be confirmed in writing.

1.6.81 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 14 and 15 below.*

1.6.82 *Mr Northcote (JPAG)* noted that while the proposed biodiversity net gain percentages exceed the statutory minimum, they are not particularly high compared to other developments. He questioned whether the increases are genuinely aspirational and whether sufficient buffer exists to maintain gains above 10% after design changes.

1.6.83 He also sought clarification on two points:

- Whether any priority habitats exist within the Order limits.
- How biodiversity measures will be managed post-decommissioning at year 40, and whether any are temporary rather than permanent.

1.6.84 In response to the points regarding buffer and decommissioning of biodiversity measures, *Dr Gray (Applicant)* confirmed that the biodiversity net gain values will be secured through the DCO, and the calculations are robust. He noted that net gain targets do not capture the full biodiversity benefits, which also include wider landscape-scale contributions, innovative habitats, and woodland planting that may contribute less to net gain metrics.

1.6.85 He added that priority habitats are addressed in **ES Volume 4, Appendix 8.3: Habitats and Vegetation Baseline [EN010162/APP/6.4.8.3A]** and **ES Volume 2, Chapter 8: Ecology and Biodiversity [EN010162/APP/6.2.8]** [APP-051]. Decommissioning is also addressed in Chapter 8 of the ES. The assessment assumes most habitats would return to baseline conditions, while some habitats with a higher degree of permanence, such as woodland, may remain. Existing retained habitats would be safeguarded through the Decommissioning and Restoration Plan. He noted that these can be referenced in post-hearing submissions.*The ExA* noted that a reference to habitat and vegetation baseline in the **ES Volume 2, Chapter 8: Ecology and Biodiversity [EN010162/APP/6.2.8]** [APP-051] would be helpful.

1.6.86 ***Post-hearing note:*** *Please see the Applicant's response to Further Action Point 3 below.*

1.6.87 *Mr Harrington (EA)* clarified the EA's position on biodiversity. He noted that while BNG is not yet mandatory for NSIPs, it is likely to apply by the time the project becomes operational.

1.6.88 He stated that ordinary watercourses fall outside the EA's direct remit for BNG, but highlighted concerns that the **ES Volume 4, Appendix A8.13: BNG Assessment [EN010162/APP/6.4.8.13]** [APP-226] did not survey or assess the condition of all ditches and field drains. This may risk inaccurate watercourse unit calculations and missed enhancement opportunities. He

recommended that additional ordinary watercourses be included in the **ES Volume 4, Appendix A8.13: BNG Assessment [EN010162/APP/6.4.8.13]** [APP-226], as some may be WFD-conforming despite not being main rivers.

1.6.89 *Dr Gray (Applicant)* explained that watercourse surveys for the **ES Volume 4, Appendix A8.13: BNG Assessment [EN010162/APP/6.4.8.13]** [APP-226] used the River Morph methodology, sampling 20% of on-site watercourses in line with recognised good practice. He noted that pre-commencement baseline surveys will be undertaken and, with a more refined design, additional watercourses may be surveyed to focus on those most relevant to the final layout.

1.6.90 *Hay Hurst (NSDC)* noted several minor technical queries raised in their Relevant Representation, best resolved outside the hearing. She noted several concerns from NSDC:

- Main concern is transparency around baseline surveys given the scale of the site. Sought clarity on which areas received detailed condition assessments.
- Requested further detail on the River Morph sampling approach, particularly on how many sub-branches were surveyed and how these were selected.
- Observed that BNG percentages can be misleading at this scale; while 60% appears high, the absolute uplift (c. 2,082,500 units) is the more relevant measure.
- Considered that some opportunities may have been missed, particularly regarding watercourses e.g., potential for more challenging in-channel enhancements that would address local priorities even if they yield smaller unit gains.
- Sought clarification in the **ES Volume 4, Appendix A5.1: Outline LEMP [EN010162/APP/6.4.5.1A]** on habitats proposed for retention but not enhancement, including areas of good-quality modified grassland; stressed the need to ensure these do not decline during construction.
- Requested further explanation in **ES Volume 4, Appendix 8.3: Habitats and Vegetation Baseline [EN010162/APP/6.4.8.3A]** regarding priority habitats; woodland appears the only identified priority habitat, but an area classified as Coastal Floodplain Grazing Marsh in Defra mapping was surveyed and deemed not to meet criteria, without justification.

1.6.91 *The ExA* requested the Applicant to respond to the detailed points in regards to the habitat and vegetation baseline and the priority habitat as a written note.

1.6.92 ***Post-hearing note:*** *The Applicant noted this and will report this in the SoCG with NSDC. Please see the Applicant's response to Action Point 15 below.*

1.6.93 *Lynn Shaw (Norwell SFSG)* sought clarity on the government guidance on mitigation and measures.

1.6.94 *Dr Gray (Applicant)* reiterated that the calculation method follows the government's guidance.

1.6.95 *Councillor Campbell* queried whether the **ES Volume 4, Appendix A8.13: BNG Assessment [EN010162/APP/6.4.8.13]** [APP-226] captures the full range of biodiversity within the Newark & Sherwood landscape character. Many ancient woodland indicator species persist along ditches, banks, and hedgerows, and emphasised that if these features have not been fully assessed, significant biodiversity may have been overlooked.
He asked the Applicant how the proposed habitat enhancements reflect the Newark & Sherwood landscape character and why ditch habitats were not comprehensively surveyed.

1.6.96 *Dr Gray (Applicant)* confirmed that comprehensive habitat surveys were undertaken across the site, including dumbles, hedgerows, ground flora, and arable margins, providing an up-to-date baseline. Noted that the assessment also draws on the Newark & Sherwood Biodiversity Opportunity Mapping and the recently published Local Nature Recovery Strategy, both of which informed the proposed mitigation and enhancement measures.

1.6.97 *Councillor Campbell* then raised concerns about conservation grazing, noting that without a detailed grazing plan the biodiversity net gain assessment cannot be accurate. Grazing density and management will influence habitat condition, and poorly controlled grazing could lead to overgrazing ("sheep wrecks") or nutrient enrichment. A clearer plan is needed to understand how conservation grazing will be implemented and its effect on BNG outcomes.

1.6.98 *Dr Gray (Applicant)* reiterated that conservation grazing is covered in the **ES Volume 4, Appendix A5.1: Outline LEMP [EN010162/APP/6.4.5.1A]**. The final LEMP will be reviewed and approved by Newark and Sherwood District Council and is secured through the **Draft Development Consent Order [EN010162/APP/3.1B].**

1.7 AGENDA ITEM 3.4: CUMULATIVE ENVIRONMENTAL EFFECTS

Overview

1.7.1 *The ExA* invited the applicant to explain their methodology for the assessment of cumulative effects, and how that has informed the findings of the environmental statement.

1.7.2 *Dr Phillips (Applicant)* explained that the approach to assessing cumulative effects is set out in **ES Volume 2, Chapter 2: Environmental Impact Assessment (EIA) [EN010162/APP/6.2.2]** [APP-045]. In Section 2.3.8, the Planning Inspectorate's Advice on Cumulative Effects Assessment[1] summarises the requirements in relation to cumulative effects as follows, and quoted:

"Schedule 4 paragraph 5(e) of the EIA Regulations 2017 requires the Environmental Statement to include a description of the likely significant effects of the development on the environment resulting from: "the

[1] Planning Inspectorate (2024). Nationally Significant Infrastructure Projects: Advice on Cumulative effects assessment. Available at: https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment [accessed on 05/05/2025].

cumulation of effects with other existing and, or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources" [it goes on to say] In this advice, 'other existing and, or approved development' is taken to include existing developments and existing plans and projects that are 'reasonably foreseeable'.[the guidance also notes that] Where other existing and, or approved developments are expected to be completed before construction of the proposed NSIP and the effects are fully determined, effects arising from them should be considered as part of the baseline and may be considered as part of both the construction and operational assessment".

1.7.3 Dr Phillips stated that the identification and assessment of cumulative effects in the ES followed PINS guidance. Stages 1 (long list) and 2 (short list) are set out in Section 2.3.8 of ES Chapter 2 **ES Volume 2, Chapter 2: Environmental Impact Assessment (EIA) [EN010162/APP/6.2.2]** [APP-045], with the results (the list and map of schemes, Figure A2.1.1) presented in **ES Volume 4, Appendix A2.1: Cumulative Assessment Stages 1 and 2 [EN010162/APP/6.4.2.1A]**. Stages 3 (information gathering) and 4 (assessment) were carried out as part of each technical assessment and reported in the technical chapters of the ES, Chapters 7 to 18. **ES Volume 2, Chapter 19: Interrelationships [EN010162/APP/6.2.19]** [APP-062] presents an assessment of interrelationship effects that are not already considered as part of the technical chapters. Different environmental topics may take different approaches to cumulative effects depending on the policy or regulations that their topic needs to address.

1.7.4 He noted that Newark and Sherwood District Council had commented on the approach and on the list of schemes to be included, as was set out in the Preliminary Environmental Information Report at statutory consultation and, based on their advice, the list/approach was amended for the ES. The Applicant noted that the Relevant Representation from NSDC had no comment to make on ES Chapters 2 nor 19, and no other party's Relevant Representation had specific comment on the selection of developments to be included in the cumulative assessment [post-hearing correction: JPAG did have specific comments on this].

1.7.5 *The ExA* asked the Applicant if they were confident that the approach to cumulative assessment has taken into account existing developments and existing plans and projects that are reasonably foreseeable.

1.7.6 *Dr Phillips (Applicant)* confirmed that the Applicant is confident of this.

1.7.7 *The ExA* asked the Applicant if they could amend the key of Figure A2.1.1 in **ES Volume 4, Appendix A2.1: Cumulative Assessment Stages 1 and 2 [EN010162/APP/6.4.2.1A]**, to show project names rather than numbers.

1.7.8 *Dr Phillips (Applicant)* confirmed that this would be confirmed in writing.

1.7.9 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 17 below.*

1.7.10 *A resident* asked the Applicant if they had extended the assessment of the impact on flooding around Maplebeck and the catchment area of Clinton Beck further downstream to around Caunton, and what downstream mitigation is proposed at Caunton and Norwell? They also expressed concern that future local applications will over time fill in the ring-shape made by the Development.

1.7.11 *Liam Nevins (Applicant)* noted that future development isn't factored into the cumulative assessment. Developments that need to be included within the cumulative assessment are based on the available information at the time of the application. Regarding the points made regarding flooding, the Development includes several measures, such as including grassland underneath the panels to slow the flow of water, particularly around Maplebeck, and that is evidenced in the Flood Risk Assessment through a modelling process that has been undertaken, which shows a marginal benefit, including grassland underneath the PV arrays compared to the baseline scenario in Maplebeck. Caunton is downstream of Maplebeck, and thus any improvements within Maplebeck cascade further downstream.

1.7.12 *The ExA* asked the Applicant if they could clarify the cutoff point in terms of the cumulative assessment.

1.7.13 *Dr Phillips (Applicant)* noted that the cutoff date was set out in Section 2.3.8 of **ES Volume 2, Chapter 2: Environmental Impact Assessment (EIA) [EN010162/APP/6.2.2]** [APP-045] and was 4th April 2025.

1.7.14 *Mr Betts (NSDC)* confirmed that an early-stage discussions over long list had been undertaken. He then highlighted two large NSIPs (Great North Road and One Earth) with only 4km separation and commented on the regional landscape change and cumulative effects. and NSDC will comment further in LIR.

1.7.15 *Will Laurence (NCC) noted* that there is no cumulative assessment of waste impact at all. Cumulative waste impact assessment has been carried out for One Earth, and NCC queried why this is not the case here.

1.7.16 *Mr Northcote (JPAG)* objected to applicant's statement that no additional schemes were submitted; said his group listed 101–117 schemes in relevant representation. JPAG questioned the Applicant's approach to cumulative assessment. The assessment ignored the Written Ministerial Statement, and schemes were wrongly excluded due to conventional zone-of-influence methods. There were new schemes such as Thoresby/Thorpe Beck and Barnby-in-the-Willows which lie between this scheme and One Earth.

1.7.17 *The ExA* asked the Applicant if they could comment on the way in which the this environment is evolving and the extent to which that can reasonably be considered as part of the cumulative assessment.

1.7.18 *Dr Phillips (Applicant)* noted that it would be onerous to update the cumulative assessment every day, or too frequently, but that it is possible to do it at some point during *the exa*mination process. He noted that the Applicant is keeping track of newly proposed developments and that, up to this point, nothing has been seen that would affect the conclusion of the

assessment of significant environmental effects, but that, if those new schemes were to be included and revised assessment, they would be taken into account.

1.7.19 *The ExA* asked the Applicant if a discussion on what would be reasonable in that regard could take place with the local authorities and that be included in statements of common ground.

1.7.20 *Mr Sharpe (Applicant)* noted that both of the Statements of Common Ground with NSDC and the County cover cumulatives, and those will be provided at deadline one.

1.7.21 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 16 below.*

1.7.22 *The ExA* asked the Applicant whether the "centre of the doughnut" area had been considered.

1.7.23 *Dr Phillips (Applicant)* confirmed that it had, using the approach set out in Section 2.3.8 of Environmental Statement Chapter 2 (APP-045), based on zones of influence as appropriate for different environmental aspects.

1.7.24 *The ExA* asked the Applicant to comment on cumulative waste matters.

1.7.25 *Dr Phillips (Applicant)* noted that the short answer is that, as is set out in **ES Volume 2, Chapter 16: Miscellaneous Issues [EN010162/APP/6.2.16]** [APP-059], section 16.5 [post-hearing correction: 16.7], there is no predicted impact on landfill sites from the Development and therefore there is no potential for cumulative impact of the Development on landfill sites at the point of decommissioning. He noted that it could have been stated more explicitly that that is why there is no assessment of cumulative effects in that section. He noted that a wider discussion might then ensue on whether or not the assessment effects on landfill sites that that decommissioning is accepted.

1.7.26 *Mr Laurence (NCC)* then clarified that the issue is more about whether the assessment that there will be no detrimental impact on landfill sites is actually the correct assessment. He stated that the Applicant assumes future recycling technology will exist with no secured requirements.

1.7.27 *Councillor Campbell* raised concerns that Councils may over-approve solar, and asked for safeguard preventing further infill solar if this scheme is permitted.

1.7.28 *The ExA* noted that the purpose of this examination is to address development potential that relates to this particular application. There is a limit to which *The ExA* can have an influence over a wider area. *The ExA* invited the Applicant for comment.

1.7.29 *Dr Phillips (Applicant)* noted that in general terms, the main constraint for solar development in the UK over the last 15 years has been the ability to connect to the grid, and the fact that there are solar farms in the area and further solar farms now proposed, reduces the availability to connect

additional schemes in the future. He noted that, whilst it isn't a guarantee, the fact that these schemes are here doesn't increase the capability for further schemes to come along, it actually decreases the capability for them to come along.

1.7.30 *Mr Nesbit (Applicant)* responded to the point raised by JPAG earlier on the Written Ministerial Statement. The provisions that regulate the cumulative assessment are the The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and the PINS Guidance, in accordance with which the assessment had been undertaken . He clarified that the ministerial statement does not alter EIA regulatory approach to cumulative effects and it was unclear what different approach was being suggested by JPAG.

Cumulative Landscape Effects

1.7.31 *The ExA* referred to ES Chapter 7 (APP-050) **ES Volume 2, Chapter 7: Landscape and Visual Impact Assessment (LVIA) [EN010162/APP/6.2.7]** [APP-050], paragraph 77, which states that cumulative developments have been considered as part of the assessment. *The ExA* asked for clarification on the distinction between development considered as part of the landscape baseline and development considered as part of the cumulative landscape assessment.

1.7.32 *Mary Fisher (Applicant)* explained operational development is current baseline; consented development is future baseline. She explained that the consented schemes that are likely to be built before early operational phase; therefore included in baseline rather than cumulative assessment.

1.7.33 *The ExA* asked whether this means solar farms are now considered part of landscape character and how sequential views of existing and proposed developments has been assessed.

1.7.34 *Ms Fisher (Applicant)* responded that the existing and consented solar farms are treated as factual baseline features, and judgments on characterisation have not been made. Sequential effects would be explicitly assessed for long-distance routes only. Assessing sequential effects for every potential route for this Proposed Development is impractical in terms of report writing, because there is a myriad of different directions that people could go in. The local context has a range of shorter/local rural routes which have too many variations to narrate individually.

1.7.35 On that note, *the ExA* noted other NSIPs assessed sequential views. *The ExA* asked whether the regularity of experience has been considered in the LVIA.

1.7.36 *Ms Fisher (Applicant)* responded that "extent of effect" within magnitude assessment captures frequency/regularity, and is considered alongside the scale of change to the view and duration (40 years).

1.7.37 *Sara Boland (NSDC)* raised the following points regarding the higher-level impacts on landscape character:

- With reference to One Earth and Tillbridge, *Ms Boland (NSDC)* stated that the LVIA has not assessed the sequential regional landscape change.
- Mid-Nottinghamshire Farmlands landscape character and wider regional character have not been assessed cumulatively. The actual cumulative LVIA is too light-touch, referring only to Caunton, Knapthorpe and Muskham.
- Noted a PRoW passes through a chain of consented and proposed solar arrays; cumulative effects insufficiently assessed.

1.7.38 *The ExA* asked whether discussion between NSDC and the Applicant have been undertaken on landscape matters.

1.7.39 *Ms Boland (NSDC)* confirmed that discussion has been undertaken and suggested that further discussion on this matter will be undertaken with the Applicant.

1.7.40 *Mr Northcote (JPAG)* raised concerns that the general approach to identifying the ZOI does not allow encircling effects and clustering to be properly considered. The traditional approach to identifying landscape impacts does not seem appropriate for a project of this nature. The cumulative assessment should be approached differently from the traditional one.

1.7.41 Several IPs, including *Councillor Campbell*, the *representative for the Carlton-on-Trent PC, and several residents*, raised the following concerns:

- the cumulative impact includes removing seasonal agricultural variation which is fundamental to landscape character and biodiversity;
- increasing pressure for piecemeal solar development within the area which could collectively destroy the local landscape character
- significant visual amenity impacts on Norwell on a day-to-day basis;
- concerns about visitors to Laxton historic open fields.

1.7.42 *Ms Fisher (Applicant)* responded:

- In relation to NSDC's comments, this is the first time the Applicant has heard these points. The Applicant noted the reference to Tillbridge and will look into that;
- in relation to the sequential approach, the Applicant referred to **ES Volume 3, Figure 7.6: Visual Receptors Before Mitigation [EN010162/APP/6.3.7A]** [AS-035], which assesses the visual effects along every route, not only from individual viewpoints. The figure illustrates the effects experienced on any given journey;
- in terms of landscape character, the assessment is holistic for each character type and impacts on character types including Mid-Nottinghamshire Farmlands were assessed;
- the Applicant has not assessed the wider character because the assessment focuses on the effects of this development. The purpose of the cumulative assessment is not to explain general landscape change or to 'add up' the effects of multiple developments. While wider change is acknowledged, the assessment is intended to assess this project in the

context of reasonably foreseeable other development, not intended to identify the totality of regional change;

- encirclement effects are effects of the development itself, not cumulative impacts and is taken into account in the assessment;
- the statement that Laxton open fields lie within the doughnut was incorrect; they are 2km NW of development.

1.7.43 *The ExA* requested a specific section of the SoCG with NSDC **Draft Statement of Common Ground with Newark and Sherwood District Council [EN010162/APP/8.2]** to include landscape and visual effects. The Applicant to note this would be confirmed in writing.

1.7.44 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 18 in Table 2-1. A note on the sequential view with reference to Tillbridge Solar is provided in Table 2-2 as a further action from the Applicant; refer to Action 4 in that table.*

Cumulative BMV Effects

1.7.45 *The ExA* asked how the cumulative total of circa 2000ha BMV land was calculated in **ES Volume 2, Chapter 17: Agricultural Land [EN010162/APP/6.2.17]** [APP-060].

1.7.46 *Mr Kernon (Applicant)* explained that it totalled the area of Grades 1, 2 and 3a from each of the schemes listed in Table 17.21. Mr Kernon explained that the ALC figures for Beacon Fen (EN 010151) in Table 17.21 were mistakenly those for the cable route, not the Site, and that an additional 211 ha of BMV is involved with the Beacon Fen solar farm site. He also had identified that One Earth was missing from the cumulative table. A revised table will be produced. The updated collective total is 3,222 ha in total and this does not change the overall conclusion of the assessment.

1.7.47 *The ExA* asked for the Applicant to explain the cumulative impacts on agricultural land and the impact on the land economy. *The ExA* noted that the applicant had referred to a figure for arable land currently used for biodiversity, and asked for clarification on the basis of those figures and how they relate to assessing cumulative effects on BMV land.

1.7.48 In response, *Mr Kernon (Applicant)* explained that the use of BMV for solar or other development is really a national issue, not a local issue. National policy statements, the Solar Road Map and the NPS all state where the Government wants to get to with solar deployment, and have recognised that agricultural land will need to be used for those purposes. As such, the wider cumulative assessment is one made by Government. In respect of the assessment made, he explained that the 2,350 (now 3,222 ha) is a small proportion of the 3,700,000 ha of BMV estimated in England. This is not significant.

1.7.49 In respect of food production, he explained that a lot of arable agricultural land is used for animal feed production, industrial crops, biomass for energy, as well as human food. He explained that of the 8.7 million (2025 figures 8.8 million) hectares of utilised agricultural land, 58% is arable. That is 4.9 million ha. Excluding grass leys, the arable area is 4.03 million hectare.

1.7.50 **ES Volume 2, Chapter 17: Agricultural Land [EN010162/APP/6.2.17]** [APP-060] paragraph 195 refers to 305,000 ha of arable land used for biodiversity in 2024. The 2025 figure is now 444,000 ha. This represents 9% of arable land, and 11% of arable land excluding grass leys. In respect of temporary use of land for solar, the cumulative effect is small in context with other land use changes.

1.7.51 In respect of wider effects on agricultural and related industry, for example, seed merchants, fertiliser suppliers, machinery dealers, etc, the land will still be used for agriculture, in the form of sheep grazing. Therefore whilst some supply sectors will see a small effect, others (for example, vets, feed suppliers), will see small benefits. In the context of the changes for example the 9-11% of arable land in biodiversity, these changes will be small. Mr Kernon noted that in context in 2024 figures 17,500 ha in Nottinghamshire was arable land not being used for production. He flagged that the issue is a land-use consideration rather than permanent land loss, noting solar is reversible.

1.7.52 *The ExA* required the applicant to respond to the detailed aspects of the calculation. The Applicant is then to provide a revised ES Chapter 17 cumulative assessment during the examination. The Applicant to note this would be confirmed in writing.

1.7.53 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 19 below.*

1.7.54 *Mr Betts (NSDC)* stated that the council has advocated for a bottom-up approach, beginning with understanding effects at the district level and then scaling upwards. When cumulative assessments are built up from district-level data, it becomes clearer what the localised impacts are for each authority. He stated that the applicant for One Earth project after Issue Specific Hearing 2 had provided a district-level breakdown, which was helpful. The data showed that NSDC has twice the amount of BMV land loss compared to West Lindsey and Bassetlaw. Acknowledged the applicant's reference to national policy and recent decisions, but he stressed the importance of gaining real clarity and understanding of impacts at the local authority level.

1.7.55 He stated that the authority needs to reach a clear understanding of cumulative effects and does not believe this has yet been achieved. He noted that the district contains 8% Grade 2 land and expressed doubts about whether some land should have been included or excluded.

1.7.56 *Mr Franklin (NSDC)* added that based on the corrections described by Mr Kernon earlier, the calculation showed an 872-hectare increase in the cumulative total of Best and Most Versatile land, represented a 37% increase, which he considered a significant change arising from the earlier error and the inclusion of the One Earth scheme.

1.7.57 He addressed Mr Kernon's comment regarding land in biodiversity schemes, noting that most biodiversity schemes are short-term and can be withdrawn to return land to food production. such schemes typically last three, five, or seven years, whereas the solar scheme involves a 40-year timeframe,

making the two situations materially different. He stated that biodiversity schemes can be used by farmers as a rotational option to rest land, undertake weed-control measures, or reassess business finances, and therefore should not be compared directly with long-term solar development.

1.7.58 He then stated that conservation grazing strategy, which involves low-stocking-rate sheep grazing and rotational grazing, does not constitute agricultural production or agricultural grazing in the conventional sense. Therefore, the land would only experience very low-level sheep grazing. This is not an agricultural projection or grazing strategy from an agricultural perspective.

1.7.59 *Mr Northcote (JPAG)* raised the following concerns:

- There appears to be a wider omission from Table 17.21 of **ES Volume 2, Chapter 17: Agricultural Land [EN010162/APP/6.2.17]** [APP-060]. He noted that other consented schemes which are not NSIP (or CIP) schemes have been considered in all other aspects of the assessment, so questioned why they were excluded from the cumulative assessment of BMV land loss.
- The assessment should be carried out at a district level rather than a regional level.
- This proposal, alongside others in the district, represents a massive project, resulting in a huge localised impact on BMV land. He argued that such a district-level approach aligns with the Written Ministerial Statement, particularly on clustering and cumulative assessment of BMV land.
- To his knowledge, no solar scheme has yet completed a full 40-year life cycle. He argued that assumptions about land quality not being affected, or that it can immediately return to agriculture afterward, are untested and unknown.

1.7.60 *Councillor Campbell* raised concerns about the omitted figure and questioned the accuracy of the cumulative effects assessment. He also questioned the impact of the development on the local economy. He highlighted that one of the largest crops in the area is sugar beet, grown extensively throughout the district, and that a major sugar factory in Newark relies on this crop for its production.

1.7.61 *The ExA* invited the Applicant to provide responses to the points that were raised.

1.7.62 In relation to the approach to the cumulative assessment, *Dr Phillips (Applicant)* responded that under PINS guidance, the zone of influence for effects on BMV agricultural land would ordinarily be limited to the order limits only. This was the applicant's initial approach as presented in the Preliminary Environmental Information Report. He stated that the inclusion of NSIP solar schemes at a wider geographic scale was done at the request of Newark and Sherwood District Council. He emphasised that this broader inclusion represents a divergence from the Planning Inspectorate's cumulative impact assessment methodology, which would not normally require a wider-zone BMV assessment.

1.7.63 *Mr Kernon (Applicant)* made the following responses:

- In response to Mr Betts' comments about local impact, noting that the Applicant and NSDC will discuss on this further to get clarity on the concerns.
- In response to JPAG's comments on the use of percentages of BMV land at district level, he emphasised the need to be cautious with statistics. Most people in the district would have little understanding of such figures and that percentages can be misleading.
- In response to comments about biodiversity schemes being short-term compared with long-term solar development, he referred to the hearing of the government's solar roadmap, which identifies the climate and nature crisis as the biggest risk to food security and the natural environment. This is why the UK aims to take a leadership role in accelerating progress to net zero, and why solar deployment is being pushed.
- In response to the grazing question, he stated that grazing under solar panels is agriculture. Referred to the most recent June agricultural statistics, noting they show percentages and areas of farm land that include solar panels and are still grazed. He stated that 53% of such solar farm land is grazed, acknowledging that early schemes had low levels of grazing but insisting it is nonetheless "proper grazing" and still farming.
- In response to concerns about the land condition after 40 years, Mr Kenon stated that he has seen no research concluding that solar development would adversely affect land quality. once panel legs are installed, the land is "not touched," and noted that the Environmental Statement identifies soil benefits from resting land. resting soils is known to be beneficial and he saw no reason to expect deterioration of land quality.
- In response to the sugar beet point, he did not see a significant impact from the scheme on the continuation or operation of the sugar plant.

1.7.64 *The ExA* asked the Applicant to comment on the impact on sugar beet. The Applicant to note this would be confirmed in writing.

1.7.65 ***Post-hearing note:*** *Please see the Applicant's response to Action Point 20 below.*

2 THE APPLICANT'S WRITTEN SUBMISSIONS IN RESPONSE TO ACTION POINTS

2.1 List of Action Points From Issue Specific Hearing 1

2.1.1 Table 2-1 below sets out the list of action points that arose during the hearing and the Applicant's post-hearing response to them.

Table 2-1 List of Action Points from Issue Specific Hearing 1 and the Applicant's Post-hearing Responses

Ref	Action Point	Applicant's Responses
Generating Capacity and Load Factors		
1.	Provide a note on how figures have been derived for the number of homes that could be powered in relation to the generating capacity of the proposed development.	Please refer to the Applicant's responses in Appendix 1 for details on the 400,000 homes calculation. It should be noted that the number of homes equivalent does not influence the findings of the Environmental Statement, nor is it required to evaluate compliance with relevant policy. It is used in communication with the public in order to put the generation capacity of a solar farm into a context that is more relatable to people not familiar with MegaWatt-hours (MWh).
The Development and Application of Design Parameters		
2.	Provide further evidence of how good design has been embedded in the design process in terms of: i. whether this has informed the evolution of the proposed development, for example has a design champion or design board informed this process? ii. would continue to inform the implementation of the as well as the post-consent design process?	Good design has been a key consideration from the outset. The design evolution process and the basis of design decisions for the Development are described in **ES Chapter 4: Alternatives [EN010162/APP/6.2.4]** [APP-047] and the **Design Approach Document [EN010162/APP/5.6A]**. Section 2.2 of the latter document explains how the Applicant's design team used the framework set out by the NIC's overarching design principles and design policies set out in NPS EN-1 and NPS EN-3 to develop 16 overarching design principles which were adopted for the Development. The **Design Approach Document [EN010162/APP/5.6A]** explains that the design evolution has been an iterative process, with the final design evolving as

constraints and opportunities have emerged over time, following the stages of assessment work and consultation. This process has been collaborative and has enabled the Applicant to present a scheme which is appropriate bearing in mind the context of the Site and the Government's overarching requirements for new solar infrastructure. The Project's design has been subject to multiple rounds of consultation, including a Planning Performance Agreement with NSDC that has enable them to appoint independent landscape design advisor.

The detailed design for the Development will be confirmed following the grant of the DCO for the Development and completion of Archaeological Management Strategy (AMS) intrusive survey works as well as other technical surveys. Flexibility is required as the technologies proposed are rapidly evolving and to allow the Development to utilise the best available technology available at that time to maximise the benefits the Development will deliver. The need for flexibility in design, layout and technology in DCO applications is recognised in Section 4.3: Environmental Effects/Considerations of NPS EN-1 and paragraphs 2.6.1 to 2.6.3 and paragraphs 2.10.70 to 2.10.72 of NPS EN-3.

The **Concept Design Parameters and Principles [EN010162/APP/7.14A]** have been prepared in order to ensure that the principles of good design set out within the **Design Approach Document [EN010162/APP/5.6A]** are secured through these later detailed design stages. Examples of this include the scale of development, materials used and criteria for the external appearance of the Development. Requirement 6 of the draft DCO requires the submission of the detailed design to NSDC for their approval before each stage of the Development can commence. These details must be in accordance with the **Concept Design Parameters and Principles [EN010162/APP/7.14A]**.

In a similar way for the landscape design, no phase of the Development can commence until a Landscape and Ecological Management Plan has been prepared and approved under Requirement 8, and which must be in accordance with the **ES Volume 4, Appendix A5.1: Outline Landscape and Ecological Management Plan (LEMP) [EN010162/APP/6.4.5.1A]**. This secures the

		important landscape design criteria that have been embedded into the scheme design. In relation to recreational enhancements and routes, no phase of the Development can commence until a Recreational Routes Management Plan (RRMP) has been submitted and approved under Requirement 18. The plan must be in accordance with the **ES Volume 4, Appendix A18.1: Outline Recreational Routes Management Plan (oRRMP) [EN010162/APP/6.4.18.1A]**. These design principles and commitments set out a comprehensive range of design commitments that ensure that the detailed design takes place within the defined 'Rochdale Envelope', and deliver good design. In conclusion, the Development delivers good design in the context of efficiently delivering large scale renewable energy infrastructure whilst providing an enhanced network of environmental features and benefits including biodiversity and landscape enhancements and an enhanced public access legacy. As such, it is considered that the Development fully accords with the requirements of good design as outlined in the NPS.
Consideration of Alternatives		
3.	In terms of the alternatives considered, comment on: i. whether the proposed development would be viable without a BESS ii. whether a Small Modular Reactor could be a reasonable alternative technology.	BESS has formed part of the Development since the Pre-application stage. The inclusion of BESS is directly supported by NPS policy and there has been no requirement to consider a scheme without BESS. The Applicant can confirm that no part of the associated development, including the BESS, has been included because it is only necessary to fund the cost of the principal development. The BESS would have some commercial benefit, but this is a subordinate component of the Development. As noted in paragraph 29 of **ES Chapter 4: Alternatives [EN010162/APP/6.2.4]** [APP-047], 'Nuclear development is not an alternative to this Development because of the lengthy planning and development timeframe'. Whilst it is accepted that a Small Modular Reactor (SMR) would be quicker to deliver than a nuclear power station, it could not be deployed fast enough to meet the 2028 energisation date of the Development. The Advanced Nuclear Technologies

		Policy Paper[2] recognises that SMR are still in a Research and Development phase. According to this Policy Paper, the Government would continue to progress work on key policy and market enablers, including finalising regulatory access, siting, and financing for SMRs. The target for deployment of SMRs is the early 2030s.
4.	Further explanation on how the proposed BESS would operate and the advantages of operating it (noting the presence also of the consented Staythorpe BESS and SSE BESS).	The need for energy storage is derived from a combination of key government policies to allow it to meet its legally binding obligation to achieve net zero by 2050 and also to improve UK energy security which is expected to reduce energy costs for consumers. Excluding nuclear power, all non-fossil fuel generation is intermittent and battery storage is therefore an essential component of the 'system services' that will allow energy to be generated and used as required and will also help avoid unnecessary and expensive reinforcement of the grid network. This is because they can act as both demand and supply, helping balance electricity demand and supply to create a smoother, more efficient system. Including BESS within the Development is therefore beneficial for at least two reasons: • **Balance supply and demand**: Renewable energy sources such as wind and solar are intermittent. BESS can help regulate this situation, making best and most effective use of the renewable energy that is generated and avoid grid curtailment (i.e. reduced electricity transmission in order to balance supply and demand). • **Optimising available grid capacity**: It is well known that grid capacity is highly restricted and it is therefore essential to use all existing capacity as efficiently as possible. Co-locating BESS with generation is a cost-effective and deliverable means of improving the efficiency and resilience of the grid.

[2] UK Government Department of Energy Security and Net Zero (2025)
Advanced Nuclear Technologies Policy Paper [online] Available at: https://www.gov.uk/government/publications/advanced-nuclear-technologies/advanced-nuclear-technologies#the-low-cost-nuclear-challenge Accessed 05/12/2025

		The need for BESS is so great that all reasonable and feasible opportunities for delivering capacity need to be explored. This means that even with the consented BESS schemes in the local area, including BESS within the Development remains an important a relevant planning benefit of the Development. Further details of this are set out within the **Planning Statement [EN010162/APP/5.4A]**.
BMV Land		
5.	Provide further detail of micro-siting in relation to BMV land and respond to Natural England's comments about the effects of woodland planting on BMV land.	Section 6.8 of the **Planning Statement [EN010162/APP/5.4A]** sets out how the Development has considered NPS policy on the use of agricultural land. It confirms that the Applicant has taken account of ALC grading and agricultural land productivity throughout the design process for the Development and has sought to minimise the amount of BMV land included in the Order Limits. NPS EN-1 and NPS EN-3 include a preference for development of non-agricultural land over agricultural land, and when unavoidable, for development of agricultural land to be directed towards land of the lowest available quality. Accordingly, the Applicant has sought to avoid the use of BMV land where possible, with preference given to the use of land in areas of poorer quality and, in particular, avoiding / minimising the use of Grade 1 and Grade 2 land. Although ALC was taken into account as one of the influencing factors in the site selection process, NPS EN-3 (paragraph 2.10.29) states that land type should not be a predominating factor in determining the suitability of the site location. Indeed, a High Court judgment made clear that national policy and guidance on BMV land does not mandate the consideration of alternatives or the adoption of a sequential assessment (Bramley Solar Farm Residents Group v SSLUHC [2023], paragraphs 179-180[3]).

[3] Bramley Solar Farm Residents Group v SSLUHC [2023], paragraphs 179-180 https://assets.publishing.service.gov.uk/media/66012fd0a6c0f7bb15ef9103/7_Bramley_Solar_Farm_Residents_Group_v_Secretary_of_State__2023__EWHC_2842__Admin_.pdf

		Any limited degree of harm that would arise from the potential permanent loss of 4.5 ha of BMV to retain this infrastructure would be more than outweighed by the substantial public benefits of the Development. These include its contribution to meeting the urgent need for low carbon energy infrastructure, delivering benefits at the national scale, in accordance with the objectives of NPS EN-1 and NPS EN-3. The inclusion of some BMV land within the Development is considered justified and the impacts on BMV land have been minimised by the nature of the Development and its design. The benefits of the Development outweigh the loss of BMV land, particularly noting that NPS EN-3 paragraph 2.10.29 states that land type should not be the predominating factor in determining the suitability of a site for solar development.
Role and Status of NG+		
6.	Provide clarification of the status of the 'community benefits' considered to be part of, and associated with, the proposed development. Update to the Planning Statement in relation to the weight that should be attached community benefits.	Section 4.5 of the **Planning Statement [EN010162/APP/5.4A]** confirms that the Community Benefit Fund does not form part of the DCO Application, and this funding is not required to mitigate the effects of the Development. Therefore, the SoS cannot, and should not, apply any weight to the Community Benefit Fund when balancing the positives and negatives of the Development. The Community Benefit Fund is therefore not taken into account in consideration of the planning balance.
GHG emissions calculation		
7.	Provide a note to review the points made in relation to the GHG emissions savings, including a table showing the calculation of the figures for carbon saving (gCo2/kwh)	Please refer to the Applicant's responses in Appendix 2 for details on the GHG emissions savings. In paragraphs 1.5.16 and 1.5.17, above, the ExA asked whether, if the Applicant lost 25% of the BESS benefit that would change the conclusion in terms of the EIA assessment. If the Development overall becomes (as a worst-case) marginally carbon emitting, then the assessment of significance would, in

		accordance with the method set out in ES Chapter 15, Section 15.2.1.3, be assessed as "Achieves emissions mitigation that goes substantially beyond the reduction trajectory – the development has minimal residual emissions and plays a part in achieving the rate of transition required by nationally set policy commitments. Classed as a negligible non-significant effect".
8.	Work with Norwell Farm Steering Group to provide a SoCG on GHG emissions by **Deadline 2**	The Applicant has submitted a **Statement of Common Ground with Norwell Solar Steering Group [EN010162/APP/8.12]** at Deadline 1.
Biodiversity mitigations and enhancements		
9.	Provide an update on the sheep grazing regime within the SoCG with the Nottinghamshire Wildlife Trust (outlining high-level principles of how conservation grazing would operate in practice)	Section 2 of the **Statement of Common Ground with the Nottinghamshire Wildlife Trust [EN010162/APP/8.11]** has set out the latest position of both parties on the sheep grazing. The Applicant looks forward to discussing the outstanding matters with NWT further.
10.	Provide a note with further details on management of the community orchard (including the potential long-term management strategy)	The local community will have free access to the Community Orchard and will be invited to participate, at no cost to them, in its management. The details of the community involvement will be determined following consent in consultation with the Bathley Parish Council, within whose parish the Community Orchard is located. The implementation and management of the Community Orchard are described in the oLEMP and will be wholly funded by the Applicant. Item 9 in Table A5.1.3 in Technical Appendix A5.1 Outline Landscape and Ecology Management Plan has been updated to clarify the role of the local community.
11.	Update land plans and oLEMP plans to clarify the plots of land discussed and provide note regarding baseline mapping and key colour to clarify (i.e the wood-	**ES Volume 4, Appendix A5.1.1: oLEMP Appendix [EN010162/APP/6.4.5.1.1A]** has been updated to revise the key colour of the local wildlife sites throughout the plans. It is acknowledged that the ExA referred to the Land Plans on this matter during the hearing. However, it should be noted that the Land Plans do not refer

	pasture plot shown on the oLEMP plan (A5.1.1, sheet 3 and sheet 5).	to the wood-pasture plot. Therefore, the Applicant considers that only the oLEMP Appendix needs to be updated in this regard.
12.	Provide a note regarding the land parcel already allocated for flood compensation with respect to made planning decision raised by JPAG. Confirm whether or not this creates a conflict with the proposed development. (i.e. land parcel 39 in the Land Plans [APP-018]).	The Applicant understands that the S106 Agreement referred to relates to a residential Planning Permission (LPA Ref: 06/01180/FULM), which has been partially implemented. The S106 Agreement included an obligation to remove soil from the land referred to by JPAG in order to deliver flood compensation for that development. The land owner has confirmed to the Applicant that the works were undertaken in 2007. The Applicant also confirms that the Development does not include any works that would be incompatible with the S106 Obligation.
13.	Provide clarification on whether the approach to identification of what constitutes biodiversity 'enhancement' is consistent with the guidance for landscape and visual impact assessment on this point.	GLVIA3 paragraph 3.39 states that: *"Enhancement is not a formal requirement of the Regulations. It is often referred to incorrectly as an outcome of proposed mitigation measures for example where planting is proposed to mitigate landscape and/or visual effects but will also achieve an enhancement of the baseline condition of the landscape. In practice enhancement is not specifically related to mitigation of adverse landscape and visual effects but means any proposals that seek to improve the landscape and/or visual amenity of the proposed development site and its wider setting beyond its baseline condition."* Key points to consider in relation to the application of this guidance are as follows: GLVIA3 is only applicable to LVIA, and not to ecology/biodiversity or EIA more widely. The paragraph simply seeks to caution on the description of certain design measures as enhancement, where they should be referred to as mitigation. The paragraph is in a section of the guidance about mitigation – not about the assessment of effects and does not state or imply that effects arising from mitigation measures should not be reported. JPAG suggested that each part of the design should be identified as either mitigation or enhancement and not be 'double counted', with the further

		suggestion or implication that if a measure is provided as mitigation, any positive effects arising from it should not be reported. It is not the purpose of EIA assessment to explicitly classify the various design measures; the purpose is to report effects. In reporting effects, the fact that a part of the development is entirely or primarily proposed as a mitigation measure does not remove the need to report other effects that may arise from it. An example of this arises from considering a noise fence; it is not likely to be considered an appropriate approach to omit the reporting of adverse landscape and visual effects arising from that noise fence on the basis that it is provided as a noise mitigation measure. The reporting of positive effects (such as biodiversity enhancement arising from hedges provided for visual mitigation) is no different. This point is recognised within the quoted paragraph itself – in the example about mitigation planting, which explicitly mentions that enhancement to landscape condition may achieved via planting for visual mitigation. If the intention was to direct that mitigation planting for visual effects should not be stated to enhance landscape condition, then the paragraph could easily have included that advice, but does not. Please refer to Annex A for the extract from page 40 to 43 of GLVIA3. Read in full and in context (as an explanation of mitigation), it can be seen that the paragraph is providing the advice because describing a mitigation measure as enhancement and not mentioning its role as mitigation could lead to the failure to identify a mitigation measure within the assessment. Given that enhancement is optional and mitigation is required by the EIA Regulations, mitigation is the more important of the two and ensuring that each mitigation measure is explicitly identified as such is essential.
BNG Assessment Principles and Methodology		
14.	Provide further clarity and context with regards to the BNG assessment – either	The Applicant will share the revised BNG Assessment with NSDC and anticipates providing the revised version at Deadline 3 of the Examination.

	via an update to the assessment itself or in a separate note.	
15.	Address requests for clarification on points raised by NSDC in SoCGs and post hearing note.	The Applicant has sought clarification from NSDC and looks forward to discussing the outstanding matters with Officers.
General concern on cumulative assessment		
16.	Undertake discussions with local authorities relating to projects included in the cumulative impacts assessment including: i.updates to SoCG in terms of the agreed projects to be included ii.updates to the ES cumulative assessments before the end of the examination, as appropriate	Please refer to the Applicant's responses in the Statement of Common Ground with NSDC **[EN010162/APP/8.2] and in the SoCG with NCC [[EN010162/APP/8.1].**
17.	Please review Technical Appendix A2.1 – Cumulative Assessment Stages 1 and 2 [APP-191] at Figure A2.1.1 (a-d), noting that there is some confusion as projects are not listed by names but rather their reference numbers, which are not all up to date (eg the Steeple Renewables DCO application appears to have its scoping report reference)	Figure A2.1.1 (a-d) within ES Volume 4, Appendix A2.1: Cumulative Assessment Stages 1 and 2 **[EN010162/APP/6.4.2.1A]** has been updated and submitted at Deadline 1.
LVIA Cumulative Effects		

18.	Undertake discussions on the landscape and visual assessment, including cumulative effects, with Newark and Sherwood DC. This should include a specific section of SoCG.	The Applicant considers that it would be more appropriate to initially provide a technical note relating to cumulative assessment before moving on to deal with this matter within the SoCG. Please refer to the Applicant's responses in Appendix 3 on this.
BMV cumulative effects		
19.	The Applicant to provide a note on the revised cumulative figures relating to BMV land (i.e. the figures in Table 17.21 of ES Chapter 17 on cumulative effects). The Applicant is then to provide a revised ES Chapter 17 cumulative assessment during examination.	A revised table is provided in Appendix 4 of this Report. The updated collective total is 3,222 ha in total. This does not change the overall conclusion of the assessment.
20.	Provide information on sugar beet farming and how this has been included in the ES.	Sugar beet is a crop grown by three of the farms affected, as set out in **ES Volume 2, Chapter 17: Agricultural Land [EN010162/APP/6.2.17]** [APP-060] Table 17.10 (farms B, F and M). As set out in Table 17.16, the proportion of farms B, F and M within the Order Limits is 2%, 34% and 1% respectively, which equates to a total of approximately 250 ha. The majority of land from Farm F, which accounts for 224 ha of the 250 ha, is land at Park Lees and Knapthorne, used for feed wheat, milling oats, feed wheat and agri-environmental crop cover on rotation, and not for sugar beet growing. See the farm reports in Appendix A17.3 [APP-294]. The amount of sugar beet production affected will be minimal, being a proportion of a maximum of circa 50 ha of arable land, on which some sugar beet may periodically be grown on rotation.

		Accordingly to the latest Defra county analysis, in 2024 (the most recent figure available) the areas of “sugar beet (not for stock feed)” in Nottinghamshire and Lincolnshire were as follows: • Nottinghamshire: 3,824 ha • Lincolnshire: 18,433 ha

2.2 Further Action Points Raised During The Hearing And The Applicant's Post-Hearing Response

2.2.1 In addition to the points identified in the Action Points from Issue Specific Hearing 1 [EV3-009] which the Applicant has provided written submissions in response to in Table 2-1 above, the Applicant has subsequently identified additional points during ISH1 where it committed to providing the ExA with further information in writing. The Applicant considers it appropriate to address these points, and as such the table below sets out the Applicant's written submissions in respect of these further action points.

Table 2-2 Further action points raised during the hearing and the Applicant's post-hearing response

Ref	Further Action Point	Applicant's Responses
1.	The Applicant to respond to the ExA's and NSDC's questions on how the Development would acknowledge technological advancement and the respective impacts on the ES chapters	The Development has assumed the most efficient technology that can be reasonably be expected to be available at the time of construction. The Development has a grid connection date of 2028, which means that construction would take place as soon as practicable following the grant of development consent. The Applicant does not consider that there are likely material changes in the available technology between now and when construction would be expected. The assumptions set out in the ES has assessed the maximum parameters of the Development, and the Applicant is confident that any changes to technology that may arise within the foreseeable future can be accommodated within the defined Rochdale Envelope.
2.	The Applicant to provide more details on the application of the countryside stewardship scheme.	Section A5.1.7 in the **ES Volume 4, Appendix A5.1: Outline Landscape and Ecological Management Plan (LEMP) [EN010162/APP/6.4.5.1A]** includes management prescriptions and methods that are based on the grants available from the current Countryside Stewardship scheme. These methods are widely adopted, evidence-based, practical solutions to enhance wildlife in farmland. For the avoidance of doubt, the Applicant will not claim remuneration from the Countryside Stewardship grants; such a claim is also not possible under the terms of the grants.

3.	The Applicant to provide a reference to habitat and vegetation baseline in the ES Chapter 8	Priority habitats are identified in **ES Volume 4, Appendix 8.3: Habitats and Vegetation Baseline [EN010162/APP/6.4.8.3A]** and the desk study results are presented in Section A8.3.3.1.1 of the baseline study. Survey results are presented in section A8.3.3.2.1 onwards. Table 8.7 in **ES Volume 2, Chapter 8: Ecology and Biodiversity [EN010162/APP/6.2.8]** [APP-051] identifies priority habitats (also known as Habitats of Principal Importance, HPI) in determining Important Ecological Features.
4.	The Applicant to update the ES cumulative assessment before the end of the examination, where appropriate.	The Applicant notes this and will provide an updated position on this before the close of Examination.
5.	The Applicant to review the reference to the Tillbridge Solar and its approach to the sequential view	Please refer to the Applicant's responses in Section 6 of Appendix 3 on this.

APPENDIX 1: TECHNICAL NOTE ON NUMBER OF HOMES

1. Introduction

1.1 This document responds to the request from *the ExA* for a clarification on the basis for the statement that the Development would generate annually an amount of electrical energy equivalent to the electrical consumption of approximately 400,000 homes.

1.2 It should be noted that that the number of homes equivalent does not influence the findings of the Environmental Statement, nor is it required to evaluate compliance with relevant policy. It is used in communication with the public in order to put the generation capacity of a solar farm into a context that is more relatable to people not familiar with MegaWatt-hours (MWh).

2. The Calculation of Number of Homes Equivalent

2.1 The number of homes-equivalent of electrical energy generation is calculated using the following formula:

Formula 1:

$$\text{Number of homes} = \frac{\text{Annual electrical energy generation from the Development}}{\text{Annual electrical energy consumption by one home}}$$

2.2 The annual electrical energy consumption by one home is taken from OFGEM for a "medium usage" home[4], as being 2.7 MWh (which is equivalent to 2,700 kWh).

2.3 The annual electrical energy generation from the Development is calculated as:

Formula 2:

$$\text{Annual electrical energy generation from the Development} = \text{Generation capacity of the Development (MWp)} \times \text{Energy generated per unit of capacity (MWh/MWp)}$$

2.4 The illustrative generation capacity of the Development is 1,120 MWp. This is calculated as the overplanting ratio (1.4, for this Development) multiplied by the grid export capacity (800 MW).

2.5 The energy generated per unit of generation capacity has been modelled as 1,005 MWh/MWp. This has been modelled using PVSyst software, which is

[4] OFGEM (2025). Average gas and electricity usage. https://www.ofgem.gov.uk/information-consumers/energy-advice-households/average-gas-and-electricity-use-explained [accessed on 03/12/2025]

industry-standard solar farm layout and yield modelling software. For this calculation, the configuration of PVSyst included the following key parameters:

2.6 The yield and extent of panel-to-panel shading, which PVSyst calculates from the following input parameters:

- Panel layout (i.e., solar panels on fixed table supports (sheds) facing south);
- Panel tilt (20 degrees);
- Panel maximum height (2.47 m);
- Panel minimum height (0.8 m);
- Horizontal separation of the panels (3.2 m);
- The geographic location of the Development (location divided into four sections: Ossington East, Ossington West, Hockerton and Maplebeck); and

The type of solar PV modules (740Wp Heterojunction (HJT) Bifacial Modules).

2.7 Beyond these parameters, the specific layout of the panels does not typically make appreciable difference to the results. The results are therefore expected to be representative of the illustrative layout shown in Environmental Statement Figure 5.4 (AS-033).

2.8 Using formula 2, the annual electrical energy generation from the Development is therefore 1,120 x 1,005 = 1,125,600 MWh.

2.9 Using formula 1, the number of homes equivalent is therefore 1,125,600 MWh / 2.7 MWh = 416,889 homes.

2.10 This was quoted, for communication purposes, as “approximately 400,000 homes”.

3. Alternative Calculations

3.1 There is a similar, but alternative calculation that can be used to calculate the Annual electrical energy generation from the Development, in place of Formula 2, above, based on a “capacity factor”. A capacity factor is the average generation output power as a percentage of the maximum theoretical generation capacity. The alternative calculation is:

Formula 2b:

Annual electrical energy generation from the Development	=	Generation capacity of the Development (MWp)	x	Capacity factor	x	Number of hours in a year

3.2 The number of hours in a year is 8,760, assuming it is not a leap-year.

3.3 The capacity factor of a Development, before it is constructed and operated (at which point it can be measured), can be calculated by software such as PVSyst, referred to above. Using such a method would lead to an identical annual electrical energy generation from the Development to that set out in Section 2, above.

3.4 Alternatively, typical values can be used for the capacity factor, although these may not reflect site-specific meteorological conditions nor project-specific designs and PV module choices. Typical capacity factor values for modern solar PV modules in the UK are 10-12%[5].

3.5 Using a value of 10%, the annual electrical energy generation from the Development would be calculated using formula 2b as 1,120 x 0.10 x 8,760 = 981,120 MWh, and then using formula 1, the number of homes equivalent would be 1,125,600 MWh / 2.7 MWh = 363,378 homes.

3.6 Using a value of 12%, the annual electrical energy generation from the Development would be calculated using formula 2b as 1,120 x 0.12 x 8,760 = 1,177,344 MWh, and then using formula 1, the number of homes equivalent would be 1,125,600 MWh / 2.7 MWh = 436,053 homes.

3.7 The quoted figure of approximately 400,000 homes remains appropriate with the alternative calculations, therefore.

[5] Department for Energy Security and Net Zero (2025). Load factors for renewable electricity generation (DUKES 6.3). Available at: https://www.gov.uk/government/statistics/renewable-sources-of-energy-chapter-6-digest-of-united-kingdom-energy-statistics-dukes [accessed on 04/12/2025].

APPENDIX 2: CLIMATE CHANGE TECHNICAL NOTE

4. Large-Scale, Low-Carbon Electricity Generation

4.1 The savings of carbon, overall, shown in Table 15.8 are approximately **790,000 teCO2e**. These are lower per unit of electrical energy generated than for previous solar DCOs (**0.02** $teCO_2e$/MWh for the Development c.f. **0.30** $teCO_2e$/MWh for previous solar DCOs), because of the assumption that emissions at the future projected carbon intensity of the grid would be saved by the Development, which differs from that of previous solar DCOs. If the same assumptions were used for this Development as for previous solar DCOs (i.e., displacing emissions from gas CCGT generated electricity at 0.35 gCO2/kWh), the savings would be **0.28** $teCO_2e$/MWh, which is similar to previous solar DCOs. [See Table 1 in Appendix 2 for supporting data on this] What this shows is that, in carbon terms, there is nothing fundamentally different for this Development than for other recent solar DCO applications; the difference in numbers arises from a difference in calculation methods, resulting from the anticipated decarbonization of the electrical grid.

5. NPS EN-1

5.1 National policy, NPS EN-1, para 2.3.7, sets out the need for an increase in electricity generation, to support an increasing population and increased electricity use per capita arising from the increase in electric vehicles and heat-pumps, amongst other things, with perhaps a doubling in the required electricity by 2050. It requires that this electricity generation is low carbon (it does not require a net saving of carbon to be made compared to an alternative scenario). If the electricity generated by the Development's solar PV is additional, rather than displacing other electricity, then the "emissions saving" would be relative to other generation capacity that would need to be installed/operated instead. Regardless of the assumptions in the calculations, the Development is "low carbon" and therefore meets policy tests.

6. Carbon budget comparison

6.1 The Stonestreet Solar applicant provided, at Examination, a comparison of the marginal long-run carbon intensity for generation for the whole grid with that for the Stonestreet development during its operational phase, for the years covered by the government's published Carbon Budgets.

6.2 This shows that the operational carbon intensity of the Development will be more than 100 times lower than DESNZ long term projections of grid electricity generation in the opening years and over the 5th and 6th Carbon Budgets. We can submit this information in writing at Deadline 1 if it would help.

6.3 We have, in advance of this Examination, made a comparison of DESNZ projected long run marginal grid electricity generation factors with the operational carbon intensity for the Development in it's opening/construction years (2026 and 2027, which sits within the 4th Carbon Budget) and over the 5th and 6th Carbon Budget periods. [See Table 2 in Appendix 2 for supporting data on this.]

Table 1: The Development's net carbon intensity compared to that of four other recently consented solar DCO projects, calculated using the same assumptions about displaced emissions

DCO Solar Project	Net Carbon savings (teCO2e)	Source	MWh total	Source	teCO2e saved per MWh	Assumed carbon intensity of displaced emissions, basis
Byers Gill	2,481,225	TA A5.1 GHG assessment page 2, total savings minus total emissions	9,402,000	TA A5.1 GHG assessment page 2	**0.26**	354 gCO2/kWh, CCGT
Tillbridge	13,776,400	Calc from CCGT carbon intensity * MWh generation, minus lifecycle carbon emissions, section 7.8.24[6]	48,500,000	Section 7.8.19[7]	**0.28**	354 gCO2/kWh, CCGT
Stonestreet Green	1,921,422	Calc from CCGT carbon intensity * MWh generation, minus lifecycle carbon emissions, section 15.6.18[8]	5,714,836	Section 15.6.15[9]	**0.34**	371 gCO2/kWh, CCGT
Oaklands Farm	1,240,148	EN010122-000514-EN010122 D3 6.1 ES Chp 13 Climate Change Clean.pdf	3,815,246	EN010122-000514-EN010122 D3 6.1 ES Chp 13 Climate Change Clean.pdf	**0.33**	Not clearly stated

[6] https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010142-000399-6.1%20Chapter%207%20Climate%20Change.pdf
[7] https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010142-000399-6.1%20Chapter%207%20Climate%20Change.pdf
[8] https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010135-000511-SSG_5.2_ES%20Vol%202%20Chapter%2015_Climate%20Change.pdf
[9] https://nsip-documents.planninginspectorate.gov.uk/published-documents/EN010135-000511-SSG_5.2_ES%20Vol%202%20Chapter%2015_Climate%20Change.pdf

GNR worst-case	789,292	Table 15.10, future projected	40,677,208	Sum of col 4 of Table A15.1.19	0.02	207 gCO2/kWh, 2024 generation-based long-run marginal
GNR 2024 Grid Mix	6,600,408	Table 15.9, 2024 grid average	40,677,208	Sum of col 4 of Table A15.1.20	0.16	Predicted generation-based long-run marginal (174 gCO2/kWh in 2026, decreasing over time)
GNR vs CCGT	11,216,336	Table 15.9, recreated based on a regeneration of Table A15.1.20 using 0.354 instead of 0.20705 for the carbon intensity.	40,677,208	Sum of col 4 of Table A15.1.20	**0.28**	354 gCO2/kWh, CCGT

Table 2: Development operational phase GHG intensity comparison to long run marginal grid generation factors in opening years and across 5th and 6th Carbon Budget period [10]

Carbon budget	Year	Long Run Marginal Generation grid factor (teCO2e/MWh)	Development operational GHG intensity as % of Grid factor
4	2026	0.1741	0.05%
	2027	0.1542	0.04%
5	2028	0.1328	0.77%

[10] These calculations include power use, water/food use by workers, waste transport, worker transport and methane emissions from sheep. It should be noted that the operational phase GHG emissions are dominated by emissions of methane from sheep. The following assumptions are made:

- There are no sheep in 2026 or 2027 - construction still underway/vegetation is still establishing
- Operational emissions in 2026 and 2027 are the same as 2028 (they were not evaluated during the construction phase)
- No equipment replacements (e.g., inverters) are proposed before 2038, therefore there would be no waste from replacements.
- Includes the energy generated only (i.e., excluding the BESS), assumes all energy is exported
- Ignores any benefits of land use change, as this will still be establishing in the early years.

	2029	0.1097	0.93%
	2030	0.0850	1.21%
	2031	0.0652	1.58%
	2032	0.0501	2.06%
6	2033	0.0384	2.70%
	2034	0.0295	3.52%
	2035	0.0226	4.62%
	2036	0.0174	6.02%
	2037	0.0133	7.91%

APPENDIX 3: CUMULATIVE LANDSCAPE AND VISUAL TECHNICAL NOTE

1. Introduction

1.1 This technical note addresses the approach that an Applicant should take to the assessment of cumulative landscape and visual effects, and the approach taken by the Applicant for Great North Road Solar and Biodiversity Park ('GNR') to its existing assessment. Annex A is an extract from one of the guidance documents referred to below.

1.2 Particular reference is made to:

- **ES Volume 4, Appendix A3.1 – EIA Scoping Report [EN010162/APP/6.4.3.1]** [APP-192];
- **ES Volume 2, Chapter 7: Landscape and Visual Impact Assessment (LVIA) [EN010162/APP/6.2.7]** [APP-050]; and
- **ES Volume 4, Appendix A7.2 – EIA Scoping Report [EN010162/APP/6.4.7.2]** [APP-209].

1.3 This note covers the principles and purposes of cumulative assessment with reference to relevant legislation, policy and guidance; and the methodology used for cumulative assessment within **ES Volume 2, Chapter 7: LVIA [EN010162/APP/6.2.7]** [APP-050].

2. Principles and purposes of cumulative assessment

2.1 NPS (EN-1) states that the Secretary of State should consider how the "accumulation of, and interrelationship between effects might affect the environment, economy or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place." (paragraph 4.3.19). In addition, the EIA Regulations[11] require the ES to provide "A description of the likely significant effects of the development on the environment resulting from, inter alia … the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources". Neither of these documents specify how this should be done – for instance it is not specified that a single 'cumulative effects assessment' must contain all of the required information.

2.2 The principle of the planning system that each application must be considered on its own merits is not altered by these requirements. The operation of this principle in relation to landscape and visual effects in the case of multiple developments of the same type in one place is best understood by way of a simple example.

2.3 For instance, an application is made for a new house at the edge of a village. In this case it is very unlikely that the applicant would be requested to provide

[11] The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, Schedule 4

an assessment of cumulative effects which 'added up' the effects of both the village and the house, nor would it be suggested that the changes that would arise from building that house must be greater because the village is already there.

2.4 Extending this to consented development, consider the same example, but with the addition that another developer had previously gained consent for 10 houses on a plot adjacent to the proposed new house. In this instance the decision maker would take account of this adjacent consent, but in doing so would not be expected to request that the applicant provide an assessment of cumulative effects which 'adds up' the effects of the consented development and the house. Such an assessment would not help them to consider the effects of the new house; it would mostly tell them about the effects of the larger development of 10 houses – a decision already made which they may not revisit.

2.5 In these simple examples, the focus of the decision-maker would be on the effects of the proposed development – the single house, and it is readily understood that the existing village (operational development) does not add to its effects, and nor would the adjacent consent. However, both the village and the consented houses would form part of the context (the current and future baseline) within which the new house would be built – factors that would that need to be taken into account in decision-making.

2.6 This basic principle, that it is the effects of the proposed development which require consideration, remains unchanged regardless of the nature of the development; the complexity or quantum of existing and consented development; the relative scale of the developments, or the requirement to consider cumulative effects. The purpose of describing cumulative effects is to ensure that other changes to the environment which are expected to arise before or alongside the proposed development are considered in making a decision.

2.7 As set out by the Applicant during ISH1, different environmental topics may take different approaches to cumulative effects depending on the policy or regulations that their topic needs to address. For topics where upper limits or thresholds are set by regulations or policy for the degree of acceptable change (for example noise limits at homes), there is a need to 'add up' the effects of the current baseline, future baseline and proposed development to evaluate whether that combination would exceed the threshold. For landscape and visual effects there is no policy or regulation which sets upper limits for cumulative changes to landscape character or views – the landscape may continue to evolve indefinitely. Similarly, there is no fixed point in time, (past, present or future) against which all changes to the landscape and views must be evaluated. Each change to the landscape moves forward to a new baseline (the landscape present now), and each consented development moves forward to a new, accepted future baseline (the landscape that will soon be present). It is also important to note that the EIA regulations require the "description" of the likely significant effects – not their quantification.

2.8 Taking these factors into account, it is important to recognise that the purpose of a landscape and visual cumulative effects assessment is not to 'add up'

landscape changes to inform a consideration of whether 'too much' landscape change would take place. In the absence of policy or regulation setting upper limits, the provision of an assessment which 'adds up' the effects of operational and consented developments also would not aid the decision to be made – it would describe either in part or mostly the effects of decisions already made which are not within the remit of the current application.

2.9 The question to be addressed in the LVIA is the likely significant effects of the proposed development in the context of the landscape within which they are likely to arise – the future baseline.

2.10 The purpose of the cumulative effects assessment in that context is to consider other possible scenarios which may arise – i.e. that projects currently not consented may become so during the time between the assessment and a decision being made. Providing an assessment of cumulative effects 'just in case' other developments are consented aims to ensure that should that situation arise, assessments do not need to be updated in order to inform the decision – the assessment of likely significant effects of the proposed development in that scenario has already been provided.

3. Guidance

3.1 The principles set out above are recognised within both of the main guidance documents relevant to considering cumulative landscape and visual effects. Paragraph 7.13 of GLVIA3 2 (see extract in Annex A) advises that:

"Taking 'the project' to mean the main proposal that is being assessed, it is considered that existing schemes and those which are under construction should be included in the baseline for both landscape and visual effects assessments (the LVIA baseline). The baseline for assessing cumulative landscape and visual effects should then include those schemes considered in the LVIA and in addition potential schemes that are not yet present in the landscape but are at various stages in the development and consenting process: schemes with planning consent; schemes that are the subject of a valid planning application that has not yet been determined. Schemes that are at the pre-planning or scoping stage are not generally considered in the assessment of cumulative effects because firm information on which to base the assessment is not available and because of uncertainty about what will actually occur, that is, it is not 'reasonably foreseeable '." [12]

3.2 PINS guidance 'Advice on Cumulative Effects Assessment' [13] advises that:

3.3 *"Where other projects are expected to be completed before construction of the proposed NSIP and the effects of those projects are fully determined, effects arising from them should be considered as part of the baseline and may be considered as part of both the construction and operational assessment. The*

[12] Landscape Institute and Institute of Environmental Management and Assessment (2013). Guidelines for Landscape and Visual Impact Assessment: Third Edition (GLVIA3)

[13] Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment - GOV.UK

ES should clearly distinguish between projects forming part of the dynamic baseline and those in the CEA." (CEA – Cumulative Effects Assessment).

3.4 An important point to note in both of these pieces of guidance is that they definitively state that other projects and/or the effects arising from them are to be included in the relevant baseline – they do not advise that they be included in the assessment of effects. The glossary of GLVIA3 (see Annex A) defines 'baseline studies' as the process of identifying and describing "*the environmental conditions against which any future changes can be measured or predicted and assessed*."

3.5 Taking those two slightly different pieces of guidance into account, it is clear that operational projects form part of the LVIA baseline. What is less clear is how to treat consented development, given that a consented development may commence construction at any point in time after its consent. With this ambiguity in guidance, some practitioners prefer to provide an assessment in the main LVIA that only takes account of operational development, on the basis that consented development may not be built. For instance, in the recent past this has been a pertinent consideration for wind farms in Scotland where changes in the funding regime for wind farms meant that some consented projects became financially unviable. However, that it is possible that some consented projects may not be built should not be taken to form a principle that consented development should always or usually be considered in the cumulative effects assessment.

3.6 What is important is to provide a main LVIA which realistically describes the likely significant effects of the proposed development. In most circumstances it is highly likely that consented development will be built within either a relatively short timeframe after consent (if a different timing is not specified in the application or consent), or in the timeframe set out within the application and/or consent for that development.

3.7 Beyond the guidance described above, more recent guidance and decisions provide helpful clarification as follows:

3.8 PINS advice note 17 has been updated and the pertinent section now contains an example which clarifies when and why the effects of consented projects might be considered too uncertain to include in the future baseline: *"If the effects of other existing and, or approved development under construction are not yet fully determined, for example the outcome of mitigation is being monitored and is not yet known, it may be appropriate to consider these in the CEA."*

3.9 The High Court decision in relation to a proposed coal mine near Whitehaven (Friends of the Earth v SoS Levelling Up, Housing and Communities & others [2024] EWHC 2349 (Admin), includes at paragraph 70 the following clarification of the way in which 'likely significant effects' should be interpreted:

3.10 *"The EIA Regulations involve predicting what are "likely" effects ([72]). There are potentially different interpretations of what is meant by "likely" ([73]). …where a lack of evidence means that a possible effect is simply a matter of conjecture or speculation, then it would not be possible rationally to conclude that it is "likely." Material should only form part of an EIA if it is*

information on which a reasoned conclusion could properly be based. Conjecture and speculation have no place in the EIA process. So, if there is insufficient evidence available to found a reasoned conclusion that a possible effect is "likely", there is no requirement for that effect to be identified and assessed …. "

3.11 In the recent decision in relation to Dragon Energy (CAS-01859-K1M7Y6 – paragraph 127), the Inspector set out their approach to considering cumulative effects in the context of a disagreement between the parties as to the correct approach, as follows:

3.12 *"Turning to the assessment of cumulative effects, in particular in relation to concerns relating to the inclusion of existing infrastructure, such as the Valero oil chimneys. The applicant has confirmed that the Planning Inspectorate Advice Note 17 (PINS Note) has been followed which, although dealing with Nationally Significant Infrastructure Projects in England, is helpful insofar as it specifically directs that existing development be included as part of the baseline and not within the assessment of cumulative effects. As PCNPA's SPG might indicate a different approach, the implication arising is that its judgements of impact will lean towards 'higher' than those in the ES LVIA as it is reflective of the effects arising from the combination of existing development with the proposed development. For clarity, I have approached the assessment of cumulative effects in a manner consistent with the advice in the PINS Note*."

3.13 From this decision it can be seen that the need to consider the 'worst case' effects of the proposed development does not extend to using a method of cumulative assessment that results in identifying greater effects because it combines the effects of multiple developments.

3.14 The question of whether the combined effects of operational and consented development together with the proposed development should be assessed was also recently and explicitly considered in relation to Byers Gill Solar, where considered during the Examination. The approach to considering cumulative landscape and visual effects used in that assessment was the same as for this project, and the LVIA was undertaken by the same assessor with the only difference being that cumulative effects for that project were set out within a dedicated chapter rather than in each topic chapter. A similar technical note to this one was provided to that Examination (see EN010139-000917-submissions received by Deadline 5 1.pdf). No further assessment of combined landscape and visual effects was requested to be provided to the Examining Authority for Byers Gill Solar [14]. The Examining Authority's consideration of this matter is set out at 3.14.37 to 3.14.42 of the report, concluding in paragraph 3.14.42 that "*It is the ExA's view that cumulative inter-project impacts have been adequately considered as evidenced through ES Chapter 13 Cumulative Effects [AS-033]*". In consenting the development the Secretary of State agreed with the ExA's conclusions in relation to cumulative

[14] An updated cumulative assessment was requested and provided, but this update covered an amended project shortlist and confirmation of the methodology, as shown by the tracked change version EN010139-001013-6.2.13 ES Chapter 13 Cumulative Effects (Revision 2) Tracked.pdf

effects (see paragraphs 7.2 and 7.3 of the decision letter (EN010139-001198-SoS Decision Letter.pdf).

4. Methodology: Main LVIA

4.1 The approach to the assessment of landscape and visual effects for GNR takes account of the factors discussed above as follows:

4.2 Guidance is clear that operational developments and those under construction should be included in the baseline. For consented developments it is relevant to consider whether an assessment of effects without them is needed, for example because they are likely not to be built; are likely to be built after the proposed development; or because the effects that may arise from them are not yet reasonably foreseeable.

4.3 In the context of GNR it is not likely that GNR would be either constructed or operated in a context within which none of the shortlisted consented developments have been constructed; this is a possibility which falls within the realms of 'conjecture or speculation'. All of them would be expected to commence and/or complete construction before GNR. On this basis there is no need to assess effects against a baseline which does not include consented developments.

4.4 No further processes are required to determine the landscape and visual effects of the consented developments included in the shortlist for GNR; they are reasonably foreseeable from the information already known about the developments.

4.5 Within the **ES Volume 4, Appendix A3.1 – EIA Scoping Report [EN010162/APP/6.4.3.1]** [APP-192], the proposed approach to the assessment of cumulative landscape and visual effects was set out within section 5.6, as follows:

"Existing developments will be considered as part of the baseline, and consented development as part of the future baseline. Thus, cumulative effects with these will be considered in the main body of the assessment."…

4.6 *"Effects with relevant proposed developments (or other changes) will be considered in a scenario-based cumulative assessment so that the effects of different combinations are described and considered.*

4.7 The **ES Volume 4, Appendix A3.2 – EIA Scoping Opinion [EN010162/APP/6.4.3.2]** [APP-198] made no comment on this proposed approach.

4.8 On this basis, the main LVIA provided in section 7.7 of **ES Volume 2, Chapter 7: Landscape and Visual Impact Assessment (LVIA) [EN010162/APP/6.2.7]** [APP-050] considers both operational and consented developments to form part of the baseline and future baseline for the LVIA.

4.9 With developments that form part of the baseline, it would be possible to take account of these either in the analysis of the sensitivity of receptors or in considering the magnitude of impacts. There is no guidance which directly

advises which approach is correct. Taking account of existing and consented developments in sensitivity judgements creates the risk of accidentally double-counting by including consideration in both sensitivity and magnitude; it may create unnecessary divergence from published baseline studies of landscape character sensitivity which tend not to overtly take account of existing development as a factor in reducing or increasing sensitivity, and has limited relevance when considering the sensitivity of visual receptors for whom the primary considerations are the value of a view and "*the occupation or activity of people experiencing the view at particular locations; …and the extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience*" (GLVIA3, para 6.32 – see Annex A) rather than the nature of what they can see.

4.10 For these reasons, the methodology used takes account of the current and future presence of development in considering the magnitude of impact. Three separate judgements are made in considering the magnitude of impact as set out in section A7.2.5 of **ES Volume 4, Appendix A7.2 – EIA Scoping Report [EN010162/APP/6.4.7.2]** [APP-209]. These relate to scale, extent and duration of the change to the baseline situation which would be brought about by the proposed development. The consideration of other developments may affect any or all of these factors – for example where an existing or consented development would entirely or mostly screen the proposed development from view, the scale of visual change arising from the proposed development is likely to be reduced compared to a situation in which that other development is not present and the proposed development is fully visible. In another example, changes to landscape character arising from views of a proposed solar farm in nearby fields are unlikely to arise in locations which are, or will be, within or adjacent to another solar farm – and thus the extent of those changes is reduced compared to a situation in which no other solar farm is present. As a final example, the duration of a change may be reduced if there is presently an open view from a location, and the proposed development would be visible, but planting included in a consented development will screen that view in future.

4.11 In considering the magnitude of impact on each receptor, the LVIA for GNR takes account of the current baseline and how that will change as a result of consented developments (and other foreseeable changes to the landscape) to construct the future baseline into which GNR would be introduced. Then the judgements about the scale, extent and duration of changes to that future baseline which would arise from the proposed development are made and combined to reach a judgement of magnitude.

5. Methodology and Effects: Cumulative Effects Assessment

5.1 As described above, the main LVIA for GNR is, 'inherently cumulative' in relation to operational and consented developments – they have already been taken account of in assessing the effects of the proposed development.

5.2 The only task remaining therefore is to consider the potential effects of the proposed development in the situation that one or more current applications is consented before the decision is made in relation to GNR and therefore may need to be taken into account (as discussed in paragraph 10 above). In

relation to this, PINS guidance 'Advice on Cumulative Effects Assessment'[15] advises that "*In preparing the assessment, applicants should remember that a main purpose of the Environmental Statement is to enable the examination necessary to inform decisions on the NSIP application. While applicants should make a genuine attempt to assess the effects arising from multiple, individually non-significant effects, the assessment should be proportionate and no longer than necessary to identify and assess likely significant cumulative effects. ... Some effects may only need brief information to indicate that they have been considered.*"

5.3 In a similar vein, GLVIA3 advises at paragraph 3.19 that *"Some possible effects … may have been judged unlikely to occur or so insignificant that it is not essential to consider them further*".

5.4 Bearing this guidance in mind, the assessment provided at section 7.9 of **ES Volume 2, Chapter 7: Landscape and Visual Impact Assessment (LVIA) [EN010162/APP/6.2.7]** [APP-050] first refers to how existing and consented development has been considered (paragraph 309); provides the rationale as to why combined effects are not considered (paragraph 311), and then sets out the scope of assessment and projects included – noting the reasoning behind the exclusion of some receptors (paragraph 312) and projects (section 7.9.1).

5.5 The assessment then moves on in section 7.9.2 to consider the effects of GNR with Kelham solar farm and the SSE BESS. The assessment sets out the localised differences to effects that would arise were either or both of the two developments to be consented, concluding in paragraphs that these would not be sufficient to alter the significant effects identified in the main LVIA (section 7.7).

5.6 What this effectively means is that in the event that one of more of the projects identified in the long or short lists is consented - the effects of GNR would remain as reported in section 7.7 of **ES Volume 2, Chapter 7: Landscape and Visual Impact Assessment (LVIA) [EN010162/APP/6.2.7]** [APP-050] and no different or additional significant effects would be expected to arise.

6. Sequential Views

6.1 During ISH1 Newark and Sherwood District Council raised matters relating to the consideration of sequential effects, comparing the assessment approach used for GNR to that used for the Tillbridge Solar Project. Sequential views relate to different views of the development and/or other developments experienced as people move through the landscape as referenced at 6.22 of GLVIA3 "*sequential views along key routes and transport corridors*" and 7.3 of GLVIA3 "*effects which 'occur when the observer has to move to another viewpoint to see different developments*".

6.2 In the Tilbridge examination report (Tillbridge Solar Project Recommendation Report), *the ExA* concluded at paragraphs 3.7.131-3.7.133 that "*the applicant updated the ES to include an assessment of sequential cumulative visual*

[15] Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment - GOV.UK

effects at tables 18-16 to 18-18 [REP6-013]….We agree with the applicant that there would be significant landscape and visual cumulative effects. However, we consider that these effects have been underestimated in the applicant's assessment…. We consider that the applicant's focus on specific viewpoints neglects the sequential cumulative effects experienced when receptors move through the landscape." As can be seen from a review of the assessment being referred to, the analysis provided simply works through a number of viewpoints, identifying the effects at each.

6.3 That approach is in marked contrast to the approach used for GNR. The assessment provided in **ES Volume 2, Chapter 7: Landscape and Visual Impact Assessment (LVIA) [EN010162/APP/6.2.7]** [APP-050] considers visual receptor groups and key routes; describing, illustrating (see **ES Volume 3, Figure 7.6 Visual Receptors Before Mitigation [EN010162/APP/6.3.7.6]** [APP-103] and **ES Volume 3, Figure 7.7 Visual Receptors After Mitigation [EN010162/APP/6.3.7.7]** [APP-104] and assessing effects on every part of every Public Right of Way and local road within the study area; and each of the longer distance routes through the study area. As discussed above and during ISH1, the main LVIA provided for GNR takes account of operational and consented developments. As also discussed during ISH1, the assessment provided also explicitly considers the extent of effects (which includes repeated views) in reaching magnitude judgements.

6.4 As confirmed at section 310 of **ES Volume 2, Chapter 7: LVIA [EN010162/APP/6.2.7]** [APP-050], the cumulative effects assessment provided in section 7.9 "*is based on the same landscape and visual baseline and receptor groups as the main LVIA, and the methodology is the same in terms of forming and expressing judgements.*"

6.5 Given the substantial differences between the assessment being referred to in the Tillbridge report and the LVIA for GNR, the observations made by *the ExA* in relation to the assessment of sequential effects for Tillbridge are not considered to be applicable to the assessment for GNR.

APPENDIX 4: REVISED BMV CUMULATIVE FIGURES

Revised Table 17.21: Baseline ALC Information (updated December 2025)

Project	PINS ref.	Developer/development	District	ALC data	BMV Total
West Burton Solar Project	EN010132	West Burton Solar Project Limited >50MW solar farm	West Lindsey	Grade 1= 17.6ha Grade 2= 9.5ha Subgrade 3a= 172.4ha Subgrade 3b= 557.0ha Non-agricultural = 1.3ha Total = 757.8ha BMV % (26.3%)	199.5 ha
Gate Burton Energy Park	EN010131	Gate Burton Energy Park Ltd 500 MW solar farm	West Lindsey	Subgrade 3a= 73.6ha Subgrade 3b= 548.9ha Non-agricultural = 18.2ha Estimated Subgrade 3b = 4.5ha Total = 645.2ha. BMV % (11.4%)	73.6 ha
Steeple Renewables	EN010163	Renewable Energy Solutions (RES) 400 MW solar farm	Bassetlaw	Grade 1= 56.36ha Grade 2= 153.57ha Subgrade 3a= 430.32 Subgrade 3b= 81.76ha Total 722ha BMV % (88.7%)	640.5 ha
Cottam Solar Project	EN010133	Cottam Solar Project Limited >50MW solar farm	West Lindsey	Grade 2 = 6.1ha Subgrade Grade 3a= 42ha Subgrade Grade 3b= 1118.3ha	

Project	PINS ref.	Developer/development	District	ALC data	BMV Total
				Not surveyed= 13.3ha Total = 1,179.7ha BMV % (4.2%)	48.1 ha
Tillbridge Solar Project	EN010142	Tillbridge Solar Limited >50MW solar farm	West Lindsey	Grade 2 = 8ha Subgrade 3a= 103ha Subgrade 3b = 1218ha Grade 4 = 1ha Total = 1,330ha BMV % (8.3%)	111.0 ha
Springwell Solar Farm	EN010149	Springwell Energy Farm Limited >50MW solar farm	North Kesteven	Grade 2 = 604ha Subgrade 3a = 377.5ha Subgrade 3b= 494.7ha Total = 1,476.2ha BMV % (66.5%)	981.5 ha
Heckington Fen	EN010123	Ecotricity (Heck Fen Solar) Limited >50MW solar farm	North Kesteven	Grade 1 = 58ha Grade 2= 39ha Subgrade 3a= 160ha Subgrade 3b= 265ha Non-agricultural= 2ha Total = 524ha BMV % (49%)	257.0 ha
Lincolnshire Reservoir	WA010003	Anglian Water New reservoir proposal	North Kesteven	No ALC data – still at pre-application stage.	No data available

Project	PINS ref.	Developer/development	District	ALC data	BMV Total
Beacon Fen	EN010151	Beacon Fen Energy Park Limited >50MW solar farm	North Kesteven	Grade 2= 14.6ha Subgrade 3a= 235.5ha Subgrade 3b = 261.4ha Other= 16.6ha Total = 528.2ha BMV % (47%)	250.1 ha
One Earth Solar Farm	EN010159	One Earth Solar Farm >50MW solar farm	Newark and Sherwood Bassetlaw Lincolnshire	Grade 2= 244.8ha Subgrade 3a= 416.1ha Subgrade 3b = 579.5ha Total = 1240.4 ha BMV % (53.3%)	660.9 ha
Total				**Total area = 8,403.5 ha**	**3,222.2 ha**

ANNEX A EXTRACTS FROM GLVIA3

dscape and Visual Impact
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ROUTLEDGE

Step 2: Combining the judgements

3.28 The next step is to combine the separate judgements on the individual criteria. The rationale for the overall judgement must be clear, demonstrating:

- how susceptibility to change and value together contribute to the sensitivity of the receptor;
- how judgements about scale, extent and duration contribute to the magnitude of the effects; and
- how the resulting judgements about sensitivity and magnitude are combined to inform judgements about overall significance of the effects.

3.29 Combining judgements should be as transparent as possible. It is common practice to arrive at judgements about the significance of effects simply by combining the judgements about the sensitivity of the receptor and the magnitude of the effect. This can be useful but is also an oversimplification unless it is made clear how the judgements about sensitivity and magnitude have themselves been reached.

3.30 There are several possible approaches to combining judgements, including:

- **Sequential combination:** The judgements against individual criteria can be successively combined into a final judgement of the overall likely significance of the effect, with the rationale expressed in text and summarised by a table or matrix.
- **Overall profile:** The judgements against individual criteria can be arranged in a table to provide an overall profile of each identified effect. An overview of the distribution in the profile of the assessments for each criterion can then be used to make an informed overall judgement about the likely significance of the effect. This too should be expressed in text, supported by the table.

3.31 Both of these methods have been advocated by different EIA guidance documents and both can meet the requirements of the Regulations provided that the sequence of judgements is clearly explained and the logic can be traced. The approach adopted in an LVIA will often be influenced by the overall approach in an EIA and the EIA co-ordinator will often seek internal consistency within a project.

Step 3: Judging the overall significance of the effects

3.32 The Regulations require that a final judgement is made about whether or not each effect is likely to be significant. There are no hard and fast rules about what effects should be deemed 'significant' but LVIAs should always distinguish clearly between what are considered to be the significant and non-significant effects. Some practitioners use the phrase 'not significant in EIA terms' to describe those effects considered to fall below a 'threshold' of significance but this can potentially confuse since the phrase has no specific meaning in relation to the EIA Regulations (IEMA, 2011b: 61).

3.33 It is not essential to establish a series of thresholds for different levels of significance of landscape and visual effects, provided that it is made clear whether or not they are considered significant. The final overall judgement of the likely significance of the

predicted landscape and visual effects is, however, often summarised in a series of categories of significance reflecting combinations of sensitivity and magnitude. These tend to vary from project to project but they should be appropriate to the nature, size and location of the proposed development and should as far as possible be consistent across the different topic areas in the EIA.

3.34 When drawing a distinction between levels of significance is required (beyond significant/not significant) a word scale for degrees of significance can be used (for example a four-point scale of major/moderate/minor/negligible). Descriptions should be provided for each of the categories to make clear what they mean, as well as a clear explanation of which categories are considered to be significant and which are not. It should also be made clear that effects not considered to be significant will not be completely disregarded.

3.35 In reporting on the significance of the identified effects the main aim should be to draw out the key issues and ensure that the significance of the effects and the scope for reducing any negative/adverse effects are properly understood by the public and the competent authority before it makes its decision. This requires clear and accessible explanations. The potential pitfalls are:

- over-reliance on matrices or tabular summaries of effects which may not be accompanied by clear narrative descriptions;
- failure to distinguish between the significant effects that are likely to influence the eventual decision and those of lesser concern;
- losing sight of the most glaringly obvious significant effects because of the complexity of the assessment.

3.36 To overcome these potential problems, there should be more emphasis on narrative text describing the landscape and visual effects and the judgements made about their significance. Provided it is well written, this is likely to be most helpful to non-experts in aiding understanding of the issues. It is also good practice to include a final statement summarising the significant effects. Tables and matrices should be used to support and summarise descriptive text, not to replace it.

Mitigation

3.37 Measures which are proposed to prevent, reduce and where possible offset any significant adverse effects (or to avoid, reduce and if possible remedy identified effects), including landscape and visual effects, should be described. The term 'mitigation' is commonly used to refer to these measures; however, it is not a term used in the EIA Regulations although it is used in some specific legislation, such as the Electricity Act 1989, and in guidance. Mitigation measures are not necessarily required in landscape appraisals carried out for projects not subject to EIA procedures, although some local authorities may request them and even if they do not it is nevertheless often helpful to think about ways of dealing with any negative effects identified.

3.38 As EIA practice has evolved the terminology used to refer to mitigation measures has been adapted; for example, it has become common practice to use the term

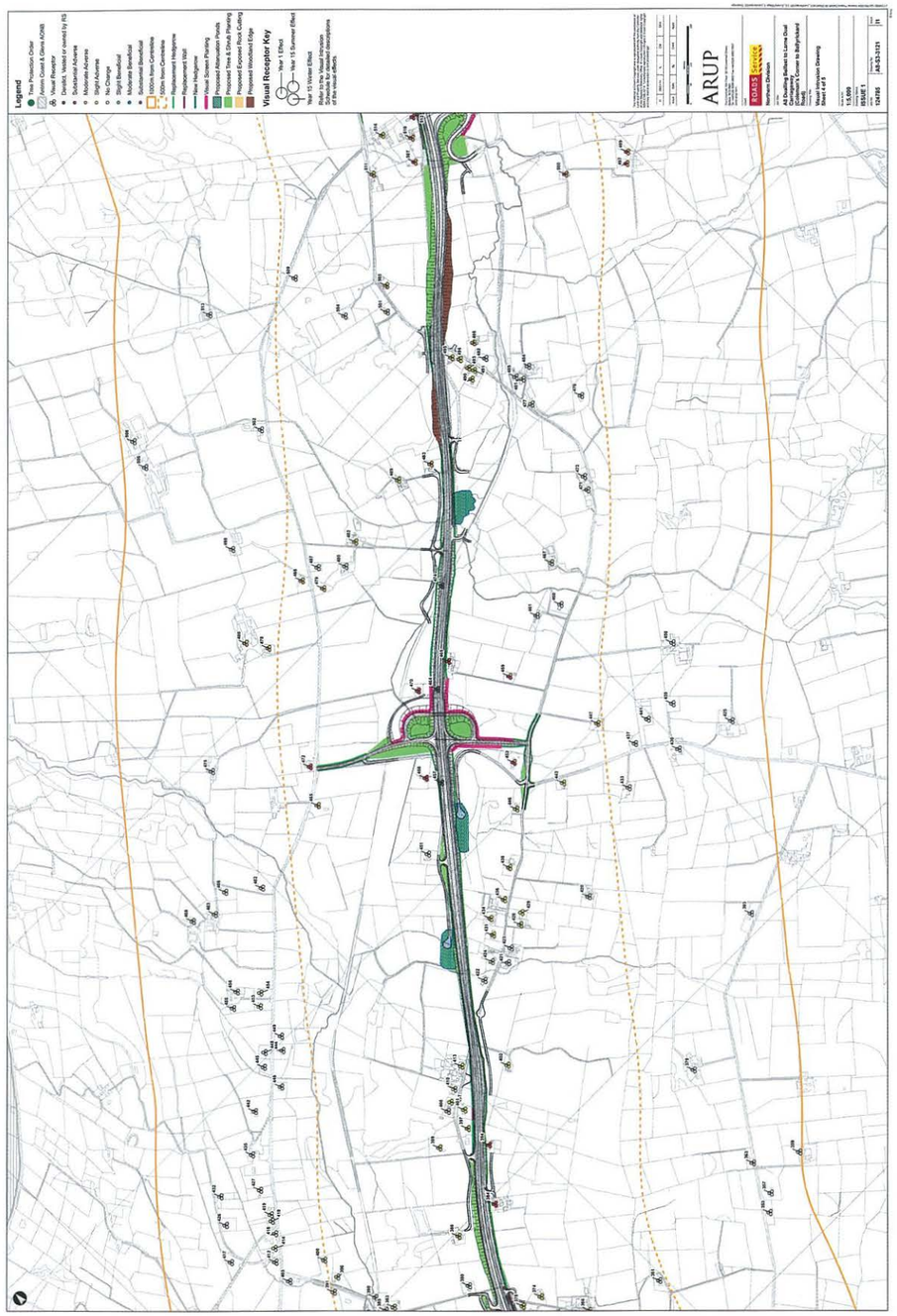

Figure 3.6 Plan showing mitigation measures designed to reduce the effects on surrounding visual receptors and integrate the proposal into the surrounding landscape

'compensate' instead of 'offset'. While the terminology of the EIA Regulations takes precedence, the alternatives may be used provided they are explained. Both terms are referred to in this guidance.

Enhancement is not a formal requirement of the Regulations. It is often referred to incorrectly as an outcome of proposed mitigation measures – for example where planting is proposed to mitigate landscape and/or visual effects but will also achieve an enhancement of the baseline condition of the landscape. In practice enhancement is not specifically related to mitigation of adverse landscape and visual effects but means any proposals that seek to improve the landscape and/or visual amenity of the proposed development site and its wider setting beyond its baseline condition. 3.39

Mitigation and enhancement are both closely related to the development proposal and its design. Both are discussed in further detail in Chapter 4.

Engaging with stakeholders and the public

In general the EIA procedures only formally require consultation with the public at the stage of submission and review of the Environmental Statement, although in some cases there may be a requirement for pre-application consultation. Nevertheless there are considerable benefits to be gained from involving the public in early discussion of the proposals and of the environmental issues that may arise. This can make a positive contribution to scoping the landscape and visual issues. 3.40

Since the last edition of this guidance was published there has been growing emphasis on consultation and public involvement in EIA. This has arisen principally from the ratification by the UK in February 2005 of the Aarhus Convention (UNECE, 1998), which encourages widespread, timely and effective participation in environmental decision making, and has been reinforced by changes in legislation on planning and related matters that place greater emphasis on local communities. 3.41

Consultation is an important part of the Landscape and Visual Impact Assessment process, relevant to many of the stages described above. It has a role in gathering specific information about the site, and in canvassing the views of the public on the proposed development. It can be a valuable tool in seeking understanding and agreement about the key issues, and can highlight local interests and values which may otherwise be overlooked. With commitment and engagement in a genuinely open and responsive process, consultation can also make a real contribution to scheme design. 3.42

The timing of engagement with the public and other interested parties will depend upon many factors, including the nature of the development, but, in general, the earlier the better. Well-organised and timely consultation and engagement with both stakeholders and public can bring benefits to a project, including improved understanding of what is proposed and access to local environmental information that might otherwise 3.43

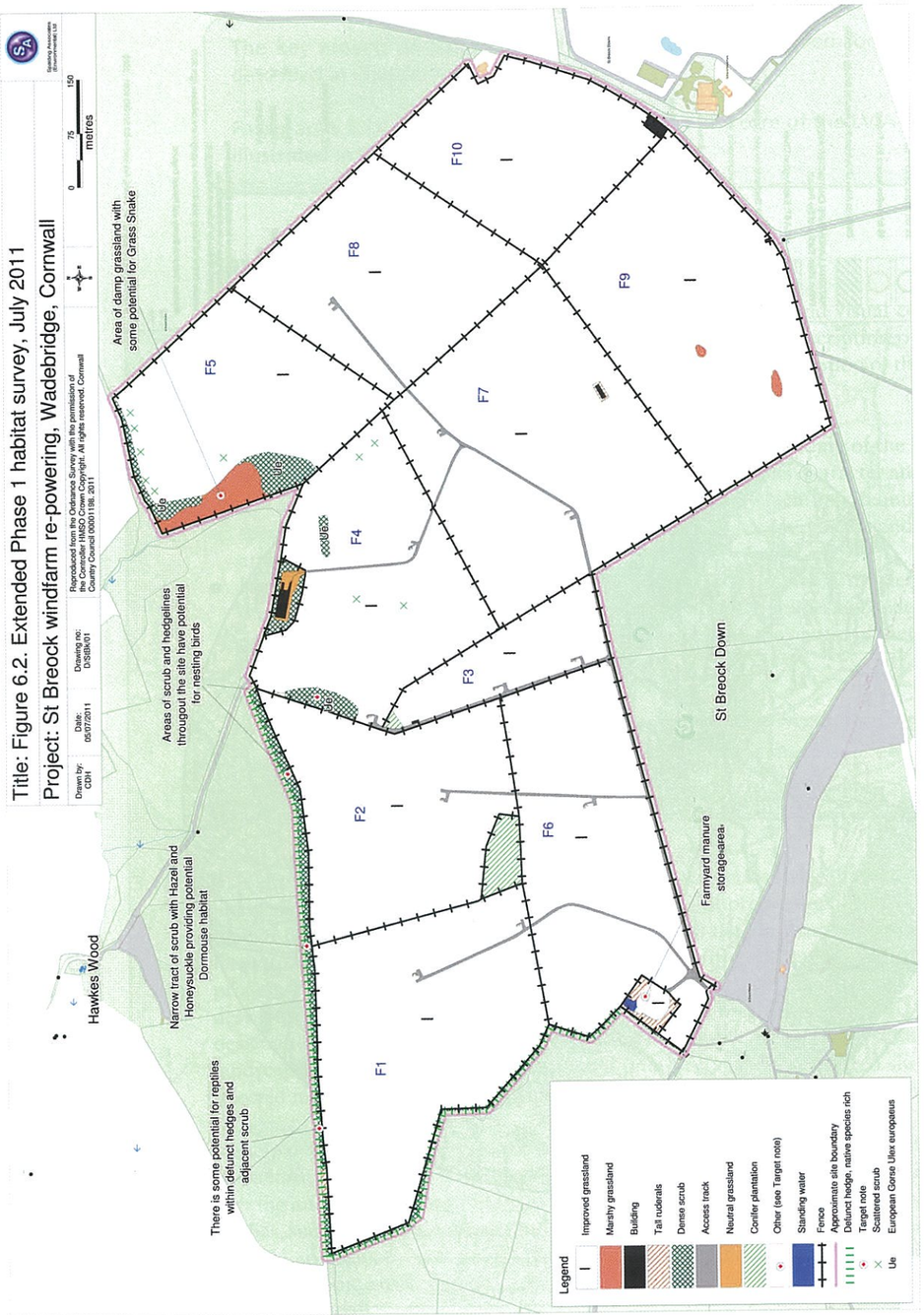

Figure 3.3 A Phase 1 habitat plan. A habitat baseline survey can assist in establishing the nature, extent and value of the landscape resource that could potentially be affected by a proposed development

Identification and description of effects

Once the key aspects of the proposed development that are relevant to landscape and visual effects have been determined, and the baseline conditions established, the likely significant effects can be predicted. There is no formulaic way of doing this. It is a matter of systematic thinking about the range of possible interactions between components of the proposed development, covering its whole life cycle (for example: for built development, usually construction, operation and decommissioning stages; for mineral extraction, usually operation, restoration and aftercare stages), and the baseline landscape and visual resource. 3.18

Some possible effects will already have been identified during the screening and/or scoping processes. Some may have been judged unlikely to occur or so insignificant that it is not essential to consider them further – this is sometimes referred to as the 'scoping out' of effects. Others may have been addressed by amendments to the scheme design through the iterative design/assessment process – either being designed out altogether or rendered not significant. Both situations must be made clear in the final Environmental Statement, so that there is transparency about how the landscape and visual considerations have influenced the final design, when compared to earlier, alternative design iterations. Other than any effects that are considered and eliminated at an earlier point, likely significant effects must be considered in the assessment stage of LVIA. 3.19

In most cases it will be essential to give detailed consideration to both: 3.20

- effects on the landscape as a resource (the **landscape effects**); and
- effects on views and visual amenity as experienced by people (the **visual effects**).

Sometimes there may be likely significant effects on the landscape resource but the development may be in a location that does not affect visual amenity significantly. It is also possible, although less common, that there may be likely significant effects on visual amenity without effects on the landscape resource.

Predicting what effects are likely depends upon careful consideration of the different components of the development at different stages of its life cycle, and identification 3.21

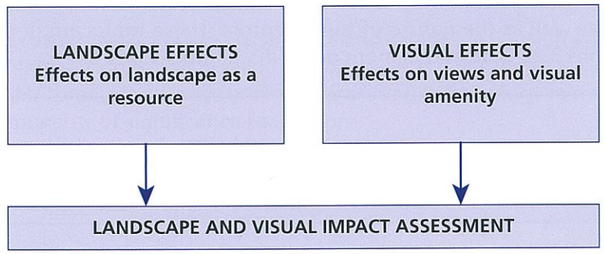

Figure 3.4 Landscape and visual effects

emphasis must always be on proportionality in relation to the scale and nature of the development proposal and its likely significant effects, and on agreement with the competent authority and consultation bodies.

6.22 In addition to fixed views, the viewpoints should also, as far as possible, cover important sequential views along key routes and transport corridors. Viewpoints should cover both near and more distant views, though not so distant as to be meaningless, unless it is useful to demonstrate the influence of distance. And they should cover the full range of different types of people who may be affected. The detailed location of each viewpoint should be carefully considered and should be as typical or representative as possible of the view likely to be experienced there. The details of viewpoint locations should be accurately mapped and catalogued and the direction and area covered by the view recorded. The information should be sufficient for someone else to return to the exact location and record the same view.

6.23 At each agreed viewpoint baseline photographs should be taken to record the existing views. The Landscape Institute has published separate technical guidance on photography and photomontage in Landscape and Visual Impact Assessment (Landscape Institute, 2011), which should be consulted when taking baseline photographs. Additional useful information is also available from other sources.[2]

Combining the baseline information

6.24 The completed visual baseline should focus on information that will help to identify significant visual effects. Visual receptors, viewpoints and views that have been

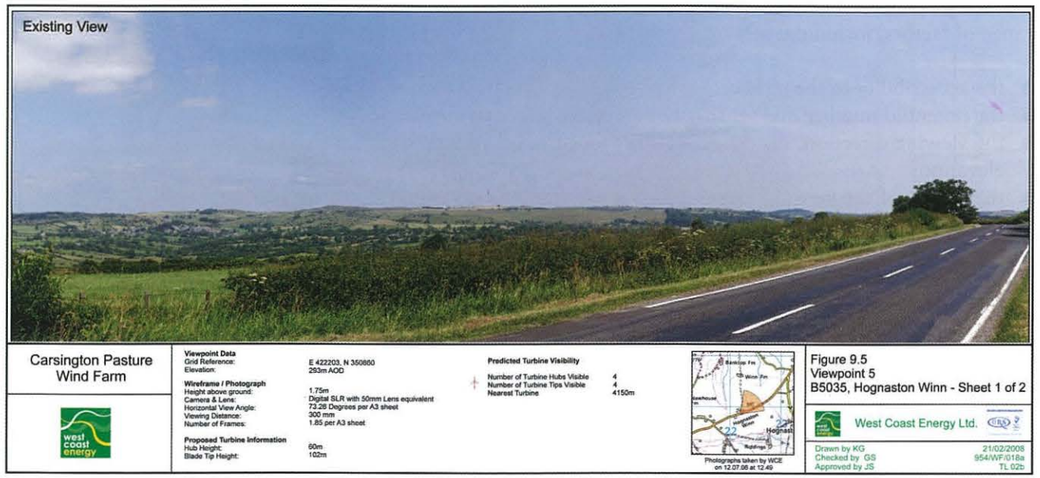

Figure 6.9 The details of viewpoint locations should be accurately mapped and catalogued and the direction and area covered by the view recorded

identified as unlikely to experience significant visual effects either at the scoping stage or in establishing the baseline should not be included in detailed reporting but should be noted, with reasons given for their exclusion. A baseline report should combine information on:

- the type and relative numbers of people (visual receptors) likely to be affected, making clear the activities they are likely to be involved in;
- the location, nature and characteristics of the chosen representative, specific and illustrative viewpoints, with details of the visual receptors likely to be affected at each;
- the nature, composition and characteristics of the existing views experienced at these viewpoints, including direction of view;
- the visual characteristics of the existing views, for example the nature and extent of the skyline, aspects of visual scale and proportion, especially with respect to any particular horizontal or vertical emphasis, and any key foci;
- elements, such as landform, buildings or vegetation, which may interrupt, filter or otherwise influence the views.

Figure 6.10 Landscape Institute technical advice note

6.25 The potential extent to which the site of the proposed development is visible from surrounding areas (the ZTV), the chosen viewpoints, the types of visual receptor affected and the nature and direction of views can all be combined in well-designed plans. Existing views should be illustrated by photographs or sketches with annotations added to emphasise any particularly important components of each view and to help viewers understand what they are looking at. It is important to include technical information about the photography used to record the baseline, including camera details, date and time of photography and weather conditions.

Predicting and describing visual effects

6.26 Preparation of the visual baseline is followed by the systematic identification of likely effects on the potential visual receptors. Considering the different sources of visual effects alongside the principal visual receptors that might be affected, perhaps by means of a table, will assist in the initial identification of likely significant effects for further study. Changes in views and visual amenity may arise from built or engineered forms and/or from soft landscape elements of the development. Increasingly, attention is being paid to the visual effects of offshore developments on what may be perceived to be valued coastal views.

6.27 In order to assist in description and comparison of the effects on views it can be helpful to consider a range of issues, which might include, but are not restricted to:

- the nature of the view of the development, for example a full or partial view or only a glimpse;
- the proportion of the development or particular features that would be visible (such as full, most, small part, none);
- the distance of the viewpoint from the development and whether the viewer would focus on the development due to its scale and proximity or whether the development would be only a small, minor element in a panoramic view;
- whether the view is stationary or transient or one of a sequence of views, as from a footpath or moving vehicle;
- the nature of the changes, which must be judged individually for each project, but may include, for example, changes in the existing skyline profile, creation of a new visual focus in the view, introduction of new man-made objects, changes in visual simplicity or complexity, alteration of visual scale, and change to the degree of visual enclosure.

6.28 Consideration should be given to the seasonal differences in effects arising from the varying degree of screening and/or filtering of views by vegetation that will apply in summer and winter. Assessments may need to be provided for both the winter season, with least leaf cover and therefore minimum screening, and for fuller screening in summer conditions. Discussion with the competent authority will help to determine whether the emphasis should be on the maximum visibility scenario of the winter condition of vegetation, or whether both summer and winter conditions should be used. The timing of the assessment work and the project programme will also influence the practicality of covering more than one season.

6.29 As with landscape effects an informed professional judgement should be made as to whether the visual effects can be described as positive or negative (or in some cases neutral) in their consequences for views and visual amenity. This will need to be based on a judgement about whether the changes will affect the quality of the visual experience for those groups of people who will see the changes, given the nature of the existing views.

Methods of communicating visual effects are covered in Chapter 8.

Assessing the significance of visual effects

6.30 The visual effects that have been identified must be assessed to determine their significance, based on the principles described in Paragraphs 3.23–3.36. As with landscape effects, this requires methodical consideration of each effect identified and, for each one, assessment of the nature of the visual receptors and the nature of the effect on views and visual amenity.

Sensitivity of visual receptors

6.31 It is important to remember at the outset that visual receptors are all people. Each visual receptor, meaning the particular person or group of people likely to be affected at a specific viewpoint, should be assessed in terms of both their susceptibility to change in views and visual amenity and also the value attached to particular views.

Susceptibility of visual receptors to change

6.32 The susceptibility of different visual receptors to changes in views and visual amenity is mainly a function of:

- the occupation or activity of people experiencing the view at particular locations; and
- the extent to which their attention or interest may therefore be focused on the views and the visual amenity they experience at particular locations.

6.33 The visual receptors most susceptible to change are generally likely to include:

- residents at home (but see Paragraph 6.36);
- people, whether residents or visitors, who are engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focused on the landscape and on particular views;
- visitors to heritage assets, or to other attractions, where views of the surroundings are an important contributor to the experience;
- communities where views contribute to the landscape setting enjoyed by residents in the area.

Chapter overview

- Scope and definitions
- What should cumulative effects include?
- Types of cumulative effect
- Assessing cumulative landscape effects
- Assessing cumulative visual effects
- Mitigating cumulative effects

Scope and definitions

7.1 Assessment of cumulative effects is required both by the EIA and the SEA Directives and by the associated Regulations. Cumulative effects have been defined in a broad generic sense as 'impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project' (Hyder, 1999: 7).

7.2 Cumulative landscape and visual effects must be considered in LVIA when it is carried out as part of EIA. The 2002 edition of these guidelines defined cumulative landscape and visual effects as those that:

> result from additional changes to the landscape or visual amenity caused by the proposed development in conjunction with other developments (associated with or separate to it), or actions that occurred in the past, present or are likely to occur in the foreseeable future.
>
> (Landscape Institute and IEMA, 2002: 85)

7.3 Since this definition was published there has been particular emphasis on exploring the cumulative effects of wind farm development. This results both from the number of such schemes requiring assessment and the potentially high level of visibility of these tall structures, which means that cumulative visual effects in particular may be more likely. In Scotland considerable effort has been devoted to addressing definitions and interpretations of cumulative landscape and visual effects specifically in relation to wind farms and the resulting guidance has been used widely, and not only in Scotland. This defines:

- **cumulative effects** as 'the additional changes caused by a proposed development in conjunction with other similar developments or as the combined effect of a set of developments, taken together' (SNH, 2012: 4);
- **cumulative landscape effects** as effects that 'can impact on either the physical fabric or character of the landscape, or any special values attached to it' (SNH, 2012: 10);
- **cumulative visual effects** as effects that can be caused by combined visibility, which 'occurs where the observer is able to see two or more developments from one viewpoint' and/or sequential effects which 'occur when the observer has to move to another viewpoint to see different developments' (SNH, 2012: 11).

7.4 This is an evolving area of practice that is relevant to all forms of development and land use change, not only to wind farms. It is not appropriate to prescribe the approach

to such assessment since the issues related to cumulative effects depend on the specific characteristics of both the development proposal and the location. Those involved in assessing cumulative landscape and visual effects should ensure that they keep abreast of relevant new guidance that may emerge in relation to particular forms of development and give careful thought to an appropriate approach. Such assessments can become very substantial tasks and this makes it very important to agree the approach on a case-by-case basis, depending on the specific project. The scope of cumulative landscape and visual effects in particular must be agreed at the outset, in discussion with the competent authority and consultation bodies. The EIA co-ordinator will also need to ensure that a consistent approach is adopted across different topic areas.

7.5 The challenge is to keep the task reasonable and in proportion to the nature of the project under consideration. Common sense has an important part to play in reaching agreement about the scope of the assessment. Where the competent authority and other stakeholders are uncertain about the preferred approach the landscape professional may have to exercise judgement about what is appropriate and proportionate and be able to justify the approach taken. It is always important to remember that the emphasis in EIA is on **likely significant** effects rather than on comprehensive cataloguing of every conceivable effect that might occur. Carefully thinking through what significant cumulative landscape and visual effects are likely to be generated by the proposal should allow a sensible decision to be reached at the scoping stage.

What should cumulative effects include?

7.6 Although the broad definitions above, of cumulative effects in general and cumulative landscape and visual effects in particular, are widely adopted, there are different interpretations of what should be included in a cumulative effects assessment. The EIA Regulations require that in describing the aspects likely to be significantly affected by a development, consideration should be given to the interrelationships between the different environmental factors. In EIA practice these potentially quite complex interrelationships are increasingly being examined as part of the assessment of cumulative effects. They are then dealt with under the heading of within-project (or intra-project) cumulative effects.[1]

7.7 Where this interpretation is applied in an EIA, those conducting the LVIA may need to consider possible links between landscape and visual effects and effects identified in other topic areas – for example relationships between noise effects and visual effects, both of which may be related to the line of sight between source and receptor, or the effects of features created by hydrology mitigation measures on landscape character. But landscape professionals are unlikely to have to carry out a comprehensive assessment of this type of within-project cumulative effect unless also acting as the EIA co-ordinator.

7.8 Of greater importance for LVIA are the cumulative landscape and visual effects that may result from an individual project that is being assessed interacting with the effects of other proposed developments in the area. These are often referred to in EIA practice as inter-project or between-project cumulative effects. Dealing with them requires decisions about what other proposals should be included. The two key questions are:

1. What types of cumulative effect should be considered – should they be only those from projects of the same type as the main project under consideration or include those from other types of development in the vicinity?
2. What past, present or future proposals should be considered, either for the same or different types of development?

What types of development should be included?

7.9 Cumulative effects assessment can be relevant to any form of development. In order to ensure a proportional response to the particular development proposal under consideration agreement should be reached in the scoping stage, through discussion with the competent authority and consultation bodies and judgement by the assessor, on the scope of the cumulative effects assessment.

7.10 In most cases the focus of the cumulative assessment will be on the additional effect of the project in conjunction with other developments of the same type (as, for example, in the case of wind farms; see SNH, 2012). In some cases, development of another type or types will be relevant and may help to give a more complete picture of the likely significant cumulative effects. For example, previous or planned road improvements or developments such as energy-from-waste facilities are likely to be relevant 'other developments' when assessing cumulative effects in relation to a major urban extension.

7.11 The requirement for consideration of cumulative landscape and visual effects is a matter for agreement at the scoping stage of the assessment but could relate to one or a combination of:

- other examples of the same type of development;
- other types of development proposed within the study area, including those that may arise as an indirect consequence of the main project under consideration;
- in the case of large, complex projects, different scheme components or associated and ancillary development that in some cases may require their own planning consent.[2]

7.12 In consultation with the competent authority (who in turn may liaise with other consultation bodies) it is also necessary to agree the geographic extent (or study area) over which the cumulative effects will be assessed.[3] The work involved in assessing cumulative effects will require the use of information supplied by the competent authority and consultation bodies about other schemes being considered in the cumulative assessment, especially those still in the consenting system. As discussed in Paragraph 7.5, agreement between all parties on the extent of such work should consider what is reasonable and proportional in the circumstances.

Timescale of proposals for inclusion

7.13 This section sets out how development proposals at different stages in the planning process, whether of the same or different types, should be treated in assessing cumulative landscape and visual effects. Taking 'the project' to mean the main proposal that is being assessed, it is considered that existing schemes and those which are under construction should be included in the baseline for both landscape and visual effects

assessments (the LVIA baseline). The baseline for assessing cumulative landscape and visual effects should then include those schemes considered in the LVIA and in addition potential schemes that are not yet present in the landscape but are at various stages in the development and consenting process:

- schemes with planning consent;
- schemes that are the subject of a valid planning application that has not yet been determined.

7.14 Schemes that are at the pre-planning or scoping stage are not generally considered in the assessment of cumulative effects because firm information on which to base the assessment is not available and because of uncertainty about what will actually occur, that is, it is not 'reasonably foreseeable'. But there may be occasions where such schemes may be included in the assessment if the competent authority or consultation bodies consider this to be necessary. Such a request should only be made if absolutely necessary to make a realistic assessment of potential cumulative effects. It should be noted that in England and Wales guidance from the Planning Inspectorate explicitly indicates that nationally significant infrastructure applications should consider this aspect in scoping their cumulative effects (Planning Inspectorate, 2012).

7.15 The baseline for the LVIA itself will include evidence about change that may affect the landscape in the future (as described in Paragraph 5.18). There may therefore be some degree of overlap with the baseline for the cumulative effects assessment. The key is to ensure that the assessment is true to the spirit of the generic definition of cumulative effects in dealing with 'other past, present or reasonably foreseeable actions' but that it is again proportional and reasonable and focuses on likely significant effects.

7.16 There is no doubt that stakeholders, including local communities, will not draw artificial distinctions between what already exists or is under construction and is therefore part of the LVIA baseline, and what may happen as a result of schemes that may be implemented in the future. They will be concerned about the totality of the cumulative effect of past, present and future proposals. Those assessing these effects should reflect these concerns as realistically as possible while still keeping the task to a manageable scale. EIA co-ordinators will ultimately need to ensure that a consistent approach is adopted throughout the EIA and that the assessment of cumulative landscape and visual effects is in line with this. To re-emphasise the point made in Paragraph 7.5, the key for all cumulative impact assessments is to focus on the **likely significant** effects and in particular those likely to influence decision making.

Types of cumulative effect

7.17 There are many different types of cumulative landscape and visual effect that may need to be considered. They can include:

- the effects of an extension to an existing development or the positioning of a new development such that it extends or intensifies the landscape and/or visual effects of the first development;

visibility, show relevant components of the development as realistically as possible, and be printed at an appropriate scale for comfortable viewing at the correct distance.

- Presenting photomontages in the 'triple arrangement', in which a panoramic baseline photograph, a matching wireframe image of the proposal and a fully rendered photomontage are combined, may compromise other important standards such as image size and ideal viewing distance.
- Photomontages should be reproduced at an agreed image size and should show an appropriate level of detail. They may be incorporated into a separate volume of the Environmental Statement if necessary.
- The Non-Technical Summary of the Environmental Statement may also include some photomontages of key views but it should be emphasised that they are only selected images and that full understanding requires examination of the full set of images.
- 3D models are most useful where there is a need to portray complex developments in more detail than can easily be achieved using a single or even several photomontages. They are not required for most projects and are demanding of resources and computer power.
- Careful thought must be given to how the competent authority, stakeholders and the public will view graphics, and especially 3D material and animations. Ideally all parties should have access to the same type of information and illustrative material.
- Non-digital visualisation techniques, such as overlays and perspective sketches (either hand drawn or constructed over computer-generated wire lines), may also be appropriate, for example when speed of production and available budget are limiting factors, or simply when they are preferred and illustrate the proposals adequately.
- The competent authority will review the adequacy of the landscape and visual effects material included in the Environmental Statement, and the summary good practice points in this guidance and several other existing sources may help in this. If specialist advice or expertise is required to assist with the review it should be sought from suitably qualified landscape professionals.

Glossary

This glossary has been prepared specifically for this edition of the GLVIA and defines the meanings given to these terms as used in the context of this guidance.

Access land Land where the public have access either by legal right or by informal agreement.

Baseline studies Work done to determine and describe the environmental conditions against which any future changes can be measured or predicted and assessed.

Characterisation The process of identifying areas of similar landscape character, classifying and mapping them and describing their character.

Characteristics Elements, or combinations of elements, which make a contribution to distinctive landscape character.

Compensation Measures devised to offset or compensate for residual adverse effects which cannot be prevented/avoided or further reduced.

Competent authority The authority which determines the application for consent, permission, licence or other authorisation to proceed with a proposal. It is the authority that must consider the environmental information before granting any kind of authorisation.

Consultation bodies Any body specified in the relevant EIA Regulations which the competent authority must consult in respect of an EIA, and which also has a duty to provide a scoping opinion and information.

Designated landscape Areas of landscape identified as being of importance at international, national or local levels, either defined by statute or identified in development plans or other documents.

Development Any proposal that results in a change to the landscape and/or visual environment.

Direct effect An effect that is directly attributable to the proposed development.

'Do nothing' situation Continued change or evolution in the landscape in the absence of the proposed development.

Ecosystem services The benefits provided by ecosystems that contribute to making human life both possible and worth living. The Millennium Ecosystem Assessment (www.unep.org/maweb/en/index.aspx) grouped ecosystem services into four broad categories: