RWE

Tween Bridge Solar Farm

5.5.1 Appendix A: Policy Compliance Document

Planning Act 2008
Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

APFP Regulation 5(2)(q)

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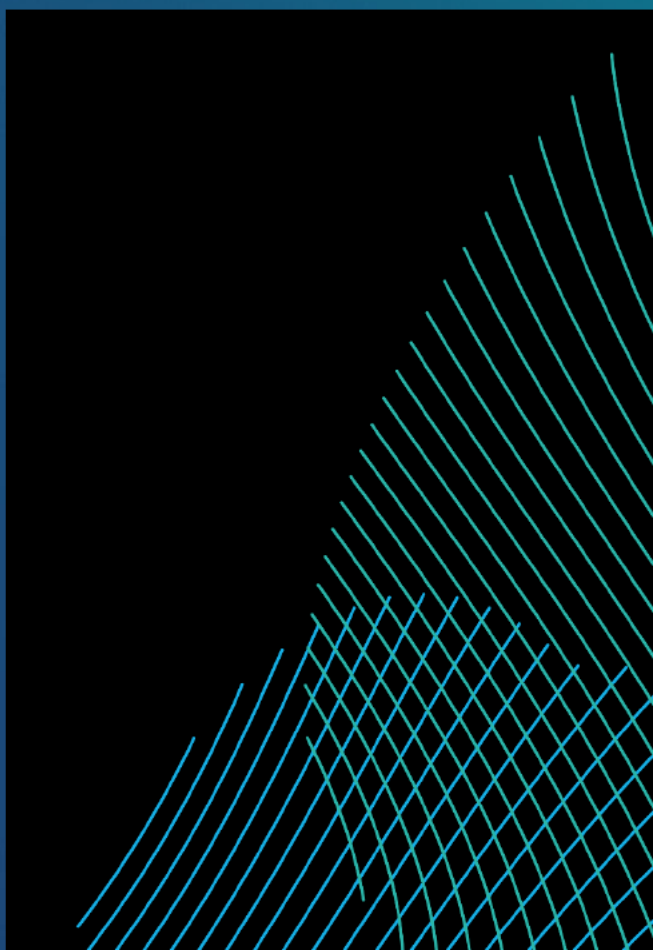


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1 Policy Compliance Document

1.1. Introduction

1.1.1. This Policy Compliance Document has been prepared on behalf of RWE Renewables UK Solar and Storage Ltd (the 'Applicant') in support of an application for a Development Consent Order (DCO) (the 'DCO Application') for the construction, operation and decommissioning of the proposed Tween Bridge Solar Farm (hereinafter referred to as the 'Scheme').

1.1.2. This document forms an Appendix to the **Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]** and provides a detailed schedule of all relevant national policies and demonstrate how the Scheme responds to that Policy. The remainder of this document is split into the flowing sections:

- **Section 2** – Scheme's assessment against Overarching National Policy Statement for Energy (EN-1)
- **Section 3** – Scheme's assessment against National Policy Statement for renewable energy (EN-3)
- **Section 4** - Scheme's assessment against National Policy Statement for Electricity Networks Infrastructure (EN-5)

2 Overarching National Policy Statement for Energy (EN-1)

2.1. Introduction

2.1.1. The following provides the Applicant's position over the relevant policies set out in Overarching National Policy Statement for Energy (NPS EN-1).

NPS Para	NPS Relevant Detail	Applicant assessment and scheme compliance
Overarching National Policy Statement for Energy (NPS EN-1)		
2.1.3	To produce the energy required for the UK and ensure it can be transported to where it is needed, a significant amount of infrastructure is needed at both local and national scale. High quality infrastructure is crucial for economic growth, boosting productivity and competitiveness. Part 3 of this NPS provides further details on the need for - and importance of - energy to economic prosperity and social well-being.	The Scheme is for the installation of ground mounted solar array and co-located associated BESS to provide a renewable energy scheme of approximately 800MWac, equating to the annual energy consumption of approximately 388,889 households. Unlike the 2011 versions of NPSs EN-1 and EN3, the 2024 versions specifically include solar PV with a capacity of more than 50MWac within their scope. NPS EN-1 paragraphs 3.2.6 to 3.2.8 confirm that the applications should be assessed on the basis that

		"the government has demonstrated that there is a need for those types of infrastructure covered" by the NPS and that "substantial weight should be given to this need." Further, there is no requirement *"to consider separately the specific contribution of any individual project to satisfying the need established."* In order to meet the government's commitment to reduce greenhouse gases (GHG) emissions by 78 per cent by 2035, all electricity will need to come from low carbon sources, subject to security of supply. As such, there is an urgent need for new (and particularly low carbon) electricity NSIPs to be brought forward as soon as possible and the government has concluded that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure. Subject to any legal requirements, this CNP, together with the national security, economic, commercial, and net zero benefits, will in general outweigh any other residual impacts not capable of being addressed by the application of the mitigation hierarchy.

		The Scheme would contribute to an adequate and dependable UK energy generation mix, through enabling the generation of more low-carbon power from indigenous and renewable resources.
2.2.1	In June 2019, the UK became the first major economy to legislate for a 2050 net zero Greenhouse Gases ('GHG') emissions target through the Climate Change Act 2008 (2050 Target Amendment) Order 2019. In December 2020, the UK communicated its Nationally Determined Contributions to reduce GHG emissions by at least 68 per cent from 1990 levels by 2030. In April 2021, the government legislated for the sixth carbon budget (CB6), which requires the UK to reduce GHG emissions by 78 per cent by 2035 compared to 1990 levels.	Section 4 of the Planning Statement explains the Scheme will be a substantial infrastructure asset, which if consented will deliver large amounts of cheap, secure and low-carbon electricity both during and beyond the critical 2020's and 2030's timeframe. The Scheme has the ability to generate and export renewable electricity to decarbonise the electricity network. The siting of the Scheme has been through a thorough consenting and technical appraisal in order to maximise the benefits to mitigate against climate change impacts. Compared to other forms of energy generation, the Scheme will deliver significant carbon savings as set out in **ES Chapter 14 Air Quality and greenhouse Gases [REP2-025].** Overall, the Scheme is expected to have a total energy generation figure of around 48,233,679MWh over an estimated 40-year lifetime. When comparing the lifecycle carbon emissions of the

		Scheme to that of a natural gas-fired power generation, this scheme represents a carbon emissions saving of -2,928,399TCO2e. When assessed against whole lifecycle emissions, the Scheme has a carbon payback period of less than 2 years. It is considered that the overall GHG impact of the Scheme is beneficial and significant, as it will play a part in achieving the rate of transition required by nationally set policy commitments and supporting the trajectory towards net zero.
2.3.3	Our objectives for the energy system are to ensure our supply of energy always remains secure, reliable, affordable, and consistent with meeting our target to cut GHG emissions to net zero by 2050, including through delivery of our carbon budgets and Nationally Determined Contribution. This will require a step change in the decarbonisation of our energy system.	Section 4 of the Planning Statement explains the Scheme will be a substantial infrastructure asset, which if consented will deliver large amounts of cheap, secure and low-carbon electricity both during and beyond the critical 2020's and 2030's timeframe. The Scheme has the ability to generate and export renewable electricity to decarbonise the electricity network. The siting of the Scheme has been through a thorough consenting and technical appraisal in order to maximise the benefits to mitigate against climate change impacts. The Scheme has the ability to generate and export renewable electricity to

		decarbonise the electricity network. As stated above, overall, the Scheme is expected to have a total energy generation figure of around 48,233,679MWh over an estimated 40-year lifetime. When comparing the lifecycle carbon emissions of the Scheme to that of a natural gas-fired power generation, this scheme represents a carbon emissions saving of -2,928,399TCO2e. When assessed against whole lifecycle emissions, the Scheme has a carbon payback period of less than 2 years. The GHG impact during construction, operation and decommissioning is assessed as being minor adverse and not significant. It is considered that the overall GHG impact of the Scheme is beneficial and significant, as it will play a part in achieving the rate of transition required by nationally set policy commitments and supporting the trajectory towards net zero and provide significant contribution towards cutting greenhouse gas emissions, delivering carbon budgets and achieving net zero by 2050 (objectives set out at paragraph 2.3.3 of NPS EN-1).
2.3.4	Meeting these objectives necessitates a significant amount of new energy infrastructure, both large	Section 4 of the Planning Statement explains the Scheme will be a substantial infrastructure asset,

	nationally significant developments and small-scale developments determined at a local level. This includes the infrastructure needed to convert primary sources of energy (e.g. wind) into energy carriers (e.g. electricity or hydrogen), and to store and transport primary fuels and energy carriers into and around the country. It also includes the infrastructure needed to capture, transport and store carbon dioxide. The requirement for new energy infrastructure will present opportunities for the UK and contributes towards our ambition to support jobs in the UK's clean energy industry and local supply chains.	which if consented will deliver large amounts of cheap, secure and low-carbon electricity both during and beyond the critical 2020's and 2030's timeframe. The Scheme has the ability to generate and export renewable electricity to decarbonise the electricity network. The siting of the Scheme has been through a thorough consenting and technical appraisal in order to maximise the benefits to mitigate against climate change impacts. **ES Chapter 11: Socio Economics [APP-048]** sets out how the proposals impact on employment and effects on the local economy through the three phases of the Scheme. During construction significant benefits in terms of access to employment and education have been identified as a result of the Scheme through the support of both direct and indirect/induced jobs during the construction period. Prior to construction, a local skills and employment plan, prepared in accordance with the **Outline Supply Chain, Employment and Skills Plan [REP1-036**], will be prepared setting out measures the Applicant will use to advertise and promote employment opportunities

		associated with construction and operation of the Scheme locally. The jobs created will be in the renewable energy sector, specifically relating to solar installation, but also electricity transmission and supply chain. As such, they will contribute to the development of skills needed for the UK's transition to net zero by 2050 (as required by the Climate Change Act 2008 (2050 Target Amendment Order) 2019 and described within the Net Zero Strategy: Building Back Greener.
2.3.5	The sources of energy we use are changing. Since the industrial revolution, our energy system has been dominated by fossil fuels. That remains the case today. Although representing a record low, fossil fuels still accounted for just over 76 per cent of energy supply in 2020. We need to dramatically increase the volume of energy supplied from low carbon sources.	This policy notes the need to dramatically increase the volume of energy supplies from low carbon sources, requiring a large amount of low-carbon electricity generation as proposed as part of the Scheme.
2.3.6	We need to transform the energy system, tackling emissions while continuing to ensure secure and reliable supply, and affordable bills for households and businesses. This includes increasing our supply of	Section 4 of the Planning Statement explains the Scheme will be a substantial infrastructure asset, which if consented will deliver large amounts of cheap, secure and low-carbon electricity both during

	clean energy from renewables, nuclear and hydrogen manufactured using low carbon processes (low carbon hydrogen), and, where we still emit carbon, developing the industry and infrastructure to capture, transport and store it.	and beyond the critical 2020's and 2030's timeframe. The Scheme has the ability to generate and export renewable electricity to decarbonise the electricity network. The siting of the Scheme has been through a thorough consenting and technical appraisal in order to maximise the benefits to mitigate against climate change impacts.
2.3.7	Decarbonisation means we are likely to become more dependent on some forms of energy compared to others. Using electrification to reduce emissions in large parts of transport, heating and industry could lead to more than half of final energy demand being met by electricity in 2050, up from 17 per cent in 2019, representing a doubling in demand for electricity. Low carbon hydrogen is also likely to play an increasingly significant role.	This policy emphasises that in addition to the need to decarbonise existing electricity supplies, a substantial increase in the total electricity generated to enable decarbonisation across all sectors, is needed. This again emphasises the scale of low carbon electricity generation necessary to meet these targets. The Scheme will provide a significant amount of low carbon electricity to contribute to meeting this need.
2.5.1	Given the vital role of energy to economic prosperity and social well-being, it is important that our supplies of energy remain secure, reliable and affordable.	Paragraph 3.3.20 of EN-1 recognizes that solar is one of the lowest cost ways of generating electricity, helping reduce costs and providing a clean and secure source of electricity supply (as it is not reliant on fuel for generation). The Scheme will satisfy the requirements of paragraph 2.5.1.

2.5.5	However as global energy costs rise due to demand soaring as the economy reopened after COVID-19 and the Russian invasion of Ukraine, security of supply requires a greater focus on domestic energy production	The Scheme will be a substantial infrastructure asset, which if consented will deliver large amounts of cheap, secure and low-carbon electricity both during and beyond the critical 2020's and 2030's timeframe, the Scheme will make a significant contribution to meet the requirements of Paragraph 2.5.5
2.6.1	The government's wider objectives for energy infrastructure include contributing to sustainable development and ensuring that our energy infrastructure is safe.	The Scheme would contribute towards sustainable development and security of energy supplies.
3.1.1	This Part of the NPS explains why the government sees a need for significant amounts of new large-scale energy infrastructure to meet its energy objectives and why the government considers that the need for such infrastructure is urgent.	As set out in Section 3 of the **Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]**, there is an urgent need for large scale energy infrastructure, such as that proposed by this Scheme.
3.1.2	However, it will not be possible to develop the necessary amounts of such infrastructure without some significant residual adverse impacts. These effects will be minimised by the application of policy	A summary of environmental effects is found within **ES Chapter 18: Summary [Document Reference 6.2.18 Revision 4]**. Overall, with appropriate mitigation implemented, this identifies a relatively limited number of residual effects of the Scheme. When

	set out in Parts 4 and 5 of this NPS. See also Part 2 of each technology specific NPS.	considered relative to the large- scale nature of the Scheme, these effects are considered to be relatively limited and do not outweigh the Scheme's benefits.
3.2.3	It is not the role of the planning system to deliver specific amounts or limit any form of infrastructure covered by this NPS. It is for industry to propose new energy infrastructure projects that they assess to be viable within the strategic framework set by government. This is the nature of a market-based energy system. With the exception of new coal or large-scale oil-fired electricity generation, the government does not consider it appropriate for planning policy to set limits on different technologies but planning policy can be used to support the government's ambitions in energy policy and other policy areas.	With regards to Paragraphs 3.2.3 to 3.2.5 it should be noted that NPS EN-1 emphasises that there are no policy limits set for different technologies. Presence of any additional low carbon scheme in the area or elsewhere should not, therefore, affect the demonstrable need for the Scheme.
3.2.4	It is not the government's intention in presenting any of the figures or targets in this NPS to propose limits on any new infrastructure that can be consented in accordance with the energy NPSs. A large number of consented projects can help deliver an affordable electricity system, by driving competition and	

	reducing costs within and amongst different technology and infrastructure types. Consenting new projects also enables projects utilising more advanced technology and greater efficiency to come forward. The delivery of an affordable energy system does not always mean picking the least cost technologies. A diversity of supply can aid in ensuring affordability for the system overall and relative costs can change over time, particularly for new and emerging technologies. It is not the role of the planning system to compare the costs of individual developments or technology types.	
3.2.5	The government has other mechanisms to influence the delivery of its energy objectives and imposing limits on the consenting of different types of energy infrastructure would reduce competition, increase costs, and disincentivise newer, more efficient solutions coming forward. This does not reduce the need for individual projects to demonstrate compliance with planning and environmental requirements or mean that everything that obtains development consent will get built.	

3.2.6	**The Secretary of State should assess all applications for development consent for the types of infrastructure covered by this NPS on the basis that the government has demonstrated that there is a need for those types of infrastructure which is urgent, as described for each of them in this Part.**	As set out elsewhere, the Applicant notes that, in accordance with this policy, the need for infrastructure such as the Scheme is acknowledged and is urgent.
3.2.7	**In addition, the Secretary of State has determined that substantial weight should be given to this need when considering applications for development consent under the Planning Act 2008**	This Policy further emphasises that the SoS should give substantial weight to the need for new energy infrastructure when determining applications for development consent.
3.2.8	**The Secretary of State is not required to consider separately the specific contribution of any individual project to satisfying the need established in this NPS**.	Section 3 of the **Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]** sets out the need for the Scheme. It is considered to be an important and relevant matter.
3.3.1	Electricity meets a significant proportion of our overall energy needs and our reliance on it will increase as we transition our energy system to deliver our net zero target. We need to ensure that there is sufficient electricity to always meet demand; with a margin to accommodate unexpectedly high demand and to	Section 3 of the Planning Statement explains how the Scheme will help meet the demand for energy which is expected to rise substantially in the future.

	mitigate risks such as unexpected plant closures and extreme weather events	
3.3.3	To ensure that there is sufficient electricity to meet demand, new electricity infrastructure will have to be built to replace output from retiring plants and to ensure we can meet increased demand. Our analysis suggests that even with major improvements in overall energy efficiency, and increased flexibility in the energy system, demand for electricity is likely to increase significantly over the coming years and could more than double by 2050 as large parts of transport, heating and industry decarbonise by switching from fossil fuels to low carbon electricity. The Impact Assessment for CB6 shows an illustrative range of 465- 515TWh in 2035 and 610-800TWh in 2050.	
3.3.5	New generating plants can deliver a low carbon and reliable system, but we need the increased flexibility provided by new storage and interconnectors (as well as demand side response, discussed below) to reduce costs in support of an affordable supply.	Paragraph 3.3.5 identified the importance of energy storage. For this Scheme, battery energy storage system is an associated development. Whilst significant weight should be afforded to the solar PV energy generation, additional weight must also be given to the battery storage system.

3.3.12	Decentralised and community energy systems such as micro-generation contribute to our targets on reducing carbon emissions and increasing energy security. These technologies could also lead to some reduction in demand on the main generation and transmission system. However, the government does not believe they will replace the need for new large-scale electricity infrastructure to meet our energy objectives. This is because connection of large-scale, centralised electricity generating facilities via a high voltage transmission system enables the pooling of both generation and demand, which in turn offers a number of economic and other benefits, such as more efficient bulk transfer of power and enabling surplus generation capacity in one area to be used to cover shortfalls elsewhere.	This policy clearly sets out that while decentralised and community energy schemes such as rooftop solar, can contribute to targets, it will not replace the need for new large-scale electricity infrastructure. This policy acknowledges that large scale electricity generation facilities are needed. The Scheme would connect directly to the National Electricity Transmission System (NETS); to enable the transfer of the electricity it generates over a wide geographical area, as per this policy.
3.3.13	The Net Zero Strategy sets out the government's ambition for increasing the deployment of low carbon energy infrastructure consistent with delivering our carbon budgets and the 2050 net zero target. This made clear the commitment that the cost of the transition to net zero should be fair and affordable	As set out in the **Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]**, large-scale solar power energy generation decarbonises the electricity system. This lowers the market price of electricity by generating power so that expensive and more carbon intensive

		forms of generation do not need to generate as much. In doing so, solar power delivers national decarbonisation benefits and supports consumer affordability aims, to the benefit of electricity consumers.
3.3.16	If demand for electricity doubles by 2050, we will need a fourfold increase in low carbon generation and significant expansion of the networks that transport power to where it is needed. In addition, we committed in the Net Zero Strategy to take action so that by 2035, all our electricity will come from low carbon sources, subject to security of supply, whilst meeting a 40-60 per cent increase in electricity demand. This means that the majority of new generating capacity needs to be low carbon	Section 3 of the **Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]** explains that the Scheme will be a substantial infrastructure asset, which if consented will deliver large amounts of cheap, secure and low-carbon electricity both during and beyond the critical 2020s and 2030's timeframe. The Scheme has the ability to generate and export renewable electricity to decarbonise the electricity network. The siting of the Scheme has been through a thorough consenting and technical appraisal in order to maximise the benefits to mitigate against climate change impacts.
3.3.19	Given the changing nature of the energy landscape, we need a diverse mix of electricity infrastructure to come forward, so that we can deliver a secure, reliable, affordable, and net zero consistent system during the	As explained in Section 3 of the **Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]**, large scale solar is expected to be an important part of the diverse

	transition to 2050 for a wide range of demand, decarbonisation, and technology scenarios.	energy mix that this policy sets out is needed.
3.3.20	Wind and solar are the lowest cost ways of generating electricity, helping reduce costs and providing a clean and secure source of electricity supply (as they are not reliant on fuel for generation). Our analysis shows that a secure, reliable, affordable, net zero consistent system in 2050 is likely to be composed predominantly of wind and sola	This policy emphasises that solar is one of the lowest cost ways of generating electricity and that solar is one of the predominant technologies anticipated to produce electricity by 2050. The Scheme is therefore strongly supported by both the need for decarbonised grid and affordable energy supplies. The cost of solar generation is already competitive against the cost of other forms of conventional and low- carbon generation, both locally and regionally. Internationally there is the ongoing trend of solar generation assets becoming larger and more affordable, each subsequent project providing a real-life demonstration that solar schemes of similar size and scale as the Scheme can be developed locally and without Government subsidy.
3.3.25	Storage has a key role to play in achieving net zero and providing flexibility to the energy system, so that	This policy recognises the importance of storage. For this Scheme, battery energy storage system is an

	high volumes of low carbon power, heat and transport can be integrated	associated development. Whilst significant weight should be afforded to the solar PV energy generation, additional weight must also be given to the proposed battery storage system and the ancillary benefits afforded through the proposed co-location.
3.3.26	Storage is needed to reduce the costs of the electricity system and increase reliability by storing surplus electricity in times of low demand to provide electricity when demand is higher. There is currently around 4GW of electricity storage operational in GB, around 3GW of which is pumped hydro storage and around 1GW is battery storage.	
3.3.29	The Infrastructure Planning (Electricity Storage Facilities) Order 2020 removed all forms of electricity storage, other than pumped hydroelectric storage, from the definition of nationally significant energy generating stations under the Planning Act 2008.	
3.3.57	Government has committed to reduce GHG emissions by 78 per cent by 2035 under carbon budget 6.According to the Net Zero Strategy this means that by 2035, all our electricity will need to come from low carbon sources, subject to security of supply, whilst meeting a 40-60 per cent increase in demand.	Section 3 of the **Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]**, explains the Scheme will be a substantial infrastructure asset, which if consented will deliver large amounts of cheap, secure and low-carbon electricity both during and beyond the critical

		2020's and 2030's timeframe. The Scheme has the ability to generate and export renewable electricity to decarbonise the electricity network. The siting of the Scheme has been through a thorough consenting and technical appraisal in order to maximise the benefits to mitigate against climate change impacts.
3.3.58	Given the urgent need for new electricity infrastructure and the time it takes for electricity NSIPs to move from design conception to operation, there is an urgent need for new (and particularly low carbon) electricity NSIPs to be brought forward as soon as possible, given the crucial role of electricity as the UK decarbonises its economy	The Scheme has great potential to deliver a significant amount of low carbon electricity in a short timescale. The current connection date for the Scheme is 2029. Therefore, consent on low carbon schemes, like the proposed Scheme, that are compliant with policy and can be delivered urgently should be granted without delay.
3.3.59	All the generating technologies mentioned above are urgently needed to meet the government's energy objectives by: • providing security of supply (by reducing reliance on imported oil and gas, avoiding concentration risk and not relying on one fuel or generation type) • providing an affordable, reliable system (through the deployment of technologies with complementary characteristics) • ensuring the system is net zero consistent (by remaining in line with our	Section 3 the **Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]**, explains the Scheme will be a substantial infrastructure asset, which if consented will deliver large amounts of cheap, secure and low-carbon electricity both during and beyond the critical 2020's and 2030's timeframe. The Scheme has the ability to generate and export renewable electricity to decarbonise the electricity network. The siting of the

	carbon budgets and maintaining the options required to deliver for a wide range of demand, decarbonisation and technology scenarios, including where there are difficulties with delivering any technology)	Scheme has been through a thorough consenting and technical appraisal in order to maximise the benefits to mitigate against climate change impacts.
3.3.60	Known generation technologies that are included within the scope of this NPS (and would be classed as an NSIP if above the relevant capacity thresholds set out under the Planning Act 2008) include: …. Solar PV	This confirms that solar PV generation is included within the published suite of Energy NPSs and such schemes are urgently required.
3.3.61	The need for all these types of infrastructure is established by this NPS and a combination of many or all of them is urgently required for both energy security and Net Zero, as set out above	As per EN-1 paragraph 3.2.7, the Scheme should be considered on the basis that its need is established, and this urgent need should be given substantial weight in the decision on the Application.
3.3.62	Government has concluded that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure. Section 4.2 states which energy generating technologies are low carbon and are therefore CNP infrastructure.	This Scheme is a critical national priority.

3.3.63	Subject to any legal requirements, the urgent need for CNP Infrastructure to achieving our energy objectives, together with the national security, economic, commercial, and net zero benefits, will in general outweigh any other residual impacts not capable of being addressed by application of the mitigation hierarchy. Government strongly supports the delivery of CNP Infrastructure and it should be progressed as quickly as possible.	Section 3 of **Planning Statement [Document Reference 5.5 Revision 3 Revision 3]** explains that the Scheme will be a substantial infrastructure asset, which if consented will deliver large amounts of cheap, secure and low-carbon electricity both during and beyond the critical 2020's and 2030's timeframe. The Scheme has the ability to generate and export renewable electricity to decarbonise the electricity network. The siting of the Scheme has been through a thorough consenting and technical appraisal in order to maximise the benefits to mitigate against climate change impacts.
3.3.65	There is an urgent need for new electricity network infrastructure to be brought forward at pace to meet our energy objectives	This policy confirms the urgent need for the Scheme. The Scheme has great potential to deliver a substantial amount of low carbon electricity (and electricity storage) in a short timescale, with the potential to be (partially) operational in 2029.
3.3.82	Government has committed to reduce GHG emissions by 78 per cent by 2035 under CB6.65 According to the Net Zero Strategy this means that by 2035, all our electricity will need to come from low carbon sources,	Section 3 the **Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]**, explains the Scheme will be a substantial infrastructure asset, which if consented will deliver large amounts of cheap, secure and low-

	subject to security of supply, whilst meeting a 40-60 per cent increase in demand.	carbon electricity both during and beyond the critical 2020's and 2030's timeframe. The Scheme has the ability to generate and export renewable electricity to decarbonise the electricity network. The siting of the Scheme has been through a thorough consenting and technical appraisal in order to maximise the benefits to mitigate against climate change impacts.
3.3.83	Given the urgent need for new electricity infrastructure and the time it takes for electricity NSIPs to move from design conception to operation, there is an urgent need for new (and particularly low carbon) electricity NSIPs to be brought forward as soon as possible, given the crucial role of electricity as the UK decarbonises its economy	This policy confirms the urgent need for the Scheme. The Scheme has great potential to deliver a substantial amount of low carbon electricity (and electricity storage) in a short timescale, with the potential to be partially operational in 2029.
4.1.2	The Energy White Paper and British Energy Security Strategy emphasises the importance of the government's net zero commitment and efforts to fight climate change, as well as the need to maintain a secure and reliable energy system. The Levelling Up White Paper calls on the Government to ensure investment in the transition to Net Zero benefits less well-performing parts of the UK, reducing emissions,	**ES Chapter 11: Socio Economics [APP-048]** sets out the proposals beneficial impact on employment and economic development effect on the local economy.

	facilitating economic development and the creation of jobs.	
4.1.3	Given the level and urgency of need for infrastructure of the types covered by the energy NPSs set out in Part 3 of this NPS, the Secretary of State will start with a presumption in favour of granting consent to applications for energy NSIPs. That presumption applies unless any more specific and relevant policies set out in the relevant NPSs clearly indicate that consent should be refused.	This policy confirms that the starting point for decision taking for this Scheme should be a presumption in favour of granting consent.
4.1.5	In considering any proposed development, in particular when weighing its adverse impacts against its benefits, the Secretary of State should take into account: • its potential benefits including its contribution to meeting the need for energy infrastructure, job creation, reduction of geographical disparities, environmental enhancements, and any long-term or wider benefits	The Applicant has prepared a suite of documents, including an Environmental Statement, that have assessed the adverse impact of the Scheme, as well as the benefits it will bring, to note: - (i) A summary of environmental effects is found within **ES Chapter 18: Summary [Document Reference 6.2.18 Revision 4]**. Overall, with appropriate mitigation implemented, this identifies a relatively limited number of residual effects of the Scheme. When considered relative to the large- scale nature of the

	• its potential adverse impacts, including on the environment, and including any long-term and cumulative adverse impacts, as well as any measures to avoid, reduce, mitigate or compensate for any adverse impacts, following the mitigation hierarchy	Scheme, these effects are considered to be relatively limited and do not outweigh the Scheme's benefits (ii) **ES Chapter 17 Cumulative Impacts [REP6-016]** has considered the potential for cumulative effects from other developments in the area to combine with and intensify effects caused by the Scheme. Significant beneficial cumulative residual effects are identified for Socio Economics, with all other cumulative residual effects considered not significant (iii) **Environmental Benefits** The Scheme would provide a number of environmental and ecological enhancements and has been designed to avoid key nature conservation and ecological features present within or adjacent to the Order limits. These measures are set out in the **ES Appendix 7.12 Biodiversity Net Gain [APP-0722 REVISION 4]** and **Outline Landscape and Ecological Management Plan [REP6-036].** These demonstrate that the Scheme has potential to achieve significant

		biodiversity net gain on site. (iv) **ES Chapter 11: Socio Economics [APP-048]** Economic benefits will arise through the provision of temporary jobs during the construction phase(s) of the Scheme. Based on previous experience of similar projects, it is estimated that the total capital cost of the Scheme is in the region of £820million, as outlined in the **Funding Statement [Document Reference 4.2 Revision 4].** (v) Investment in the Scheme is likely to create opportunities for local businesses through the supply chain, during the construction process. It is estimated that the Scheme could support 231 temporary direct and indirect/induced jobs within the combined area of Doncaster, North Lincolnshire, and East Riding of Yorkshire during the construction period. The overall gross value added (GVA) impact associated with the construction phase is estimated at £36.5million per annum, which equates to £164.2million over the 4.5-year build timeframe.

		(vi)	Local accommodation facilities would benefit from a proportion of bedspaces being filled throughout the year by the construction workers. This enables local businesses to be boosted through increased occupancy rates and revenue during the construction phase of the Scheme. Opportunities for employment and skills are supported through the preparation of an **Outline Supply Chain, Employment and Skills Plan ("Outline SCESP") [REP1-038].** The Outline SCESP is submitted with the application and the delivery of a final, detailed SCESP secured by a DCO requirement.
		(vii)	It is expected that during the operational phase, there will be approximately 1 visit per month to the Site by workers. This means that no full time jobs will be supported specifically by the Scheme. Business rates are an important economic contributor to an area. It is estimated that the solar project element of the Scheme could generate around £0.9 million per annum in business rates. Over the intended 40-year

		lifespan of the Scheme, business rates generated could total around £19.8 million (present value). (viii) Economic benefits will arise through the provision of temporary jobs during the decommissioning phase at the Order Limits. It is estimated that the number of workers on site for the decommissioning phase will equate to 50% of the number for the construction phase. This means that 115 temporary direct and indirect/induced jobs could be supported by the decommissioning phase which is expected to last for around 2 years. (ix) **Energy Generation** - The Scheme has the potential to generate approximately 1,260,000MWh of electricity each year. Over the lifetime of the Scheme this is estimated to equate to 48,233,679MWh which assumes a 0.45% annual degradation rate in energy production. Based on a lifetime GHG footprint of 777,732TCO2e, this equates to a carbon intensity factor of 0.016kgCO2e per kWh

		(x) Section 7 of the **Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]** summarises the key benefits of the proposal.
4.1.6	In this context, the Secretary of State should take into account environmental, social and economic benefits and adverse impacts, at national, regional and local levels. These may be identified in this NPS, the relevant technology specific NPS, in the application or elsewhere (including in local impact reports, marine plans94, and other material considerations as outlined in Section 1.1).	The environmental, social and economic benefits of the Scheme are summarised in the **Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]**. The adverse impacts of the Scheme are set out in relevant chapter, appendices and figures of the **ES** These take account of impacts and benefits at national, regional and local levels.
4.1.7	Where this NPS or the relevant technology specific NPSs require an applicant to mitigate a particular impact as far as possible, but the Secretary of State considers that there would still be residual adverse effects after the implementation of such mitigation measures, the Secretary of State should weigh those residual effects against the benefits of the proposed development. For projects which qualify as CNP Infrastructure, it is likely that the need case will outweigh the residual effects in all but the most	The adverse impacts of the Scheme are set out in relevant chapter, appendices and figures of the **ES** These take account of impacts and benefits at national, regional and local levels.

	exceptional cases. This presumption, however, does not apply to residual impacts which present an unacceptable risk to, or interference with, human health and public safety, defence, irreplaceable habitats or unacceptable risk to the achievement of net zero. Further, the same exception applies to this presumption for residual impacts which present an unacceptable risk to, or unacceptable interference offshore to navigation, or onshore to flood and coastal erosion risk	
4.1.8	Where the use of land at a specific location is required to facilitate the development by providing for mitigation and landscape enhancement, an applicant may, as part of its application to the Secretary of State, seek the compulsory acquisition of that land, or rights over that land.	The optionality for compulsory acquisition of land for the Scheme is included within the **draft DCO [Document Reference 3.1 Revision 10]**
4.1.10	The policy set out in this NPS and the technology specific energy NPSs is intended to provide greater clarity around existing policy and practice of the Secretary of State in considering applications for nationally significant energy infrastructure, (or therefore the "benchmark" for what is, or is not, an	The Applicant has duly assessed the Scheme against EN-1 and the technology specific EN-3 and deems that the Secretary of State should start with a presumption in favour of granting consent.

	acceptable nationally significant energy development).	
4.1.11	The energy NPSs have taken account of the National Planning Policy Framework (NPPF), the Planning Practice Guidance for England, and Planning Policy Wales and Technical Advice Notes (TANs) for Wales, where appropriate	The Applicant notes that the energy NPSs have already taken into account appropriate guidance from the Framework and Planning Practice Guidance.
4.1.12	Other matters that the Secretary of State may consider both important and relevant to their decision-making may include Development Plan documents or other documents in the Local Development Framework	The Applicant notes that whilst other matters that the SoS may consider both important and relevant to their decision-making including Development Plan documents or other documents in the Local Development Framework. It is noted that in the event of a conflict between these document and the NPS' the NPS prevails in the decision making process.
4.1.13	Where the project conflicts with a proposal in a draft Development Plan, the Secretary of State should take account of the stage which the Development Plan document in England or Local Development Plan in Wales has reached in deciding what weight to give to the plan for the purposes of determining the planning significance of what is replaced, prevented, or precluded.	

4.1.15	In the event of a conflict between these documents and an NPS, the NPS prevails for the purpose of Secretary of State decision making given the national significance of the infrastructure.	
4.2.2	Ensuring the UK is more energy independent, resilient and secure requires the smooth transition to abundant, low-carbon energy. The UK's strategy to increase supply of low carbon energy is dependent on deployment of renewable and nuclear power generation, alongside hydrogen and CCUS. Our energy security and net zero ambitions will only be delivered if we can enable the development of new low carbon sources of energy at speed and scale	Section 3 of **Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]** explains the Scheme will be a substantial infrastructure asset, which if consented will deliver significant amounts of cheap, secure and low-carbon electricity both during and beyond the critical 2020's and 2030's timeframe.
4.2.4	Government has therefore concluded that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure	This confirms low carbon and renewable energy infrastructure, such as the Scheme, is a CNP, and is urgently needed to help meet the Government's energy objectives.
4.2.5	This does not extend the definition of what counts as nationally significant infrastructure: the scope remains as set out in the Planning Act 2008. Low carbon infrastructure for the purposes of this policy means: •	This policy confirms that the solar PV generation facilities, such as the Scheme, are covered by the definition of "CNP" and as set out in Section 3 of this **Planning Statement [Document Reference 5.5**

	for electricity generation, all onshore and offshore generation that does not involve fossil fuel combustion (that is, renewable generation, including anaerobic digestion and other plants that convert residual waste into energy, including combustion, provided they meet existing definitions of low carbon; and nuclear generation), as well as natural gas fired generation which is carbon capture ready • for electricity grid infrastructure, all power lines in scope of EN-5 including network reinforcement and upgrade works, and associated infrastructure such as substations. This is not limited to those associated specifically with a particular generation technology, as all new grid projects will contribute towards greater efficiency in constructing, operating and connecting low carbon infrastructure to the National Electricity Transmission System • for other energy infrastructure, fuels, pipelines and storage infrastructure, which fits within the normal definition of "low carbon", such as hydrogen distribution, and carbon dioxide distribution • for energy infrastructure which is directed into the NSIP regime under section 35 of the Planning Act 2008, and fit within the normal definition of "low carbon", such as interconnectors, Multi-	**Revision 3Document Reference 5.5 Revision 3 Revision 3]** are urgently required.

	Purpose Interconnectors, or 'bootstraps' to support the onshore network which are routed offshore • Lifetime extensions of nationally significant low carbon infrastructure, and repowering of projects	
4.2.6	The overarching need case for each type of energy infrastructure and the substantial weight which should be given to this need in assessing applications, as set out in paragraphs 3.2.6 to 3.2.8 of EN-1, is the starting point for all assessments of energy infrastructure applications	This confirms the Scheme should be considered on the basis that its need is established as a Critical National Priority (CNP) and the urgent need for this infrastructure should be given substantial weight in the decision-making process. Section 3 of **Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]** explains the need for the scheme.
4.2.7	The CNP policy **does not** create an additional or cumulative need case or weighting to that which is already outlined for each type of energy infrastructure. The policy applies following the normal consideration of the need case, the impacts of the project, and the application of the mitigation hierarchy. As such, it is relevant during Secretary of State decision making and specifically in reference to any residual impacts that have been identified. It should therefore also be given consideration by the	

	Examining Authority when it is making its recommendation to the Secretary of State.	
4.2.8	During decision making, the CNP policy will influence how non-HRA and nonMCZ residual impacts are considered in the planning balance. The policy will therefore also influence how the Secretary of State considers whether tests requiring clear outweighing of harm, exceptionality, or very special circumstances have been met by a CNP Infrastructure application. Further detail is provided in paragraphs 4.2.15 to 4.2.17, and Figure 2.	This paragraph makes it clear that when consenting a CNP project, consideration should be given to CNP policy when considering whether tests are met by the application.
4.2.9	During decision making, the CNP policy also explains the Secretary of State's approach to HRA derogations and MCZ assessments. Specifically, the policy explains how the alternative solutions and IROPI tests are considered by the Secretary of State. Further detail is provided in paragraphs 4.2.18 to 4.2.22, and Figure 3	This paragraph makes it clear that when consenting a CNP project, consideration should be given to CNP policy when considering whether tests are met by the application.
4.2.10	Applicants for CNP infrastructure must continue to show how their application meets the requirements in this NPS and the relevant technology specific NPS,	The mitigation hierarchy has been applied throughout the design and development of the Scheme and has resulted in critical national priority scheme with

	applying the mitigation hierarchy, as well as any other legal and regulatory requirements.	limited significant adverse residual effects. The Environmental Statement sets out how
4.2.11	Applicants must apply the mitigation hierarchy and demonstrate that it has been applied. They should also seek the advice of the appropriate SNCB or other relevant statutory body when undertaking this process. Applicants should demonstrate that all residual impacts are those that cannot be avoided, reduced or mitigated	, with appropriate mitigation implemented, a relatively limited number of temporary significant adverse effects on landscape and visual, transport, and noise are anticipated. When considered relative to the large-scale nature of the Scheme these effects are considered to be relatively limited and outweighed by the significant national benefits that the Scheme will provide by providing much needed large scale renewable energy generation, and more localised benefits as set out above. The Scheme results in residual significant beneficial effects on the climate due to a reduction in GHG emissions. The environmental impact of the Scheme has been assessed as reported in the Environmental Statement. With the mitigation hierarchy having been followed, and appropriate mitigation implemented, the Scheme is expected to have limited and localised residual significant adverse effects during its operational period. None of the effects relate to the exceptions
4.2.12	Applicants should set out how residual impacts will be compensated for as far as possible. Applicants should also set out how any mitigation or compensation measures will be monitored and reporting agreed to ensure success and that action is taken. Changes to measures may be needed e.g. adaptive management. The cumulative impacts of multiple developments with residual impacts should also be considered.	

		listed in paragraph 4.1.7 of NPS EN-1 and therefore the general presumption in favour of this Scheme stands. It is also noted that beneficial residual effects are anticipated during the lifetime of the scheme, In terms of landscape and visual amenity effects on landscape features (hedgerows), a beneficial residual effect is anticipated by year 15 with the design features of retention of hedgerows (where possible) and additional hedgerows. Section 5 of the **Design Approach Document [APP-032]** explains how the design process for the Scheme has incorporated a practical hierarchy of mitigation with the purpose of identifying how potential impacts can be avoided, reduced or mitigated where possible. The first option would be to avoid the impacts at source, which would involve removing the feature or re-siting it to an area where it would have no or reduced effects. In some instances, where it is not possible to avoid impacts altogether the potential to reduce impacts has been explored. The Design Approach Document demonstrates how the Scheme has taken into account the criteria of NPS

		EN-1, NPS EN-3 and NPS EN-5 in relation to good design. It sets out the local context in which the Scheme is situated and outlines the design response to that context in seeking to mitigate adverse impacts and integrate good design principles. Recognising the constraints presented by some infrastructure, it also identifies how technical considerations have in some instances limited design choices. The iterative approach to design has enabled the Applicant to commit to and apply the mitigation hierarchy, seeking to avoid negative effects and harm as a result of the Scheme; or, where effects cannot be avoided entirely, seeking to mitigate them as far as reasonably practicable. A summary of the design and mitigation hierarchy principles which have been taken into account are set out within Section 6 of the **Design Approach Document [APP-032]**. The iterative design process is also explained within **Section 3.4 of ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019].**

		Overall, the location, design and layout of the Scheme has been developed taking into account a range of technical and environmental factors, as well as feedback from ongoing engagement and consultation with stakeholders, landowners and representatives of the local community. Central to the design principles is a commitment to apply the mitigation hierarchy: seeking to avoid negative effects and harm as a result of the Scheme; or, where effects cannot be avoided entirely, seeking to mitigate them as far as reasonably practicable. The Applicant has also sought to go beyond mitigating negative effects and harm by looking for opportunities to deliver environmental enhancement wherever possible. This approach is central to the design principles. The **ES Chapter 17 Cumulative Impacts [REP6-016]** sets out cumulative impacts of the development and details how the Applicant has taken these into account through the Scheme.

4.2.14	The Secretary of State will continue to consider the impacts and benefits of all CNP Infrastructure applications on a case-by-case basis. The Secretary of State must be satisfied that the applicant's assessment demonstrates that the requirements set out above have been met. Where the Secretary of State is satisfied that they have been met, the CNP presumptions set out below apply	The Applicant's assessment within the **ES** demonstrates that the requirements of this policy have been met.
4.3.1	All proposals for projects that are subject to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations)102 must be accompanied by an Environmental Statement (ES) describing the aspects of the environment likely to be significantly affected by the project	An **ES** with accompanying **Appendices**, **Figures** and **Non-Technical Summary [APP-056]** have been submitted with this DCO Application. These describe the aspects of the environmental likely to be significantly affected by the Scheme.
4.3.5	For the purposes of this NPS and the technology specific NPSs the ES should cover the environmental, social and economic effects arising from preconstruction, construction, operation and decommissioning of the project.	The **ES** covers the environmental, social and economic effects arising from pre- construction, construction, operation and decommissioning of the Scheme.

4.3.9	As in any planning case, the relevance or otherwise to the decision making process of the existence (or alleged existence) of alternatives to the proposed development is, in the first instance, a matter of law. This NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option from a policy perspective. Although there are specific requirements in relation to compulsory acquisition and habitats sites, the NPS does not change requirements in relation to compulsory acquisition and habitats sites.	The Applicant notes that there is no requirement to establish whether the Scheme represents the best option from a policy perspective.
4.3.10	The applicant must provide information proportionate to the scale of the project, ensuring the information is sufficient to meet the requirements of the EIA Regulations.	The **ES** meets the requirements of the EIA Regulations, and provides information proportionate to the scale of the Scheme.
4.3.11	In some instances, it may not be possible at the time of the application for development consent for all aspects of the proposal to have been settled in precise detail. Where this is the case, the applicant should explain in its application which elements of the	The Applicant notes the **ES Chapter 4 Approach to EIA [APP-041]** sets out how the design of the Scheme has been an iterative process, based on environmental assessments and consultation with

	proposal have yet to be finalised, and the reasons why this is the case.	statutory and non-statutory consultees. In order to maintain flexibility in the design and layout, the ES has adopted the Rochdale Envelope approach, as described in the NSIP - Advice Note Nine: Rochdale Envelope (2025). Some flexibility in the design is important in order to meet the changing demands of the UK solar energy market and respond to changes in technology that may emerge prior to construction. The ES has assessed the maximum (and where relevant, minimum) parameters, size (footprint, width, and height) technology, and locations of the different elements of the Scheme for the elements where flexibility needs to be retained, recognising that the worst-case parameter for one technical assessment may differ from another.
4.3.12	Where some details are still to be finalised, the ES should, to the best of the applicant's knowledge, assess the likely worst-case environmental, social and economic effects of the proposed development to ensure that the impacts of the project as it may be constructed have been properly assessed	
4.3.15	Applicants are obliged to include in their ES, information about the reasonable alternatives they have studied. This should include an indication of the main reasons for the applicant's choice, taking into account the environmental, social and economic effects and including, where relevant, technical and commercial feasibility	There is no general requirement from a policy perspective to consider alternatives or to establish whether the Scheme represents the 'best option'. The **ES Chapter 3 Site Description, Site Selection and Iterative Design Process [REP2-019]** sets out information in relation to alternatives that is required by the Infrastructure Planning (Environmental Impact

4.3.17	Where there is a policy or legal requirement to consider alternatives, the applicant should describe the alternatives considered in compliance with these requirements	Assessment) Regulations 2017 and, includes information about the main alternatives studied. The **Report to Inform Habitats Regulations Assessment [REP6-006, REP6-008, and REP6-010]** confirms there are no significant effects to biodiversity from construction, operation of decommissioning of the Scheme and therefore no requirement to consider alternatives due to biodiversity effects.
4.3.20	The Government has set 13 legally binding targets for England under the Environment Act 2021, covering the areas of: biodiversity; air quality; water; resource efficiency and waste reduction; tree and woodland cover; and Marine Protected Areas. Meeting the legally binding targets will be a shared endeavour that will require a whole of government approach to delivery. The Secretary of State have regard to the ambitions, goals and targets set out in the Government's Environmental Improvement Plan 2023 for improving the natural environment and heritage. This includes having regard to the achievement of statutory targets set under the Environment Act	
4.3.22	Given the level and urgency of need for new energy infrastructure, the Secretary of State should, subject to any relevant legal requirements (e.g. under the Habitats Regulations) which indicate otherwise, be	

	guided by the following principles when deciding what weight should be given to alternatives: • the consideration of alternatives in order to comply with policy requirements should be carried out in a proportionate manner; and only alternatives that can meet the objectives of the proposed development need to be considered	
4.3.23	The Secretary of State should be guided in considering alternative proposals by whether there is a realistic prospect of the alternative delivering the same infrastructure capacity (including energy security, climate change, and other environmental benefits) in the same timescale as the proposed development.	
4.3.24	The Secretary of State should not refuse an application for development on one site simply because fewer adverse impacts would result from developing similar infrastructure on another suitable site, and should have regard as appropriate to the possibility that all suitable sites for energy	

	infrastructure of the type proposed may be needed for future proposals	
4.3.25	Alternatives not among the main alternatives studied by the applicant (as reflected in the ES) should only be considered to the extent that the Secretary of State thinks they are both important and relevant to the decision.	
4.3.27	Alternative proposals which mean the necessary development could not proceed, for example because the alternative proposals are not commercially viable or alternative proposals for sites would not be physically suitable, can be excluded on the grounds that they are not important and relevant to the Secretary of State's decision.	
4.3.29	It is intended that potential alternatives to a proposed development should, wherever possible, be identified before an application is made to the Secretary of State (so as to allow appropriate consultation and the development of a suitable evidence base in relation to any alternatives which are particularly relevant). Therefore, where an alternative is first put forward by a	

	third party after an application has been made, the Secretary of State may place the onus on the person proposing the alternative to provide the evidence for its suitability as such and the Secretary of State should not necessarily expect the applicant to have assessed it.	
4.4.4	As described in the relevant sections of this NPS and in the technology specific NPSs, where the proposed project has an effect on humans, the ES should assess these effects for each element of the project, identifying any potential adverse health impacts, and identifying measures to avoid, reduce or compensate for these impacts as appropriate.	The potential effects on human health are considered proportionately within relevant ES chapters, including **ES Chapter 6 Landscape and Visual Impact [REP4-021], ES Chapter 11 Socio Economics [APP-048], ES Chapter 13 Noise and Vibration [REP6-014],** and **ES Chapter 14 Air Quality and Greenhouse Gases [REP2-025].** No standalone 'Human Health' ES chapter is provided, and therefore the scope of effects on Human Health have been shaped by the relevant chapter assessment criteria and scope of works. The **ES Appendix 1.1 – Planning Inspectorate EIA Scoping Opinion [APP-057]** provided by the Planning Inspectorate confirmed that this approach was acceptable.
4.4.5	The impacts of more than one development may affect people simultaneously, so the applicant should consider the cumulative impact on health in the ES where appropriate.	
4.4.6	Opportunities should be taken to mitigate indirect impacts, by promoting local improvements to encourage health and wellbeing, this includes potential impacts on vulnerable groups within society and	

	impacts on those with protected characteristics under the Equality Act 2010, i.e. those groups which may be differentially impacted by a development compared to wider society as a whole.	
4.4.7	Generally, those aspects of energy infrastructure which are most likely to have a significantly detrimental impact on health are subject to separate regulation (for example for air pollution) which will constitute effective mitigation of them, so that it is unlikely that health concerns will either by themselves constitute a reason to refuse consent or require specific mitigation under the Planning Act 2008	
4.4.8	However, not all potential sources of health impacts will be mitigated in this way and the Secretary of State may want to take account of health concerns when setting requirements relating to a range of impacts such as noise	
4.6.1	Environmental net gain is an approach to development that aims to leave the natural environment in a measurably better state than beforehand. Projects should therefore not only avoid, mitigate and	**ES Chapter 7: Ecology and Nature Conservation [REP5-013REP2-027REP5-012]** and the **Design Approach Document [APP-032]** explain how application of the mitigation hierarchy has been

	compensate harms, following the mitigation hierarchy, but also consider whether there are opportunities for enhancements.	central to the design and how the Scheme has avoided or minimised impacts on environmental receptors wherever possible. Measures have also been incorporated into the Scheme to go beyond minimising harm, seeking to deliver enhancements through the creation of new habitat and other ecological enhancements. These measures are set out in the **ES Appendix 7.12 Biodiversity Net Gain [APP-0722 REVISION 4]** and **Outline Landscape and Ecological Management Plan [REP6-036].** These demonstrate that the Scheme has potential to achieve significant biodiversity net gain on site.
4.6.2	Biodiversity net gain is an essential component of environmental net gain. Projects in England should consider and seek to incorporate improvements in natural capital, ecosystem services and the benefits they deliver when planning how to deliver biodiversity net gain.	The Scheme would provide a number of environmental and ecological enhancements and has been designed to avoid key nature conservation and ecological features present within or adjacent to the Order limits. These measures are set out in the **ES Appendix 7.12 Biodiversity Net Gain [APP-0722 REVISION 4]** and **Outline Landscape and Ecological Management Plan [REP6-036].** These demonstrate that the Scheme has potential to achieve significant biodiversity net gain on site.
4.6.6	Energy NSIP proposals, whether onshore or offshore, should seek opportunities to contribute to and enhance the natural environment by providing net	

	gains for biodiversity, and the wider environment where possible	
4.6.7	In England applicants for onshore elements of any development are encouraged to use the latest version of the biodiversity metric115 to calculate their biodiversity baseline and present planned biodiversity net gain outcomes. This calculation data should be presented in full as part of their application	
4.6.10	Biodiversity net gain should be applied after compliance with the mitigation hierarchy and does not change or replace existing environmental obligations, although compliance with those obligations will be relevant to the question of the baseline for assessing net gain and if they deliver an additional enhancement beyond meeting the existing obligation, that enhancement will count towards net gain.	
4.6.13	In addition to delivering biodiversity net gain, developments may also deliver wider environmental gains and benefits to communities relevant to the local area, and to national policy priorities, such as: • reductions in GHG emissions • reduced flood risk •	Compared to other forms of renewable energy generation, the Scheme will deliver significant carbon savings as set out in **ES Chapter 14 Air Quality and greenhouse Gases [REP2-025].** Overall, the Scheme is expected to have a total energy generation figure of

	improvements to air or water quality, • climate adaptation, • landscape enhancement • increased access to natural greenspace, or • the enhancement, expansion or provision of trees and woodlands The scope of potential gains will be dependent on the type, scale, and location of specific projects. Applicants should look for a holistic approach to delivering wider environmental gains and benefits through the use of nature-based solutions and Green Infrastructure.	around 48,233,679MWh over an estimated 40-year lifetime. When comparing the lifecycle carbon emissions of the Scheme to that of a natural gas-fired power generation, this scheme represents a carbon emissions saving of -2,928,399TCO2e. When assessed against whole lifecycle emissions, the Scheme has a carbon payback period of less than 2 years. The GHG impact during construction, operation and decommissioning is assessed as being minor adverse and not significant. It is considered that the overall GHG impact of the Scheme is beneficial and significant, as it will play a part in achieving the rate of transition required by nationally set policy commitments and supporting the trajectory towards net zero. With regards to climate change, the **Applicant's Scoping Report (see ES Appendix 1.2 - Applicant EIA Scoping Report [APP-058])** proposed how climate change will be assessed within **ES Chapter 16 Other Environmental Topics [REP2-027**] and that climatic factors will be assessed "…within the relevant technical assessments such as flood risk", rather than in standalone ES Chapters**. A Climate Change**

		Adaptation and Resilience assessment [APP-125] supports **ES Chapter 16 Other Environmental Topics [REP2-027].** Carbon saving and impacts from greenhouse gas (GHG) emissions is assessed in **ES Chapter 14 Air Quality and Greenhouse Gases [REP2-025**]. The **ES Appendix 1.1 – Planning Inspectorate EIA Scoping Opinion [APP-057]** provided by the Planning Inspectorate confirmed that this approach was acceptable.
4.6.15	Applications for development consent should be accompanied by a statement demonstrating how opportunities for delivering wider environmental net gains have been considered, and where appropriate, incorporated into proposals as part of good design (including any relevant operational aspects) of the project.	The Scheme would provide a number of environmental and ecological enhancements and has been designed to avoid key nature conservation and ecological features present within or adjacent to the Order limits. These measures are set out in the **ES Appendix 7.12 Biodiversity Net Gain [APP-0722 REVISION 4]** and **Outline Landscape and Ecological Management Plan [REP6-036].** These demonstrate that the Scheme has potential to achieve significant biodiversity net gain on site.
4.6.16	Applicants should make use of available guidance and tools for measuring natural capital assets and	**The Outline LEMP [REP6-036]** and **Outline Soil Management Plan [REP2-078 Revision 3]** set out

	ecosystem services, such as the Natural Capital Committee's 'How to Do it: natural capital workbook', the government's guidance on Enabling a Natural Capital Approach (ENCA)119, and other tools that aim to enable wider benefits for people and nature.	the management strategy for the Scheme.
4.6.17	Where environmental net gain considerations have featured as part of the strategic options appraisal process to select a project, applicants should reference that information to supplement the site-specific details	**ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019]** details how alternative options for the Scheme were considered during design development
4.6.18	Opportunities for environmental, social, and economic enhancements, protection and mitigation measures are identified in a number of sections in Part 5 of this NPS, which provides guidance on the impacts of new energy infrastructure.	The Scheme would provide a number of environmental and ecological enhancements and has been designed to avoid key nature conservation and ecological features present within or adjacent to the Order limits. These measures are set out in the **ES Appendix 7.12 Biodiversity Net Gain [APP-0722 REVISION 4]** and **Outline Landscape and Ecological Management Plan [REP6-036].** These demonstrate that the Scheme has potential to achieve significant biodiversity net gain on site.
4.6.2	The biodiversity gain objective will be set out in a biodiversity gain statement (as defined under the Environment Act 2021). Normally these statements would be included within an NPS, but the Act allows for the statement to be published separately where a review of an NPS has begun before the provisions are	

	commenced, as is the case with these energy NPSs. Under the provision of the Environment Act 2021, any such separate biodiversity gain statement will be regarded as being contained within these NPSs.	
4.6.3	The Secretary of State should give appropriate weight to environmental and biodiversity net gain, although any weight given to gains provided to meet a legal requirement (for example under the Environment Act 2021) is likely to be limited.	
4.7.1	The visual appearance of a building, structure, or piece of infrastructure, and how it relates to the landscape it sits within, is sometimes considered to be the most important factor in good design. But high quality and inclusive design goes far beyond aesthetic considerations. The functionality of an object – be it a building or other type of infrastructure – including fitness for purpose and sustainability, is equally important.	As detailed in the **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019]** and **the Design Approach Document [APP-032],** the Scheme has undergone an iterative design process which has resulted in the delivery of a functional and efficient development design which will deliver a large amount of renewable and low carbon electricity while being sensitive to the local context and surrounding area, avoiding and minimising impacts on the environment as far as practicable.
4.7.2	Applying good design to energy projects should produce sustainable infrastructure sensitive to place, including impacts on heritage, efficient in the use of	

	natural resources, including land-use, and energy used in their construction and operation, matched by an appearance that demonstrates good aesthetic as far as possible. It is acknowledged, however that the nature of energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of the area.	
4.7.3	Good design is also a means by which many policy objectives in the NPSs can be met, for example the impact sections show how good design, in terms of siting and use of appropriate technologies, can help mitigate adverse impacts such as noise. Projects should look to use modern methods of construction and sustainable design practices such as use of sustainable timber and low carbon concrete. Where possible, projects should include the reuse of material.	
4.7.4	Given the benefits of good design in mitigating the adverse impacts of a project, applicants should consider how good design can be applied to a project during the early stages of the project lifecycle	As detailed in the **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019] and the Design Approach Document [APP-032],** the Scheme has undergone an iterative design process. Design objectives were developed at an early stage and have guided the Scheme's design

		response to the local context to develop a good design that balances the need to maximise renewable energy generation from the Scheme, whilst minimising potential adverse impacts and providing mitigation and enhancement measures where practicable. This has included: (i) Delivery of significant amounts of affordable renewable energy to support policy objectives and national targets for reducing carbon emissions to net zero by 2050; (ii) Delivery of improved energy resilience, affordability and security by diversifying energy production and stored energy; (iii) Develop a Scheme sensitive to surrounding landscape, limiting impact on views for key landscape receptors, residential properties and recreational routes; (iv) Develop a Scheme sensitive to heritage assets and settings; (v) Safeguard surrounding hydrological systems and

		resilience to flooding without increasing flood risk elsewhere taking into account impacts of climate change; (vi) Develop a Scheme sensitive to existing land quality; and (vii) Provide safe access, minimise impact on the local highway network; and protect and enhance existing Public Rights of Way ensuring continued safe use.
4.7.5	To ensure good design is embedded within the project development, a project board level design champion could be appointed, and a representative design panel used to maximise the value provided by the infrastructure. Design principles should be established from the outset of the project to guide the development from conception to operation. Applicants should consider how their design principles can be applied post-consent.	Design principles were set from the outset and for transparency, these were presented within Chapter 2 of the Preliminary Environmental Information Report which accompanied the statutory pre-application consultation. For the Application submission, the design principles are encapsulated within the **Design Approach Document [APP-032**] and **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019].** Post consent, the final details of the Scheme will be secured by requirements, and these would need to be in accordance with the **Parameters Document [REP3-**

		014]; this safeguards how the design principles will be secured post-consent.
4.7.6	Whilst the applicant may not have any or very limited choice in the physical appearance of some energy infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing landscape character, land form and vegetation. Furthermore, the design and sensitive use of materials in any associated development such as electricity substations will assist in ensuring that such development contributes to the quality of the area. Applicants should also, so far as is possible, seek to embed opportunities for nature inclusive design within the design process	As detailed in the **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019]** and **the Design Approach Document [APP-032],** the Scheme has undergone an iterative design process. Design objectives were developed at an early stage and have guided the Scheme's design response to the local context to develop a good design that balances the need to maximise renewable energy generation from the Scheme, whilst minimising potential adverse impacts and providing mitigation and enhancement measures where practicable. The Scheme would provide a number of environmental and ecological enhancements and has been designed to avoid key nature conservation and ecological features present within or adjacent to the Order limits. These measures are set out in the **ES Appendix 7.12 Biodiversity Net Gain [APP-0722 REVISION 4]** and **Outline Landscape and Ecological Management Plan [REP6-036].**

4.7.7	Applicants must demonstrate in their application documents how the design process was conducted and how the proposed design evolved. Where a number of different designs were considered, applicants should set out the reasons why the favoured choice has been selected	The design process, basis of design decisions, and evolution of the Scheme design are set out in **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019]** and the **Design Approach Document [APP-032].**
4.7.8	Applicants should consider taking independent professional advice on the design aspects of a proposal. In particular, the Design Council can be asked to provide design review for nationally significant infrastructure projects and applicants are encouraged to use this service. Applicants should also consider any design guidance developed by the local planning authority	The Applicant has sought to undertake engagement throughout the process which has resulted in improvements and iteration of the Scheme to address comments made in the interests of good design and positive engagement. Details of how the Applicant has taken into consideration stakeholder advice is set out in the **Consultation Report [APP-022].**
4.7.10	In the light of the above and given the importance which the Planning Act 2008 places on good design and sustainability, the Secretary of State needs to be satisfied that energy infrastructure developments are sustainable and, having regard to regulatory and other constraints, are as attractive, durable, and adaptable	EN-1 paragraph 2.6.1 acknowledges that energy infrastructure contributes towards sustainable development. Climatic factors are assessed within the relevant aspect chapters of the ES**. A Climate Change Adaptation and Resilience assessment [APP-125]** supports **ES Chapter 16 Other Environmental Topics [REP2-027]).** Carbon saving

	(including taking account of natural hazards such as flooding) as they can be	and impacts from greenhouse gas (GHG) emissions is assessed in **ES Chapter 14 Air Quality and Greenhouse Gases [REP2-025].**
4.7.11	In doing so, the Secretary of State should be satisfied that the applicant has considered both functionality (including fitness for purpose and sustainability) and aesthetics (including its contribution to the quality of the area in which it would be located, any potential amenity benefits, and visual impacts on the landscape or seascape) as far as possible	While the appearance of solar PV is largely set by its function, the site layout, landscaping and access design have all been designed to reflect good design principles. **ES Chapter 6 Landscape and Visual [REP4-021]** sets out how the primary mitigation adopted in relation to landscape and visual matters is that which has been embedded within the design of the Scheme and comprises the consideration given to avoiding and reducing landscape and visual effects during the evolution of the Scheme layout. This is sometimes referred to as 'mitigation by design'. This has included the location and offsetting of key elements of the Scheme in response to the identification of potential visual receptors and the protection of existing landscape elements such as existing trees and hedgerows during the construction period, further details on which are set out in **ES Appendix 6.6 - Arboricultural Impact Assessment [APP-070].**
4.7.12	In considering applications, the Secretary of State should take into account the ultimate purpose of the infrastructure and bear in mind the operational, safety and security requirements which the design has to satisfy. Many of the wider impacts of a development, such as landscape and environmental impacts, will be important factors in the design process	

		In addition, a series of landscape and ecological mitigation and enhancement measures are included as part of the Scheme, each of which has been developed collaboratively alongside the project Ecologists as set out below and illustrated on **ES Figure 6.4 Landscape and Visual Mitigation Strategy, (Landscape Masterplan). [REP3-032].** These are also considered to form embedded mitigation which would be implemented as part of the Scheme. Further details of the benefits of the proposed measures for biodiversity are discussed separately in the **ES Chapter 7 Ecology and Nature Conservation [REP5-013REP2-027REP5-012].**
4.10.5	In certain circumstances, measures implemented to ensure a scheme can adapt to climate change may give rise to additional impacts, for example as a result of protecting against flood risk, there may be consequential impacts on coastal change. In preparing measures to support climate change adaptation applicants should take reasonable steps to maximise the use of nature-based solutions alongside other conventional techniques.	Consideration has been given to incorporating nature-based climate change adaption into the Scheme, and proposals for Sustainable Drainage Systems (SuDS) have been included. Details of climate change adaptation measures are set out within the relevant aspect chapters of the ES**.** **A Climate Change Adaptation and Resilience assessment [APP-125]** supports **ES Chapter 16 Other Environmental Topics [REP2-027].** Carbon

4.10.6	Integrated approaches, such as looking across the water cycle, considering coordinated management of water storage, supply, demand, wastewater, and flood risk can provide further benefits to address multiple infrastructure needs, as well as carbon sequestration benefits	saving and impacts from greenhouse gas (GHG) emissions is assessed in **ES Chapter 14 Air Quality and Greenhouse Gases [REP2-025].**
4.10.7	In addition to avoiding further GHG emissions when compared with more traditional adaptation approaches, nature-based solutions can also result in biodiversity benefits and net gain, as well as increasing absorption of carbon dioxide from the atmosphere.	
4.10.8	New energy infrastructure will typically need to remain operational over many decades, in the face of a changing climate. Consequently, applicants must consider the direct (e.g. site flooding, limited water availability, storms, heatwave and wildfire threats to infrastructure and operations) and indirect (e.g. access roads or other critical dependencies impacted by flooding, storms, heatwaves or wildfires) impacts of climate change when planning the location, design,	The **Climate Change Adaptation and Resilience Assessment [APP-125]** consider the direct and indirect effects of the Scheme on flooding, storms, major accidents and disasters and climate change. The have been considered in the design, construction, operation and decommissioning of the Scheme. Details of climate change adaptation measures are set out within the relevant aspect

	build, operation and, where appropriate, decommissioning of new energy infrastructure.	chapters of the ES, including **ES Chapter 10 Water Resources [REP2-021**]
4.10.9	The ES should set out how the proposal will take account of the projected impacts of climate change, using government guidance and industry standard benchmarks such as the Climate Change Allowances for Flood Risk Assessments,148 Climate Impacts Tool, 149 and British Standards for climate change adaptation, 150 in accordance with the EIA Regulations	The resilience of the Scheme to climate change has been assessed. Four key climate hazards have been identified, these being: (i) hotter summers with extreme temperatures (heatwaves); (ii) wetter winters including extreme rainfall (pluvial and groundwater flooding); (iii) Drier summers and drought; and (iv) increased wind and storms The assessment considers the recommendations in the IEMA *Guide to Climate Change Resilience and Adaptation* (2020) and was adapted to ensure the assessment was proportionate to the Scheme. It utilised the most up-to-date published projections of climate change for the UK, and adopted a precautionary approach whereby a high-emissions scenario was selected (as suggested by IEMA).
4.10.10	Applicants should assess the impacts on and from their proposed energy project across a range of climate change scenarios, in line with appropriate expert advice and guidance available at the time	
4.10.11	Applicants should demonstrate that proposals have a high level of climate resilience built-in from the outset and should also demonstrate how proposals can be adapted over their predicted lifetimes to remain resilient to a credible maximum climate change scenario. These results should be considered	

	alongside relevant research which is based on the climate change projections	Resilience and adaptation measures have been embedded into the design of the Scheme and are detailed across the suite of application documents. Further measures will be developed within the detailed production of the CEMP, DEMP, LEMP and OEMP documents, in accordance with the Outline versions submitted with the Application. The assessment has identified that there are no significant effects in relation to climate change resilience during construction, operation, or decommissioning.
4.10.13	The Secretary of State should be satisfied that applicants for new energy infrastructure have taken into account the potential impacts of climate change using the latest UK Climate Projections151 and associated research and expert guidance (such as the EA's Climate Change Allowances for Flood Risk Assessments152 or the Welsh Government's Climate change allowances and flood consequence assessments153) available at the time the ES was prepared to ensure they have identified appropriate mitigation or adaptation measures. This should cover the estimated lifetime of the new infrastructure, including any decommissioning period.	
4.10.14	Should a new set of UK Climate Projections or associated research become available after the preparation of the ES, the Secretary of State (or the Examining Authority during the examination stage) should consider whether they need to request further information from the applicant.	

4.11.1	The connection of a proposed electricity generation plant to the electricity network is an important consideration for applicants wanting to construct or extend a generation plant.	. The Applicant has a Bilateral Connection Agreement from National Electricity System Operator Limited (NESO) for the connection of Tween Bridge Solar Farm ('the Scheme') to the transmission network. The Applicant originally received a grid connection offer from National Electricity System Operator Limited (NESO) on 13 December 2021, offering connection to a new National Grid Electricity Transmission (NGET) 400kV Substation with an export capacity of 340MW. That offer was accepted by the Applicant on 27 July 2022. Two subsequent grid connection offers to vary the agreement were received by the Applicant on 27 January 2022 for an additional 250MW and 26 September 2024 for an additional 210MW and were accepted by the Applicant on 26 April 2023 and 25 November 2024, respectively. The agreement identifies that a new 400kV substation, which is to be consented and delivered separately by NGET, would be required to increase capacity on the network to facilitate delivery of the Scheme, and other potential projects which could be
4.11.2	In the market system and in the past, it has been for the applicant to ensure that there will be necessary infrastructure and capacity within an existing or planned transmission or distribution network to accommodate the electricity generated	
4.11.3	To support the achievement of the transition to net zero, government is accelerating the co-ordination of the development of the grid network to facilitate the UK's net zero energy generation development and transmission	

		brought forward on the same network (the NGET 400kV substation). The Applicant understands that NGET are in ongoing discussions about the location of that substation with the local planning authority, but certainty on its precise location cannot be provided at this stage. NGET has commenced their siting process for the NGET 400kV substation, and the exact location of the NGET 400kV substation will not be confirmed until this process is concluded. The final location of the NGET 400kV substation will be dependent on many factors such as technical, design and environmental factors, as well as other factors outside the control of the Applicant. This includes the requirements of NGET, the owners of the national distribution transmission network infrastructure, and their further appraisal and connection considerations. The Applicant notes that the NGET 400kV substation is not just required for the Scheme, it is also required to facilitate the connection of other projects coming forward on the same network.

		Following the conclusion of the substation siting work, NGET would then progress a separate consenting process for the NGET 400kV substation and would own and operate the NGET 400kV substation following construction. A 400kV export connection cable will be required to connect the Scheme to the new NGET 400kV substation ("the 400kV export connection cable"). As the location of the new NGET 400kV substation is not yet known, it is not possible at this stage for the Applicant to identify and assess the potential route options the 400kV export connection cable would take from the RWE on-site 400kV substation to the NGET 400kV substation. Subject to obtaining the necessary consents, construction of the Scheme is anticipated to commence in 2028, and to be completed and the Scheme fully operational in 2032, with phases of capacity coming online from 2029 onward in line with the Applicant's current Grid Connection Agreement, as set out in the **Grid Connection Statement [REP1-**

		014].
4.11.5	The applicant must liaise with National Grid who own and manage the transmission network in England and Wales or the relevant regional DNO or TSO to secure a grid connection.	The Applicant has liaised with National Grid and details are set out in the **Grid Connection Statement [REP1-0144]** and **Consultation Report [APP-022]**
4.11.6	Applicants may wish to take a commercial risk where they have not received or accepted a formal offer of a grid connection from the relevant network operator at the time of the application. In this situation applicants should provide information as part of their application confirming that there is no obvious reason why a network connection would not be possible	As it is not possible for the potential route options for the 400kV export connection cable until the location of the NGET 400kV substation has been confirmed, the 400kV export connection cable does not form part of the Scheme. Whilst the Applicant continues to engage with NGET, there is therefore currently no meaningful information for the Applicant to assess that this export cable connection in nor its the accompanying Environmental Impact Assessment for the Scheme. This approach is consistent with the requirements of the EIA Regulations (see, for example, R (Khan v. London Borough of Sutton ([2014] EWHC 3663 (Admin)). The exception is that the DCO includes powers for the provision of cables from the RWE on-site 400kV substation to the Order Limits, in order to facilitate a
4.11.8	On some occasions it may not be possible to coordinate applications. For example, different elements of a project may have different lead-in times and be undertaken by different legal entities subject to different commercial and regulatory frameworks (for example grid companies operate within OFGEM controls) making it inefficient from a delivery perspective to submit one application. Applicants may	

	therefore decide to submit separate applications for each element. Where this is the case, the applicant should include information on the other elements160 and explain the reasons for the separate application confirming that there are no obvious reasons for why other elements are likely to be refused.	connection at the appropriate point with the remainder of the 400kV export cable to the NGET substation (once the location is confirmed), which has been assessed within the Applicant's Environmental Statement. The 400kV export connection cable beyond the Order Limits would be progressed via a separate consenting process once the location of the NGET 400kV substation is confirmed. The most appropriate consenting route will be determined at the appropriate stage once NGET have defined the location of the NGET 400kV substation and the cable route options thereto can in turncan be established. This, in turn, will ensure that the 400kV export connection cable beyond the Order Limits would be subject to appropriate environmental assessment. The Applicant has proposed a Requirement within Schedule 2 of the Draft DCO [Document Reference 3.1] which will ensure that consent is in place for the 400kV export connection cable prior to commencement of the Scheme, providing certainty

		that the grid connection will be in place before the DCO is implemented. The Applicant would note that the approach of consenting a grid connection separately from the generating station element of a scheme is not uncommon and there are a number of made DCOs that have taken this approach, including Triton Knoll Offshore Wind Farm, Brecha Forest West Wind Farm and Hinkley Point C Nuclear Power Station. This approach is recognised and provided for within Section 4.11 of the Overarching National Policy Statement (NPS) for Energy (EN-1and paragraphs 2.7.2-2.7.4 of the NPS for Electricity Networks Infrastructure (EN-5). While paragraph 4.11.7 of EN-1 encourages applications for new generating stations and related infrastructure to be contained in a single application or in separate applications submitted in tandem where possible, paragraph 4.11.8 acknowledges that there will be instances where this is not possible. In such instances, paragraph 4.11.8 states that applicants should explain the reasons for the separate applications, including information on the elements to be consented separately to the extent they are available. Importantly, footnote 160 to paragraph 4.11.8 acknowledges

		that different levels of information may be available at different times and as such, applicants should take a proportionate approach to what information should be included.
4.11.9	If this option is pursued, the applicant accepts the implicit risks involved in doing so and must ensure they provide sufficient information to comply with the EIA Regulations including the indirect, secondary, and cumulative effects, which will encompass information on grid connections.	There is limited information that can be included at this stage, given the point of connection to the NGET 400kV substation has not yet been defined, however the Applicant has provided an outline of the potential consenting routes above and the Environmental Statement submitted with the DCO Application includes a description of the works involved in the provision of a 400kV export connection cable within the Order Limits. Due to the limited information available at this stage regarding the route the 400kV export connection cable will take beyond the Order Limits, an assessment of the part of the 400kV export connection cable beyond the Order Limits and the NGET 400kV substation itself is not possible as part of the application. The Applicant notes that there would be a legal requirement that subsequent consent applications for the 400kV export connection cable and the NGET 400kV substation would be accompanied by the appropriate environmental assessment. Such assessments would need to include consideration of the cumulative effects of the 400kV export connection cable or the NGET 400kV substation with the

		Scheme, in addition to the direct, indirect and secondary effects of the 400kV export connection cable or the NGET 400kV substation themselves. The new, aforementioned Requirement included in the Applicant's draft DCO ensures there only works which have been assessed are proposed to be consented by way of this application for development consent.
4.11.12	The Secretary of State should be satisfied that appropriate network connection arrangements are/will be in place for a given project regardless of whether one or multiple (linked) applications are submitted.	The Applicant has a Bilateral Connection Agreement from National Electricity System Operator Limited (NESO) for the connection of Tween Bridge Solar Farm ('the Scheme') to the transmission network. The Applicant originally received a grid connection offer from National Electricity System Operator Limited (NESO) on 13 December 2021, offering connection to a new National Grid Electricity Transmission (NGET) 400kV Substation with an export capacity of 340MW. That offer was accepted by the Applicant on 27 July 2022. Two subsequent grid connection offers to vary the agreement were received by the Applicant on 27 January 2022 for an additional 250MW and 26 September 2024 for an additional 210MW and were accepted by the Applicant on 26 April 2023 and 25 November 2024, respectively.

4.12.9	In considering an application for development consent the Secretary of State should focus on whether the development itself is an acceptable use of the land or sea, and the impact of that use, rather than the control of processes, emissions or discharges themselves.	An **Environmental Statement (ES)** and accompanying **ES Appendices**, **ES Figures** and **ES Non-technical Summary APP-056]** have been submitted with this Application. These describe the aspects of the environment likely to be significantly affected by the Scheme. The **Report to Inform Habitats Regulations Assessment [REP6-006, REP6-008, and REP6-010**] demonstrates that the Scheme will not have likely significant effects either alone or in combination with other projects, due to the distance of designated sites and absence of impact pathways. This demonstrates that the land is suitable for the Scheme with the presumption in favour of CNP infrastructure remaining.
4.13.5	Applicants should consult with the HSE on matters relating to safety	The Applicant has consulted with the HSE and this is set out in the **Consultation Report [APP-022]**. The

4.13.6	Applicants seeking to develop infrastructure subject to the COMAH regulations should make early contact with the Competent Authority	Scheme is not subject to the COMAH regulations.
4.13.8	The Secretary of State should be satisfied that a safety assessment has been prepared, where required, and that the Competent Authority has raised no safety objections	
4.15.5	At the application stage of an energy NSIP, possible sources of nuisance under section 79(1) of the EPA 1990 and how they may be mitigated or limited should be identified by the applicant so that appropriate requirements can be included in any subsequent order granting development consent (see Section 5.7 on dust, odour, artificial light etc. and Section 5.12 on noise and vibration).	A **Statutory Nuisance Statement [APP-029]** has been included with the application to assess any possible sources of nuisance under section 79(1) of the EPA 1990.
4.15.7	The Secretary of State should note that the defence of statutory authority is subject to any contrary provision made by the Secretary of State in any particular case in a Development Consent Order (section 158(3) of the Planning Act 2008). Therefore,	

	subject to Section 5.7 and Section 5.12, the Secretary of State can disapply the defence of statutory authority, in whole or in part, in any particular case, but in so doing should have regard to whether any particular nuisance is an inevitable consequence of the development	
5.2.8	Where the project is likely to have adverse effects on air quality the applicant should undertake an assessment of the impacts of the proposed project as part of the ES.	**ES Chapter 14: Air Quality & Greenhouse Gases [REP2-025]** assess the construction and decommissioning impacts of the Scheme on local air quality. This is assessed as being negligible and as such it is concluded there would be no significant impact on sensitive receptor sites for air quality. The assessment is in accordance with paragraph 5.2.9.
5.2.9	The ES should describe: • existing air quality concentrations and the relative change in air quality from existing levels; • any significant air quality effects, mitigation action taken and any residual effects, distinguishing between the project stages and taking account of any significant emissions from any road traffic generated by the project; • the predicted absolute emissions, concentration change and absolute	

	concentrations as a result of the proposed project, after mitigation methods have been applied; and any potential eutrophication impacts.	
5.2.12	Where a proposed development is likely to lead to a breach of any relevant statutory air quality limits, objectives or targets, or affect the ability of a noncompliant area to achieve compliance within the timescales set out in the most recent relevant air quality plan/strategy at the time of the decision, the applicant should work with the relevant authorities to secure appropriate mitigation measures to ensure that those statutory limits, objectives or targets are not breached	The Scheme would not lead to a breach of any relevant statutory air quality thresholds or affect the ability of a non-compliant area to achieve compliance.
5.2.13	The Secretary of State should consider whether mitigation measures are needed both for operational and construction emissions over and above any which may form part of the project application. A construction management plan may help codify mitigation at this stage. In doing so the Secretary of State should have regard to the Air Quality Strategy in	**ES Chapter 14: Air Quality & Greenhouse Gases [REP2-025]** concludes that there are no anticipated significant effects on air quality as a result of the Scheme. Mitigation measures following IAQM guidance are discussed and presented by way of **Outline CEMP [Document Reference 7.1 Revision 7]** and **Outline DEMP [REP4-051**] submitted with the DCO Application.

	England, or the Clean Air Plan for Wales in Wales, or any successors to these and should consider relevant advice within Local Air Quality Management guidance and PM2.5 targets guidance.	
5.2.16	The Secretary of State should give air quality considerations substantial weight where a project would lead to a deterioration in air quality. This could for example include where an area breaches any national air quality limits or statutory air quality objectives. However, air quality considerations will also be important where substantial changes in air quality levels are expected, even if this does not lead to any breaches of statutory limits, objectives or targets.	**ES Chapter 14: Air Quality & Greenhouse Gases [REP2-025]** concludes that there are no anticipated significant effects on air quality as a result of the Scheme.
5.2.17	The Secretary of State should give air quality considerations substantial weight where a project is proposed near a sensitive receptor site, such as an education or healthcare facility, residential use or a sensitive or protected habitat.	**ES Chapter 14: Air Quality & Greenhouse Gases [REP2-025]** concludes that there are no anticipated significant effects on air quality as a result of the Scheme.
5.2.18	Where a project is proposed near to a sensitive receptor site for air quality, if the applicant cannot provide justification for this location, and a suitable	**ES Chapter 14: Air Quality & Greenhouse Gases [REP2-025]** concludes that there are no anticipated significant effects on air quality as a result of the

	mitigation plan, the Secretary of State should refuse consent	Scheme. Mitigation measures following IAQM guidance are discussed and presented by way of **Outline CEMP [Document Reference 7.1 Revision 7]** and **Outline DEMP [REP4-051]**, and these are expected to prevent any significant impacts on dust deposition and human health from occurring. Residual effects are therefore assessed as being not significant.
5.2.19	In all cases, the Secretary of State must take account of any relevant statutory air quality limits, objectives and targets. If a project will lead to non-compliance with a statutory limit, objective or target the Secretary of State should refuse consent.	The Scheme would not lead to non-compliance with any statutory air quality limit, objective or target.
5.3.4	All proposals for energy infrastructure projects should include a GHG assessment as part of their ES (See Section 4.3). This should include • A whole life GHG assessment showing construction, operational and decommissioning GHG impacts, including impacts from change of land use. • An explanation of the steps that have been taken to drive down the climate change impacts at each of those	**ES Chapter 14: Air Quality & Greenhouse Gases [REP2-025]** includes a GHG assessment and this has been prepared in line with paragraph 5.3.4. Over the lifespan of the Scheme, **ES Volume 2, Chapter 14: Air Quality & Greenhouse Gases [REP2-025]** confirms that 2,928,399 million tCO2e will be saved when compared to Combined Cycle Gas Turbine-generated electricity. It should be noted this

	stages. • Measurement of embodied GHG impact from the construction stage. • How reduction in energy demand and consumption during operation has been prioritised in comparison with other measures. • How operational emissions have been reduced as much as possible through the application of best available techniques for that type of technology. • Calculation of operational energy consumption and associated carbon emissions. • Whether and how any residual GHG emissions will be (voluntarily) offset or removed using a recognised framework. • Where there are residual emissions, the level of emissions and the impact of those on national and international efforts to limit climate change, both alone and where relevant in combination with other developments at a regional or national level, or sector level, if sectoral targets are developed.	value excludes indirect emissions from the operation of the Combined Cycle Gas Turbine power station including construction of the Combined Cycle Gas and fuel supply chain emissions which would further increase the potential carbon emissions avoided. Overall, it is demonstrated that the Scheme will lead to avoided GHG emissions by replacing electricity currently generated by more carbon intensive methods, and enable the removal of fossil fuel generation from the UK electricity grid.
5.3.8	The Secretary of State must be satisfied that the applicant has as far as possible assessed the GHG emissions of all stages of the development.	**ES Volume 2, Chapter 14: Air Quality & Greenhouse Gases [REP2-025**] includes a GHG assessment that considers the effects of GHG emissions generated at all stages of the Scheme, i.e. construction, operation, and decommissioning in accordance with paragraph 5.3.4 of NPS EN-1. The mitigation measures defined in

		ES Appendix 14.5 Construction Mitigation [APP-019] are sufficiently robust to minimise emissions during the construction phase as far as practicable. These measures are included as part of the **Outline Construction Environmental Management Plan [Document Reference 7.1 Revision 7],** secured by DCO requirement. Some of the measures may only be necessary during specific phases of work, or during activities with a high potential to produce dust, and the list should be refined and expanded upon in liaison with the construction contractor.
5.4.4	The highest level of biodiversity protection is afforded to sites identified through international conventions. The Habitats Regulations set out sites for which an HRA will assess the implications of a plan or project, including Special Areas of Conservation and Special Protection Areas	The **Report to Inform Habitats Regulations Assessment [REP6-006, REP6-008, and REP6-010]** has been prepared and submitted with this Application. Mitigation measures have been proposed with further details being provided in the **Outline Ecological Construction Management Plan [REP6-034]** and **Outline Landscape Ecological Management Plan [REP6-036].** These mitigations, if implemented successfully, would enable the Scheme to be constructed, operated and decommissioned with no likely significant effects on the features of the
5.4.5	As a matter of policy, the following should be given the same protection as sites covered by the Habitats Regulations and an HRA will also be required: (a) potential Special Protection Areas and possible Special Areas of Conservation; (b) listed or proposed	

	Ramsar sites; and (c) sites identified, or required, as compensatory measures for adverse effects on any of the other sites covered by this paragraph	designations which were screened in for Appropriate Assessment. Furthermore, once applied, the mitigation measures would render any potentially significant effects as either neutral or at such a negligible level that they would not result in any in combination effects arising from the cumulative developments considered in **ES Chapter 7 Ecology and Nature Conservation [REP5-012].**
5.4.8	Development on land within or outside a SSSI, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits (including need) of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of SSSIs	The Order Limit lies outside designated sites with the exception of a small 0.53ha area of Thorne & Hatfield Moors Special Protection Area (SPA), Thorne Moor Special Area of Conservation (SAC), Thorne, Crowle and Goole Moors Site of Special Scientific Interest (SSSI) and Hatfield Chase Ditches SSSI which is located in Land Parcel A. Whilst the Thorne & Hatfield Moors SPA/SAC/SSSI lies within the Order Limits, they are outside the development footprint and this area is to be buffered from any development. Therefore, no Scheme works are scheduled within these designated sites.
5.4.12	Sites of regional and local biodiversity and geological interest, which include Regionally Important Geological	**ES Chapter 7 Ecology and Nature Conservation [REP5-013REP2-027REP5-012]** identifies fourteen

	Sites, Local Nature Reserves and Local Wildlife Sites, are areas of substantive nature conservation value and make an important contribution to ecological networks and nature's recovery. They can also provide wider benefits including public access (where agreed), climate mitigation and helping to tackle air pollution.	non-statutory designated sites fall within the Order Limits, including 10 Local Wildlife Sites (LWS) and four Candidate Local Wildlife Sites (CLWS). These are all associated with 'drain' watercourses within the Order Limits, except for Whittaker's Plantation CLWS which relates to plantation woodland. A further two LWS, one CLWS and a Lincolnshire Wildlife Trust Reserve (LWT) are located directly adjacent to the Order Limits boundary, with a further 19 LWS, five CLWS and one Local Geological Site (LGS) situated within 2km. A full list of sites both in and within 2km of the Order Limits can be found in **Annex 2** of **Technical Appendix 7.1 Baseline Habitats Report [APP-072]** as well as being shown on **Figure 3** of the same appendix. The Scheme has been designed to retain and protect non-statutory designated sites including Local Wildlife Sites (LWS) and Candidate Local Wildlife Sites (CLWS) both within the Order Limits, adjacent and in the wider area. All non-statutory designated drains will be retained and protected by minimum 5m buffers, which is extended to 9m for all Internal Drainage Board (IDB) watercourses. The Scheme will have no direct impact on the drains and these will continue to be managed by the

		IDB. Indirect effects such as pollution prevention and surface runoff control measures during construction are set out within the **Outline Ecological Construction Management Plan [REP6-034]**.
5.4.13	National planning policy expects plans to identify and map Local Wildlife Sites, and to include policies that not only secure their protection from harm or loss but also help to enhance them and their connection to wider ecological networks.	A full list of sites both in and within 2km of the Order Limits can be found in **Annex 2** of **Technical Appendix 7.1 Baseline Habitats Report [APP-072]** as well as being shown on **Figure 3** of the same appendix.
5.4.15	Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Keepers of Time, the government's policy for ancient and native trees and woodlands in England sets out the government's commitment to maintain and enhance the existing area of ancient woodland, maintain and enhance the existing resource of known ancient and veteran trees, excluding natural losses from disease and death, and to increase the percentage of ancient woodland in active management. Ancient and veteran trees found outside ancient woodland are also particularly valuable. Other types of irreplaceable habitats include blanket bog,	**ES Chapter 7 Ecology and Nature Conservation [REP5-013REP2-027REP5-012]** identifies how a review of the Woodland Trust Ancient Tree Inventory identified no notable trees within the Order Limits. One notable tree was identified within 500m of the Order Limits; a veteran oak situated 40m from the Order Limits boundary (National Tree ID: 10396). **ES Appendix 6.6 Arboriculture Impact Assessment (AIA) [APP-070]]** has been produced setting out the likely direct and indirect impacts of the Scheme on trees. This concludes that the Scheme will not require the complete removal of any significant trees or whole

	limestone pavement, coastal sand dunes, spartina salt marsh swards, mediterranean saltmarsh scrub, and lowland fen.	tree groups or whole hedgerows. The removal of sections of hedgerow totalling c.49 linear meters together with an estimated 4 no. semi-mature, low-quality trees is proposed across the Order Limits to implement the design proposals. The impact of these removals is to remain very low across the Order Limits as a whole. Measures to protect retained trees and hedgerows will be put in place and secured through a detailed CEMP, DEMP and LEMP as requirements of the DCO. These will need to be in accordance with the measures set out in the **Outline Construction Environmental Management Plan [Document Reference: 7.1 Revision 7]** and **Outline Landscape Ecological Management Plan [REP6-036]., ES Appendix 6.6 Arboriculture Impact Assessment (AIA) [APP-070]], Outline Ecological Construction Management Plan [REP6-034]**, and the **Outline Decommissioning Environmental Management Plan [REP4-051].**
5.4.17	Where the development is subject to EIA, the applicant should ensure that the ES clearly sets out	**ES Chapter 7 Ecology and Nature Conservation [REP5-013REP2-027REP5-012]** sets out all the

	any effects on internationally, nationally, and locally designated sites of ecological or geological conservation importance (including those outside England), on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity, including irreplaceable habitats	designated sites of ecological conservation importance; habitats; protected and notable species; and important ecological features, within an identified Study Area for the Scheme. They are also shown on the **Plans showing statutory and non-statutory sites or features [APP-013]**.
5.4.19	The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests	**ES Chapter 7 Ecology and Nature Conservation [REP5-013REP2-027REP5-012]** explains that the Scheme has been designed to avoid all sites statutorily designated for their biodiversity importance and to avoid or minimise impacts on sites that are non-statutorily designated for their biodiversity importance. The design of the Scheme includes a range of inherent embedded elements, which avoid or reduce the potential for adverse ecological impacts, including retaining identified higher value statutory designated sites as well as habitat features such as, hedgerows, ditches, and woodlands, and focusing the built development proposals within lower ecological value agricultural and pastoral farmland. This is in line with both the
5.4.20	Applicants should consider wider ecosystem services and benefits of natural capital when designing enhancement measures	
5.4.21	As set out in Section 4.7, the design process should embed opportunities for nature inclusive design. Energy infrastructure projects have the potential to deliver significant benefits and enhancements beyond Biodiversity Net Gain, which result in wider environmental gains (see Section 4.6 on Environmental and Biodiversity Net Gain). The scope of potential	

	gains will be dependent on the type, scale, and location of each project	Mitigation Hierarchy and the Biodiversity Net Gain Hierarchy. Buffer distances between development areas and potentially sensitive features have been included to avoid and minimise effects, such as the substation locations being 'set-back' from the Thorne and Hatfield Moors SPA to avoid noise disturbance in operation. Additionally, sensitive, or high value ecological features outside the Order Limits have been protected as part of the design which sets in place buffer zones and other safeguarding measures, all of which has been built-in to as part of the iterative design process. The proposed **Landscape and Visual Mitigation Strategy [REP3-032]** includes extensive embedded habitat creation which will diversify and strengthen the biodiversity interest of the Scheme itself, and neighbouring areas. The detail of this masterplan is discussed further within relevant sections of the ES where it relates to species-specific mitigation/compensation. Measures to protect retained trees and hedgerows will be put in place and secured through a detailed

		CEMP, DEMP and LEMP as requirements of the DCO. These will need to be in accordance with the measures set out in the **Outline Construction Environmental Management Plan [Document Reference: 7.1 Revision 7]**, **Outline Landscape Ecological Management Plan [REP6-036], ES Appendix 6.6 Arboriculture Impact Assessment (AIA) [APP-070]], Outline Ecological Construction Management Plan [REP6-034]**, and the **Outline Decommissioning Environmental Management Plan [REP4-051].**
5.4.22	The design of energy NSIP proposals will need to consider the movement of mobile/migratory species such as birds, fish and marine and terrestrial mammals and their potential to interact with infrastructure. As energy infrastructure could occur anywhere within England and Wales, both inland and onshore and offshore, the potential to affect mobile and migratory species across the UK and more widely across Europe (transboundary effects) requires consideration, depending on the location of development.	As set out in **ES Chapter 7 Ecology and Nature Conservation [REP5-013]** the Scheme has considered the impact on the movement of mobile / migratory species, such as birds, fish, marine and terrestrial mammals and their potential to interact with infrastructure. **ES Chapter 7: Ecology and Nature Conservation [REP5-013REP2-027REP5-012]** identifies how higher value habitats including woodlands, watercourses, trees and hedgerows are retained and protected, with construction phase effects largely confined to arable land of low

		ecological value, but which is noted to support both significant assemblages of both breeding and non-breeding birds, which is discussed separately. The Scheme also includes embedded habitat enhancement provisions which will be managed for the benefit of wildlife over the long term and will provide biodiversity gains for a wide variety of species including invertebrates and bats. The proposed creation of diverse grasslands and hedgerow planting will also deliver a quantifiable BNG. Although not mandatory for NSIPs, the commitment to a BNG above mandatory or policy requirements, and adopted as a fundamental design principle ensures that the Scheme will deliver a substantial ecological benefit. Effects from the construction phase have been assessed as not significant in relation to non-statutory designated sites, habitats and species with the exception of statutory designated sites, ground nesting species and non-breeding birds, which are assessed as significant adverse. This assessment has concluded that potential impact pathways are present for a number of qualifying

		features of the nearby statutory sites. Mitigation measures in terms of buffer zones and sensitive working methodologies are detailed within the accompanying **Outline Ecological Construction Management Plan [REP6-034]** and are considered to adequately mitigate for most likely significant effects on the statutory designated sites identified. However, the mitigation is not considered sufficient to mitigate for all likely significant effects on all qualifying features. Impacts on a number of qualifying bird species of the Humber Estuary SPA/Ramsar are expected through habitat loss and disturbance where these species are present in the Order Limits or adjacent land. Additional mitigation in the form of large areas of permanent pasture managed and also arable, both of which will be sensitively for the target species is proposed. The principles of the management of this additional mitigation is included within the **Outline Landscape and Ecological Management Plan [REP6-036],** which although in itself is embedded mitigation, includes the management of this mitigation land for non-breeding SPA bird species, in order to provide one concise management plan for the entire Order Limits.

		Additional scrapes are to be created within the grassland areas to provide further habitat opportunities to bird species, which are not currently present. A significant population of ground nesting species was recorded within the Order Limits. A ground-nesting bird mitigation strategy is proposed that will utilise on-site mitigation measures, comprising the provision of large areas of open, permanent pasture managed sensitively for skylark and skylark plots within arable, the principles of which are set out in the accompanying **Outline Landscape and Ecological Management Plan [REP6-036**] submitted separately to this ES. Once operational, solar farms function with little intervention or disturbance required. This is limited to occasional maintenance visits and ongoing management of grassland and other habitats around the Order Limits, including cutting or grazing the grassland and periodic hedgerow cutting. Habitat creation, which forms part of the operational design, includes extensive areas of grassland attractive to a range of species which maintains habitat connectivity within and around the

		Order Limits and provides enhanced opportunities for wildlife.
5.4.25	The applicant should seek the advice of the appropriate SNCB and provide the Secretary of State with such information as the Secretary of State may reasonably require, to determine whether an HRA Appropriate Assessment (AA) is required. Applicants can request and agree 'Evidence Plans' with SNCBs, which is a way to record upfront the information the applicant needs to supply with its application, so that the HRA can be efficiently carried out. If an AA is required, the applicant must provide the Secretary of State with such information as may reasonably be required to enable the Secretary of State to conduct the AA. This should include information on any mitigation measures that are proposed to minimise or avoid likely significant effects.	A **Report to Inform Habitats Regulations Assessment [REP6-006, REP6-008, and REP6-010]** has been undertaken to inform the ES and is included within the DCO Application. The report concludes there will be no significant effects to European Sites either from the construction, operation and decommissioning of the Scheme or in combination with other plans and projects.
5.4.26	If, during the pre-application stage, the SNCB indicate that the proposed development is likely to adversely impact the integrity of habitat sites, the applicant must include with their application such information	

	as may reasonably be required to assess a potential derogation under the Habitats Regulations	
5.4.27	If the SNCB gives such an indication at a later stage in the development consent process, the applicant must provide this information as soon as is reasonably possible and before the close of the examination. This information must include assessment of alternative solutions, a case for Imperative Reasons of Overriding Public Interest (IROPI) and appropriate environmental compensation	
5.4.29	It is vital that applicants consider the need for compensation as early as possible in the design process as 'retrofitting' compensatory measures will introduce delays and uncertainty to the consenting process	It is concluded that there will be No Significant Effects to European sites either from the construction, operation and decommissioning of the Scheme or in combination with other plans and projects. Therefore, there are no environmental compensation requirements to be considered.
5.4.32	Applicants should include measures to mitigate fully the direct and indirect effects of development on ancient woodland, ancient and veteran trees or other irreplaceable habitats during both construction and operational phases	**ES Appendix 6.6 Arboriculture Impact Assessment (AIA) [APP-070]]** has been produced setting out the likely direct and indirect impacts of the Scheme on trees. This concludes that the scheme will not require the complete removal of any significant trees or

		whole tree groups or whole hedgerows. The removal of sections of hedgerow totalling c.49 linear meters together with an estimated 4 no. semi-mature, low-quality trees is proposed across the Order Limits to implement the design proposals. The impact of these removals is to remain very low across the Order Limits as a whole. Measures to protect retained trees and hedgerows will be put in place and secured through a detailed CEMP, DEMP and LEMP as requirements of the DCO. These measures will need to be in accordance with the measures set out in the **Outline Construction Environmental Management Plan [Document Reference: 7.1 Revision 7]**, **Outline Landscape Ecological Management Plan [REP6-036]., ES Appendix 6.6 Arboriculture Impact Assessment (AIA) [APP-070]], Outline Ecological Construction Management Plan [REP6-034]**, and the **Outline Decommissioning Environmental Management Plan [REP4-051]**.

5.4.33	Applicants should consider any reasonable opportunities to maximise the restoration, creation, and enhancement of wider biodiversity, and the protection and restoration of the ability of habitats to store or sequester carbon as set out under Section 4.6.	**Outline Landscape Ecological Management Plan [REP6-036]** contains details of all ecological mitigation and enhancements. The Scheme will provide at least an uplift of 10% BNG consistent with the terms **ES Appendix 7.12 Biodiversity Net Gain [APP-0722]** and aligned with the proposals in **Outline Landscape Ecological Management Plan [REP6-036]**. The Scheme has therefore taken advantage of opportunities to conserve and enhance biodiversity and accords with policy.
5.4.34	Consideration should be given to improvements to, and impacts on, habitats and species in, around and beyond developments, for wider ecosystem services and natural capital benefits, beyond those under protection and identified as being of principal importance. This may include considerations and opportunities identified through Local Nature Recovery Strategies, and national goals and targets set through the Environment Act 2021 and the Environmental Improvement Plan 2023.	
5.4.35	Applicants should include appropriate avoidance, mitigation, compensation and enhancement measures as an integral part of the proposed development. In particular, the applicant should demonstrate that: • during construction, they will seek to ensure that	Embedded mitigation measures are set out in the **ES Chapter 7: Ecology and Nature Conservation [REP5-013REP2-027REP5-012], ES Appendix 7.12 Biodiversity Net Gain [APP-0722]**, **Outline Landscape Ecological Management Plan [REP6-**

	activities will be confined to the minimum areas required for the works • the timing of construction has been planned to avoid or limit disturbance during construction and operation best practice will be followed to ensure that risk of disturbance or damage to species or habitats is minimised, including as a consequence of transport access arrangements • habitats will, where practicable, be restored after construction works have finished • opportunities will be taken to enhance existing habitats rather than replace them, and where practicable, create new habitats of value within the site landscaping proposals. Where habitat creation is required as mitigation, compensation, or enhancement, the location and quality will be of key importance. In this regard habitat creation should be focused on areas where the most ecological and ecosystems benefits can be realised. • mitigations required as a result of legal protection of habitats or species will be complied with.	**036]** and **ES Figure 6.4 Landscape and Visual Mitigation Strategy, (Landscape Masterplan)[REP3-032**These include habitat avoidance, mitigation, creation and replacement measures; mitigation relating to protected and notable species; and standard mitigation measures that comply with industry good practice and environmental legislation.
5.4.36	Applicants should produce and implement a Biodiversity Management Strategy as part of their development proposals. This could include provision for biodiversity awareness training to employees and	The management of biodiversity throughout the life of the Scheme is covered by:- **Outline Ecological Construction Management Plan [REP6-034]**; **Outline Landscape Ecological Management Plan**

	contractors so as to avoid unnecessary adverse impacts on biodiversity during the construction and operation stages	**[REP6-036]; Outline Decommissioning Environmental Management Plan [REP4-051] and ES Chapter 7: Ecology and Nature conservation [REP5-013]; ES Appendix 7.12 Biodiversity Net Gain [APP-0722]**, and **ES Figure 6.4 Landscape and Visual Mitigation Strategy, (Landscape Masterplan). [REP3-032].**
5.4.39	The government's 25 Year Environment Plan190 and the Environment Act 2021 mark a step change in ambition for wildlife and the natural environment. The Secretary of State should have regard to the aims and goals of the government's Environmental Improvement Plan 2023, and in Wales the objectives of the Nature Recovery Plan, and any relevant measures and targets, including statutory targets set under the Environment Act or elsewhere	**ES Chapter 7: Ecology and Nature conservation [REP5-013]** has been produced with regard to the aims of the 25 Year Environment Plan, as evidenced by the extensive habitat to be provided pursuant to the **Outline Landscape Ecological Management Plan [REP6-036].** As a nationally significant infrastructure project, the Scheme also contributes to climate change mitigation, which in turn is beneficial for biodiversity and geological conservation interests.
5.4.41	The benefits of nationally significant low carbon energy infrastructure development may include benefits for biodiversity and geological conservation interests and these benefits may outweigh harm to these interests. The Secretary of State may take	The Scheme will provide at least an uplift of 10% BNG consistent with the terms **ES Appendix 7.12 Biodiversity Net Gain [APP-0722]** and aligned with the proposals in **Outline Landscape Ecological Management Plan [REP6-036]**. The Scheme has

	account of any such net benefit in cases where it can be demonstrated	therefore taken advantage of opportunities to conserve and enhance biodiversity and accords with policy.
5.4.42	As a general principle, and subject to the specific policies below, development should, in line with the mitigation hierarchy, aim to avoid significant harm to biodiversity and geological conservation interests, including through consideration of reasonable alternatives (as set out in Section 4.3 above). Where significant harm cannot be avoided, impacts should be mitigated and as a last resort, appropriate compensation measures should be sought	As set out in the **ES Chapter 7: Ecology and Nature conservation [REP5-013]** with the application of mitigation measures, no significant adverse effects have been identified on designated ecological sites, habitats or protected species during construction, operation or decommissioning of the Scheme. Measures to protect retained trees and hedgerows will be put in place and secured through a detailed CEMP, DEMP and LEMP as requirements of the DCO. These measures will need to be in accordance with the measures set out in the **Outline Ecological Construction Management Plan [REP6-034]** and **Outline Landscape Ecological Management Plan [REP6-036], ES Appendix 6.6 Arboriculture Impact Assessment (AIA) [APP-070]],** and the **Outline Decommissioning Environmental Management Plan [REP4-051]**.
5.4.43	If significant harm to biodiversity resulting from a development cannot be avoided (for example through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then the Secretary of State will give significant weight to any residual harm	
5.4.44	The Secretary of State should consider what appropriate requirements should be attached to any	The **Outline Ecological Construction Management Plan [REP6-034]** and **Outline Landscape Ecological**

	consent and/or in any planning obligations entered into, in order to ensure that any mitigation or biodiversity net gain measures, if offered, are delivered and maintained. Any habitat creation or enhancement delivered including linkages with existing habitats for compensation or biodiversity net gain should generally be maintained for a minimum period of 30 years, or for the lifetime of the project, if longer	**Management Plan [REP6-036], ES Appendix 6.6 Arboriculture Impact Assessment (AIA) [APP-070]],** and the **Outline Decommissioning Environmental Management Plan [REP4-051]** set out measures to mitigate and achieve biodiversity net gain. These will be developed into detailed documents and secured by a requirement in the DCO.
5.4.46	Development proposals provide many opportunities for building-in beneficial biodiversity or geological features as part of good design. The Secretary of State should give appropriate weight to environmental and biodiversity enhancements, although any weight given to gains provided to meet a legal requirement (for example under the Environment Act 2021) is likely to be limited	As detailed in the **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019]** and **the Design Approach Document [APP-032],** the Scheme has undergone an iterative design process which has resulted in the delivery of a functional and efficient development design which will deliver a large amount of renewable and low carbon electricity while being sensitive to the local context and surrounding area, avoiding and minimising impacts on the environment as far as practicable. The Scheme will provide at least an uplift of 10% BNG consistent with the terms **ES Appendix 7.12 Biodiversity Net Gain [APP-0722]** and aligned with the proposals in **Outline Landscape Ecological**
5.4.47	When considering proposals, the Secretary of State should maximise such reasonable opportunities in and around developments, using requirements or planning obligations where appropriate. This can help towards	

	delivering biodiversity net gain as part of or in addition to the approach set out at Section 4.6.	**Management Plan [REP6-036]**. The Scheme has therefore taken advantage of opportunities to conserve and enhance biodiversity and accords with policy.
5.4.48	In taking decisions, the Secretary of State should ensure that appropriate weight is attached to designated sites of international, national, and local importance; protected species; habitats and other species of principal importance for the conservation of biodiversity; and to biodiversity and geological interests within the wider environment.	Appropriate weight has been attached designated sites of international, national and local importance; protected species; habitats and other species of principal importance for the conservation of biodiversity; and to biodiversity and geological interests within the wider environment, with an assessment of the Scheme impact on these set out in **ES Chapter 7: Ecology and Nature conservation [REP5-013].**
5.4.49	The Secretary of State must consider whether the project is likely to have a significant effect on a protected site which is part of the National Site Network (a habitat site), a protected marine site, or on any site to which the same protection is applied as a matter of policy, either alone or in combination with other plans or projects.	A **Report to Inform Habitats Regulations Assessment [REP6-006, REP6-008, and REP6-010]** has been undertaken to inform the ES and is included within the DCO application. The report concludes there will be no significant effects to European Sites either from the construction, operation and decommissioning of the Scheme or in combination with other plans and projects.

5.4.50	The Secretary of State should use requirements and/or planning obligations to mitigate the harmful aspects of the development and, where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest.	**Chapter 7: Ecology and Nature conservation [REP5-013]** outlines the embedded mitigation measures which aim to conserve and enhance biodiversity conservation interests. It also details how the Scheme has sought to avoid significant harm to biodiversity and taken advantage of opportunities to conserve and enhance biodiversity.
5.4.52	The Secretary of State should give due consideration to regional or local designations. However, given the need for new nationally significant infrastructure, these designations should not be used in themselves to refuse development consent	**Chapter 7: Ecology and Nature conservation [REP5-013]** provides an assessment of the likely impacts and effects. It concludes that there are no potential significant adverse effects as a result of the construction or operation of the Scheme on any sites or regional and local biodiversity or geological interests.
5.4.53	The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of any irreplaceable habitats, including ancient woodland, and ancient and veteran trees unless there are wholly exceptional reasons and a suitable compensation strategy exists	**The ES Appendix 6.6 Arboriculture Impact Assessment [APP-070]]** concludes there would be no loss of ancient woodland or veteran trees as a result of the Scheme. Mitigation measures to be secured in the CEMP are proposed to ensure that tree roots and soil structure will be robustly protected,

		and existing growing conditions will be maintained, using sensitive construction methods.
5.4.54	The Secretary of State should ensure that species and habitats identified as being of importance for the conservation of biodiversity are protected from the adverse effects of development by using requirements, planning obligations, or licence conditions where appropriate	With embedded design measures and mitigation in place as described, the Scheme will not result in any significant adverse effects on any habitats or species, or non-statutory designated sites, with the exception of statutory designated sites, ground nesting birds and non-breeding birds. Further detail is provided in **ES Chapter 7 Ecology and Nature Conservation [REP5-013REP2-027REP5-012].**
5.4.55	The Secretary of State should refuse consent where harm to a protected species and relevant habitat would result, unless there is an overriding public interest and the other relevant legal tests are met. In this context the Secretary of State should give substantial weight to any such harm to the detriment of biodiversity features of national or regional importance or the climate resilience and the capacity of habitats to store carbon, which they consider may result from a proposed development	With embedded design measures and mitigation in place as described, the Scheme will not result in any significant adverse effects on any habitats or species, or non-statutory designated sites, with the exception of statutory designated sites, ground nesting birds and non-breeding birds. Further detail is provided in **ES Chapter 7 Ecology and Nature Conservation [REP5-013REP2-027REP5-012]** and the **Planning Statement [Document Reference 5.5 Revision 3 Revision 3]** provides further commentary on the critical national priority and need for the Scheme.

5.5.5	UK airspace is important for both civilian and military aviation interests. It is essential that new energy infrastructure is developed collaboratively alongside aerodromes, aircraft, air systems and airspace so that safety, operations and capabilities are not adversely affected by new energy infrastructure. Likewise, it is essential that aerodromes, aircraft, air systems and airspace operators work collaboratively with energy infrastructure developers essential for net zero. Aerodromes can have important economic and social benefits, particularly at the regional and local level, but their needs must be balanced with the urgent need for new energy developments, which bring about a wide range of social, economic and environmental benefits.	The Applicant consulted with the MoD, CAA and NATS during the statutory consultation for the Scheme. No adverse comments were received with respect to the Scheme and its potential impact upon aviation interests. The **Consultation Report [APP-022]** sets out how regard has been had to responses received.
5.5.37	Where the proposed development may affect the performance of civil or military aviation CNS, meteorological radars and/or other defence assets an assessment of potential effects should be set out in the ES (see Section 4.3	A Glint and Glare Assessment is presented as standalone report submitted as a technical appendices to **ES Chapter 16 Other Environmental Topics [REP2-027]**, namely **ES Appendix 16.1 & 6.2– Glint and Glare Assessment [APP-122 & REP1-025]**. **ES Chapter 16 Other Environmental Topics [REP2-027]** which conclude that with regards to the
5.5.49	The Secretary of State should be satisfied that the effects on meteorological radars, civil and military	

	aerodromes, aviation technical sites and other defence assets or operations have been addressed by the applicant and that any necessary assessment of the proposal on aviation, NSWWS or defence interests has been carried out.	Sandtoft airfield, when runway is approached from the south west (runway 05), Solar reflections originating from outside of a pilot's primary field-of-view are predicted towards the 1-mile splayed approaches towards Runway 05. A low impact is predicted in accordance with the associated guidance and industry best practice. Mitigation is not recommended. When the runway is approached from the north east direction (runway 23), solar reflections with a maximum intensity of 'low potential for temporary after-image' (green glare) are predicted towards the 1-mile splayed approaches towards Runway 23, originating from panel areas within a pilot's primary field-of-view. Considering the associated guidance and industry best practice pertaining to approach paths at licensed aerodromes, which states that this level of glare is acceptable, it can be reliably concluded that this glare is acceptable. A low impact is predicted, and mitigation is not recommended. With regards to the standardised circular flight path followed by aircraft during takeoffs and landings, solar reflections with a
5.5.50	In particular, the Secretary of State should be satisfied that the proposal has been designed, where possible, to minimise adverse impacts on the operation and safety of aerodromes and that realistically achievable mitigation is carried out on existing surveillance systems such as radar/tracking technologies. It is incumbent on Operators of aerodromes to regularly review the possibility of agreeing to make reasonable changes to operational procedures	

		maximum intensity of 'potential for temporary after-image' are predicted towards sections of visual circuits at Sandtoft Airfield, originating from panel areas within a pilot's primary field-of-view (50 degrees horizontally either side of the direction of travel). Pager Power generally recommends a pragmatic approach whereby instances of 'yellow' glare are evaluated in a technical and operational context. Considering the glare scenario (presented in Section 7.7.4), it is considered that this glare could be accommodated without significant changes to the operational activity of the airfield. The operational measures pilots use to mitigate the effects of direct sunlight can all be used to mitigate the effects of direct solar reflections from the solar panels given the operations at this unlicensed airfield. These mitigation measures include, wearing sunglasses; using darkened cockpit sun visors to reduce the intensity of the sun; overflying the airfield and inspecting the runway prior to landing; Landing in the opposite direction if wind conditions allow; and, aborting their landing if uncertain that it is to be

		successful (known as a missed approach or a go-around).
5.5.55	Lighting must also be designed in such a way as to ensure that there is no glare or dazzle to pilots and/or ATC, aerodrome ground lighting is not obscured and that any lighting does not diminish the effectiveness of aeronautical ground lighting and cannot be confused with aeronautical lighting. Lighting may also need to be compatible with night vision devices for military low flying purposes	Areas of solar PV panels will not require artificial lighting other than during temporary periods of maintenance/repair. Pole mounted internal facing closed circuit television (CCTV) systems are proposed around the perimeter of the operational areas of the Solar PV Site. These will not require lighting and will use infrared technology at night.
5.7.5	The applicant should assess the potential for insect infestation and emissions of odour, dust, steam, smoke, and artificial light to have a detrimental impact on amenity, as part of the ES.	**ES Chapter 14 Air Quality and Greenhouse Gases [REP2-025]** identifies how a suite of mitigation measures, covering communications and site management, monitoring requirements and measures specific to each phase of work, will be in place throughout the duration of the construction phase to ensure that the residual air quality effects are 'not significant'. These measures will be secured via DCO requirement as part of the **Outline CEMP [Document Reference 7.1 Revision 7]** and **Outline CTMP [Document Reference 7.7].**
5.7.6	In particular, the assessment provided by the applicant should describe: • the type, quantity and timing of emissions • aspects of the development which may give rise to emissions • premises or locations that may be affected by the emissions • effects of the emission on identified premises or	

	locations • measures to be employed in preventing or mitigating the emissions	
FLOOD RISK		
5.8.7	Where new energy infrastructure is, exceptionally, necessary in flood risk areas (for example where there are no reasonably available sites in areas at lower risk), policy aims to make it safe for its lifetime without increasing flood risk elsewhere and, where possible, by reducing flood risk overall. It should also be designed and constructed to remain operational in times of flood.	The **ES Appendix 6.1 Flood Risk Assessment [REP5-014 and REP5-016REP5-014 and REP5-016**] confirms that the construction, operation and decommissioning of the Scheme, with the mitigation and best practice control measures, will remain safe for its lifetime and will not increase flood risk within the Order Limits or elsewhere, taking into account climate change. The **Flood Risk Sequential Test and Exception Test [REP3-044]** demonstrates there are no reasonable available sites in areas at lower risk of flooding. The sequential test has verified how it is necessary to locate the Scheme within the flood risk area. As set out at paragraph 5.74 of the Applicant's Written Summary of Oral Submissions at the **Issue Specific Hearing [REP1-045]**, the Applicant applied an area of search based on a 10km radius from a site selection starting point, which was based on the Applicant's understanding of the potential point of connection in the vicinity of the Scheme at the time

		of undertaking the study. The Flood Risk Sequential Test and Exception Test confirms that the site comprising land within the Order Limits was sequentially preferable to alternative sites and therefore passed the sequential test. The exception test has been passed owing to the wider sustainability benefits that the Scheme will deliver and that it will remain safe throughout its lifetime without increasing flood risk elsewhere.
5.8.9	If, following application of the Sequential Test, it is not possible, (taking into account wider sustainable development objectives), for the project to be located in areas of lower flood risk the Exception Test can be applied as defined in https://www.gov.uk/guidance/flood-risk-and-coastal-changetable2. The test provides a method of allowing necessary development to go ahead in situations where suitable sites at lower risk of flooding are not available	**ES Volume 1, Chapter 10: Water Resources Other [REP2-021]** identifies the potential impacts on the water environment from the construction, operation and decommissioning of the Scheme. The water environment includes surface waterbodies (e.g. rivers, streams, ditches, canals, lakes and ponds, etc.), groundwater bodies, as well as flood risk and drainage. The ES is supported by **ES Volume 3, Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016REP5-014 and REP5-016] and ES Volume 3,**

5.8.10	The Exception Test is only appropriate for use where the Sequential Test alone cannot deliver an acceptable site. It would only be appropriate to move onto the Exception Test when the Sequential Test has identified reasonably available, lower risk sites appropriate for the proposed development where, accounting for wider sustainable development objectives, application of relevant policies would provide a clear reason for refusing development in any alternative locations identified. Examples could include alternative site(s) that are subject to national designations such as landscape, heritage and nature conservation designations, for example Areas of Outstanding Natural Beauty (AONBs), SSSIs and World Heritage Sites (WHS) which would not usually be considered appropriate.	**Appendix 10.2: Water Framework Directive Assessment [APP-110]**. The likely effects of the Scheme associated with flood risk have been assessed in **ES Volume 3, Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016REP5-014 and REP5-016]**. The FRA concludes that the Scheme will be safe from all forms of flooding and will provide a betterment in terms of downstream flood risk and pollution. Pre-application engagement has been carried out with the Environment Agency's National Infrastructure Team to seek agreement regarding the approach to hydraulic modelling and flood risk mitigation and with the Lead Local Flood Authority (LLFA) and **Doncaster East Internal Drainage Board and Isle of Axholme and North Nottinghamshire Water Level Management Board**. Further details on the engagement undertaken to date is provided within **ES Chapter 10: Water Resources Other [REP2-021]** Paragraph 5.8.21 of NPS EN-1 ensures that a sequential, risk-based approach is followed to steer new development to areas with the lowest risk of flooding, taking all sources of flood risk and climate change into account. Where it is not possible to locate development in low-risk areas, the Sequential Test
5.8.11	Both elements of the Exception Test will have to be satisfied for development to be consented. To pass the Exception Test it should be demonstrated that • the project would provide wider sustainability benefits to the community that outweigh flood risk; and • the project will be safe for its lifetime taking	

	account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible will reduce flood risk overall.	should go on to compare reasonably available sites with medium risk areas and then, only where there are no reasonably available sites in low and medium risk areas, within high-risk areas. The Applicant has applied a sequential, risk-based approach to steer new development to areas with the lowest risk of flooding, taking all sources of flood risk and climate change into account. Further detail on how these policy requirements have been complied with is contained in **Flood Risk Sequential Test and Exceptions Test [REP3-044].** Section 7 of the **Flood Risk Sequential Test and Exception Test [REP3-044]** sets out the Applicant's response for meeting the Exceptions Test. With regard to part 1 of the exceptions test, the need of the Scheme is further discussed in **Section 4 of the Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3**]. The Scheme will contribute towards the important and urgent national need for energy generating infrastructure and deploying low-carbon generation assets at scale. The Scheme will deliver a significant amount of low carbon energy delivering the benefits to

		the energy system as set out in EN-1. The introduction of battery storage provides additional carbon saving opportunities. Its co-location within the solar farm, and shared onward grid connection cable, would assist in delivering a number of significant benefits. These include the sharing of grid infrastructure; 'load-shifting' and smoothing out the generation of electricity to meet demand; and security of supply and reducing the risk of black-outs and brown-outs. In response to meeting part two of the exceptions test, this is specifically addressed in through the site-specific **ES Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016REP5-014 and REP5-016]**, which demonstrates that the Scheme will remain safe throughout its lifetime without increasing flood risk elsewhere.
5.8.12	Development should be designed to ensure there is no increase in flood risk elsewhere, accounting for the predicted impacts of climate change throughout the lifetime of the development. There should be no net loss of floodplain storage and any deflection or constriction of flood flow routes should be safely	**The ES Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016REP5-014 and REP5-016]** confirms that the construction, operation and decommissioning of the Scheme, with mitigation and best practice control measures implemented, will remain safe for its lifetime and will not increase the flood risk elsewhere, taking into account climate

	managed within the site. Mitigation measures should make as much use as possible of natural flood management techniques	change and the operational lifetime of the scheme. The impact of the proposed solar PV modules on surface water runoff rates and flow patterns is considered to be negligible, and to provide betterment over the existing situation. No further mitigation measures are therefore considered necessary. The Scheme is considered to have an overall negligible impact on existing floodplain strategy and water flows.
5.8.13	A site-specific flood risk assessment should be provided for all energy projects in Flood Zones 2 and 3 in England or Zones B and C in Wales. In Flood Zone 1 in England or Zone A in Wales, an assessment should accompany all proposals involving: • sites of 1 hectare or more • land which has been identified by the EA or NRW as having critical drainage problems • land identified (for example in a local authority strategic flood risk assessment) as being at increased flood risk in future • land that may be subject to other sources of flooding (for example surface water) • where the EA or NRW, Lead Local Flood Authority, Internal Drainage Board or other body have indicated that there may be drainage problems.	The **ES Appendix 6.1 Flood Risk Assessment [REP5-014 and REP5-016]** together with associated drainage calculations provides an assessment of flood risk to and from the Scheme from all sources of flooding. A surface water drainage strategy has been prepared to manage surface water runoff from the proposed impermeable catchments associated with the development and this is presented within Section 7 of the **ES Appendix 6.1 Flood Risk Assessment [REP5-014 and REP5-016]**. Mitigation measures such as ensuring all proposed solar PV modules and all associated infrastructure are raised above the fluvially dominated 1 in 1,000 year flood levels defined by the 2023 Tidal Trent flood model outputs, plus an allowance for 100mm of freeboard

5.8.14	This assessment should identify and assess the risks of all forms of flooding to and from the project and demonstrate how these flood risks will be managed, taking climate change into account.	are proposed. This event has been identified as the worst case of the modelled flood events from the 2023 Tidal Trent model. With the proposed mitigation measures and drainage strategy in place, the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere.
5.8.15	The minimum requirements for Flood Risk Assessments (FRA) are that they should: • be proportionate to the risk and appropriate to the scale, nature and location of the project; • consider the risk of flooding arising from the project in addition to the risk of flooding to the project; • take the impacts of climate change into account, across a range of climate scenarios, clearly stating the development lifetime over which the assessment has been made217; • be undertaken by competent people, as early as possible in the process of preparing the proposal; • consider both the potential adverse and beneficial effects of flood risk management infrastructure, including raised defences, flow channels, flood storage areas and other artificial features, together with the consequences of their failure and exceedance; • consider the vulnerability of those using the site, including	The **ES Appendix 6.1 Flood Risk Assessment [REP5-014 and REP5-016**] together with associated drainage calculations provides an assessment of flood risk to and from the Scheme from all sources of flooding. It confirms that the construction, operation and decommissioning of the Scheme, with mitigation and best practice control measures, will remain safe for its lifetime and will not increase the flood risk elsewhere, taking into account climate change and the operational lifetime of the scheme. The Flood Risk Assessment meets all the requirements set out in this policy.

	arrangements for safe access and escape; • consider and quantify the different types of flooding (whether from natural and human sources and including joint and cumulative effects) and include information on flood likelihood, speed-of-onset, depth, velocity, hazard and duration; • identify and secure opportunities to reduce the causes and impacts of flooding overall, making as much use as possible of natural flood management techniques as part of an integrated approach to flood risk management; • consider the effects of a range of flooding events including extreme events on people, property, the natural and historic environment and river and coastal processes; • include the assessment of the remaining (known as 'residual') risk after risk reduction measures have been taken into account and demonstrate that these risks can be safely managed, ensuring people will not be exposed to hazardous flooding; • consider how the ability of water to soak into the ground may change with development, along with how the proposed layout of the project may affect drainage systems. Information should include: i. Describe the existing surface water drainage arrangements for the site ii. Set out (approximately) the existing rates and	

	volumes of surface water run-off generated by the site. Detail the proposals for restricting discharge rates iii. Set out proposals for managing and discharging surface water from the site using sustainable drainage systems and accounting for the predicted impacts of climate change. If sustainable drainage systems have been rejected, present clear evidence of why their inclusion would be inappropriate iv. Demonstrate how the hierarchy of drainage options has been followed.218 v. Explain and justify why the types of SuDS219 and method of discharge have been selected and why they are considered appropriate. vi. Explain how sustainable drainage systems have been integrated with other aspects of the development such as open space or green infrastructure, so as to ensure an efficient use of the site vii. Describe the multifunctional benefits the sustainable drainage system will provide viii. Set out which opportunities to reduce the causes and impacts of flooding have been identified and included as part of the proposed sustainable drainage system ix. Explain how run-off from the completed development will be prevented from causing an impact elsewhere x. Explain how the sustainable drainage system been designed to	

	facilitate maintenance and, where relevant, adoption. Set out plans for ensuring an acceptable standard of operation and maintenance throughout the lifetime of the development • detail those measures that will be included to ensure the development will be safe and remain operational during a flooding event throughout the development's lifetime without increasing flood risk elsewhere; • identify and secure opportunities to reduce the causes and impacts of flooding overall during the period of construction; and • be supported by appropriate data and information, including historical information on previous events.	
5.8.17	Development (including construction works) will need to account for any existing watercourses and flood and coastal erosion risk management structures or features, or any land likely to be needed for future structures or features so as to ensure: • Access, clearances and sufficient land are retained to enable their maintenance, repair, operation, and replacement, as necessary • Their standard of	**ES Chapter 10: Water Resources [REP2-021]** presents the assessment of the likely significant effects of the Scheme upon surface water bodies, including water quality, drainage and food risk. The **Outline Construction Environmental Management Plan [Document Reference 7.1 Revision 7]** sets out how during construction, the Applicant will use reasonable endeavors to ensure that drainage within the Order Limits continues to operate efficiently, which will include implementing good working practices during construction to avoid damage to

	protection is not reduced • Their condition or structural integrity is not reduced.	existing land drains as far as reasonably practicable. At this stage, an Outline Surface Water Drainage Strategy included within the **ES Appendix 10.1 Flood Risk Assessment [REP5-014 and REP5-016REP5-014 and REP5-016**] has been prepared, demonstrating surface water runoff rates and associated flood risk will be managed, with no increase in surface water flood risk on site or elsewhere. This is secured by requirement 11 of the **Draft DCO [Document Reference 3.1 Revision 10]**.
5.8.18	Applicants for projects which may be affected by, or may add to, flood risk should arrange pre-application discussions before the official pre-application stage of the NSIP process with the EA or NRW, and, where relevant, other bodies such as Lead Local Flood Authorities, Internal Drainage Boards, sewerage undertakers, navigation authorities, highways authorities and reservoir owners and operators	The Applicant is in discussions with the Environment Agency; the Isle of Axholme & North Nottinghamshire Water Level; the Doncaster East Internal Drainage Board; and the host local authorities. The outcome of these discussions will be presented within the respective Statements of Common Ground
5.8.20	If the EA, NRW or another flood risk management authority has reasonable concerns about the proposal on flood risk grounds, the applicant should discuss these concerns with the EA or NRW and take all reasonable steps to agree ways in which the proposal	

	might be amended, or additional information provided, which would satisfy the authority's concerns.	
5.8.21	The Sequential Test ensures that a sequential, risk-based approach is followed to steer new development to areas with the lowest risk of flooding, taking all sources of flood risk and climate change into account. Where it is not possible to locate development in low-risk areas, the Sequential Test should go on to compare reasonably available sites with medium risk areas and then, only where there are no reasonably available sites in low and medium risk areas, within high-risk areas.	A sequential test has been applied to the Scheme and this is presented within the **Flood Risk Sequential Test and Exceptions Rest [REP2-080]**. As set out in paragraph 51.3 of the Flood Risk Sequential Test and Expectation Test, the Applicant has applied an area of search based on a 10km radius from a site selection starting point, which was based on the Applicant's understanding of the potential point of connection in the vicinity of the Scheme at the time of undertaking the study, as set out at paragraph 5.74 of the Applicant's Written Summary of Oral Submissions at the Issue Specific Hearing [REP1-045]. The 10km radius has in turn, allowed the Applicant to assess reasonable alternatives located within and overlapping a catchment area with a diameter in excess of 20km and which includes land within several local planning authority areas, namely, the two host authorities and East Riding of Yorkshire and West Lindsey. This is illustrated by Figure 4.1 of the Flood Risk Sequential Test and Exception Test. Accordingly, the robust approach adopted by the Applicant, in
5.8.23	Consideration of alternative sites should take account of the policy on alternatives set out in Section 4.3 above. All projects should apply the Sequential Test to locating development within the site.	

		setting out its search area, has accommodated and duly accounted for a degree of flexibility in the final point of connection. The Flood Risk Sequential Test and Exception Test confirms there are no reasonably available alternative locations for the Scheme, accordingly, this demonstrates that the sequential test has been met. As per paragraph 4.3.22 of EN-1, the Applicant carried out the consideration of potential alternative sites in a proportionate manner.
5.8.24	To satisfactorily manage flood risk, arrangements are required to manage surface water and the impact of the natural water cycle on people and property	The proposed surface water drainage design set out in the **ES Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016REP5-014 and REP5-016]** demonstrates that sustainable drainage techniques have been designed into the Scheme and will be maintained by the Applicant, or another private operator to be confirmed and secured through Requirement 11 of the Draft DCO [Document Reference 3.1 Revision 10].
5.8.25	In this NPS, the term SuDS refers to the whole range of sustainable approaches to surface water drainage management including, where appropriate: • source	The proposed surface water drainage design set out in the **ES Volume 3, Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016]**

	control measures including rainwater recycling and drainage • infiltration devices to allow water to soak into the ground, that can include individual soakaways and communal facilities • filter strips and swales, which are vegetated features that hold and drain water downhill mimicking natural drainage patterns • filter drains and porous pavements to allow rainwater and run-off to infiltrate into permeable material below ground and provide storage if needed • basins, ponds and tanks to hold excess water after rain and allow controlled discharge that avoids flooding • flood routes to carry and direct excess water through developments to minimise the impact of severe rainfall flooding.	demonstrates that sustainable drainage techniques have been designed into the Scheme and will be maintained by the Applicant, or another private operator to be confirmed and secured through a Requirement of the DCO.
5.8.26	Site layout and surface water drainage systems should cope with events that exceed the design capacity of the system, so that excess water can be safely stored on or conveyed from the site without adverse impacts.	**ES Volume 3, Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016]** assesses flood risk and drainage in the context of EIA. This concludes that with the proposed mitigation measures to be implemented as part of the CEMP and OEMP that there will be no change to the risk of flooding from all sources with no significant effects arising.
5.8.27	The surface water drainage arrangements for any project should, accounting for the predicted impacts of climate change throughout the development's	

	lifetime, be such that the volumes and peak flow rates of surface water leaving the site are no greater than the rates prior to the proposed project, unless specific off-site arrangements are made and result in the same net effect.	
5.8.28	It may be necessary to provide surface water storage and infiltration to limit and reduce both the peak rate of discharge from the site and the total volume discharged from the site. There may be circumstances where it is appropriate for infiltration facilities or attenuation storage to be provided outside the project site, if necessary through the use of a planning obligation.	**ES Chapter 10: Water Resources [REP2-021] and ES Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016]** identifies how the impact of the proposed solar PV modules on surface water runoff rates and flow patterns is considered to be negligible, with the land use changes discussed below providing betterment over the existing situation. No further mitigation measures are therefore considered necessary. The proposed BESS and substation areas will increase the area of impermeable hardstanding within the Order Limits. As such, a surface water drainage strategy has been prepared to manage surface water runoff from the proposed impermeable catchments associated with the development. Infiltration as the primary means of surface water disposal has been discounted for these areas. Surface water runoff from proposed
5.8.29	The sequential approach should be applied to the layout and design of the project. Vulnerable aspects of the development should be located on parts of the site at lower risk and residual risk of flooding. Applicants should seek opportunities to use open space for multiple purposes such as amenity, wildlife habitat and flood storage uses. Opportunities should be taken to lower flood risk by reducing the built	

	footprint of previously developed sites and using SuDS.	infrastructure on site will be directed towards SuDS features that would provide water quality treatment to mitigate the risk of water pollution on site. Contributions could be made from permeable surfacing and wildflower planting for example. High level surface water drainage proposals are included in the appended FRA **(ES Appendix 10.1 Flood Risk Assessment [REP5-014 and REP5-016])**, with full details to be confirmed during details design post-consent of the DCO application. In order to protect the downstream receiving water body, a key element of SuDS is that they have the potential to improve the quality of surface water discharged from a site. The SuDS Manual (CIRIA C753) states that the design of surface water drainage should consider minimising contaminants in surface water runoff discharged from the Order Limits. The level of treatment required depends on the proposed land use, according to the pollution hazard indices. Based on the nature of the Scheme, surface water runoff pollution indices are considered to be low/very low. Treatment of surface water from the BESS and Substation areas is to be provided by the gravel subbase through which surface water is to percolate.
5.8.30	Where a development may result in an increase in flood risk elsewhere through the loss of flood storage, on-site level-for-level compensatory storage, accounting for the predicted impacts of climate change over the lifetime of the development, should be provided.	
5.8.31	Where it is not possible to provide compensatory storage on site, it may be acceptable to provide it off-site if it is hydraulically and hydrologically linked. Where development may cause the deflection or constriction of flood flow routes, these will need to be safely managed within the site.	
5.8.32	Where development may contribute to a cumulative increase in flood risk elsewhere, the provision of multifunctional sustainable drainage systems, natural flood management and green infrastructure can also make a valuable contribution to mitigating this risk whilst providing wider benefits.	

		Downstream defenders are proposed where necessary in order to treat surface water generated from the impermeable access roadways prior to being attenuated within the below ground network. In the event of a fire within the BESS compounds, a separate penstock and attenuation crates procedure is in place in order to prevent contaminated runoff from entering the receiving waterbodies.
5.8.33	The receipt of and response to warnings of floods is an essential element in the management of the residual risk of flooding. Flood Warning and evacuation plans should be in place for those areas at an identified risk of flooding.	A Flood Emergency Management Plan has been prepared for the Order Limits and is included in Appendix H of the **ES Volume 3, Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016]**
5.8.35	Flood resistant and resilient materials and design should be adopted to minimise damage and speed recovery in the event of a flood	**ES Chapter 10: Water Resources Other [REP2-021] and ES, Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016REP5-014 and REP5-016]** identifies how the Scheme would remain safe and operational during times of fluvial and tidal flooding.
5.8.36	In determining an application for development consent, the Secretary of State should be satisfied that where relevant: • the application is supported by an appropriate FRA • the Sequential Test has been	**ES Chapter 10: Water Resources Other [REP2-021]** identifies the potential impacts on the water environment from the construction, operation and decommissioning of the Scheme. The water

	applied and satisfied as part of site selection • a sequential approach has been applied at the site level to minimise risk by directing the most vulnerable uses to areas of lowest flood risk • the proposal is in line with any relevant national and local flood risk management strategy • SuDS (as required in the next paragraph on National Standards) have been used unless there is clear evidence that their use would be inappropriate • in flood risk areas the project is designed and constructed to remain safe and operational during its lifetime, without increasing flood risk elsewhere (subject to the exceptions set out in paragraph 5.8.42) • the project includes safe access and escape routes where required, as part of an agreed emergency plan, and that any residual risk can be safely managed over the lifetime of the development • land that is likely to be needed for present or future flood risk management infrastructure has been appropriately safeguarded from development to the extent that development would not prevent or hinder its construction, operation or maintenance	environment includes surface waterbodies (e.g. rivers, streams, ditches, canals, lakes and ponds, etc.), groundwater bodies, as well as flood risk and drainage. The ES is supported by **ES Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016REP5-014 and REP5-016] and ES Appendix 10.2: Water Framework Directive Assessment [APP-110]**. The likely effects of the Scheme associated with flood risk have been assessed in **ES Volume 3, Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016REP5-014 and REP5-016]**. The FRA concludes that the Scheme will be safe from all forms of flooding and will provide a betterment in terms of downstream flood risk and pollution. Pre-application engagement has been carried out with the Environment Agency's National Infrastructure Team to seek agreement regarding the approach to hydraulic modelling and flood risk mitigation and with the Lead Local Flood Authority (LLFA) and **Doncaster East Internal Drainage Board and Isle of Axholme and North Nottinghamshire Water Level Management Board**. Further details on the engagement undertaken to date

5.8.38	In addition, the Development Consent Order, or any associated planning obligations, will need to make provision for appropriate operation and maintenance of any SuDS throughout the project's lifetime. Where this is secured through the adoption of any SuDS features, any necessary access rights to property will need to be granted.	is provided within **ES Volume 1, Chapter 10: Water Resources [REP2-021]** Paragraph 5.8.21 of NPS EN-1 ensures that a sequential, risk-based approach is followed to steer new development to areas with the lowest risk of flooding, taking all sources of flood risk and climate change into account. Where it is not possible to locate development in low-risk areas, the Sequential Test should go on to compare reasonably available sites with medium risk areas and then, only where there are no reasonably available sites in low and medium risk areas, within high-risk areas. The Applicant has applied a sequential, risk-based approach to steer new development to areas with the lowest risk of flooding, taking all sources of flood risk and climate change into account. Further detail on how these policy requirements have been complied with is contained in **Flood Risk Sequential Assessment and Exceptions Test [REP3-044].** With regards to paragraph 5.8.41 of EN-1,The **ES Appendix 6.1 Flood Risk Assessment [REP5-014 and REP5-016REP5-014 and REP5-016**] confirms that the construction, operation and decommissioning of the Scheme, with the mitigation and best practice control
5.8.41	Energy projects should not normally be consented within Flood Zone 3b , or Zone C2 in Wales, or on land expected to fall within these zones within its predicted lifetime. This may also apply where land is subject to other sources of flooding (for example surface water). However, where essential energy infrastructure has to be located in such areas, for operational reasons, they should only be consented if the development will not result in a net loss of floodplain storage, and will not impede water flows	
5.8.42	Exceptionally, where an increase in flood risk elsewhere cannot be avoided or wholly mitigated, the Secretary of State may grant consent if they are satisfied that the increase in present and future flood	

	risk can be mitigated to an acceptable and safe level and taking account of the benefits of, including the need for, nationally significant energy infrastructure as set out in Part 3 above. In any such case the Secretary of State should make clear how, in reaching their decision, they have weighed up the increased flood risk against the benefits of the project, taking account of the nature and degree of the risk, the future impacts on climate change, and advice provided by the EA or NRW and other relevant bodies.	measures, will remain safe for its lifetime and will not increase flood risk within the Order Limits or elsewhere, taking into account climate change.
5.9.9	The applicant should undertake an assessment of any likely significant heritage impacts of the proposed development as part of the EIA, and describe these along with how the mitigation hierarchy has been applied in the ES (see Section 4.3). This should include consideration of heritage assets above, at, and below the surface of the ground. Consideration will also need to be given to the possible impacts, including cumulative, on the wider historic environment. The assessment should include reference to any historic landscape or seascape character assessment and	The sources of information, including relevant historic records, used to inform the Archaeological Desk-Based Assessment are set out in ES Volume 2, Chapter **8: Cultural Heritage & Archaeology [REP2-037]**. This includes ES **Volume 4, Appendix 8.1: Heritage Technical Baseline, Appendix 8.2: Geophysical Survey Report, Appendix 8.3: Geoarchaeological Assessment, Appendix 8.4: Archaeological Trial Trenching Report, Appendix 8.5 Test Pitting Report**

	associated studies as a means of assessing impacts relevant to the proposed project.	and **Appendix 8.6 Outline Archaeological Mitigation Strategy**.
5.9.10	As part of the ES the applicant should provide a description of the significance of the heritage assets affected by the proposed development, including any contribution made by their setting. The level of detail should be proportionate to the importance of the heritage assets and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum, the applicant should have consulted the relevant Historic Environment Record235 (or, where the development is in English or Welsh waters, Historic England or Cadw) and assessed the heritage assets themselves using expertise where necessary according to the proposed development's impact.	The **ES Chapter 8: Cultural Heritage & Archaeology [REP2-037]** has considered the likely significant effects of the Scheme upon the cultural heritage resource, including buried archaeological remains within the Order Limits and heritage assets (including Scheduled Monuments and Listed Buildings) located within the wider Study Area. It has been established that subject to appropriate mitigation being implemented, the Scheme would not result in any significant adverse effects upon the cultural heritage resource within the Order Limits and in its surroundings. The construction phase of the Scheme has the potential to affect known, non-designated, archaeological remains associated with possible prehistoric Romano-British, post-medieval and modern archaeological remains as well as potential previously unrecorded archaeological remains. The groundworks associated with the construction of the below ground cable routes, directional drilling access pits, temporary compounds, BESS and
5.9.11	Where a site on which development is proposed includes, or the available evidence suggests it has the potential to include, heritage assets with an archaeological interest, the applicant should carry out appropriate desk- based assessment and, where such desk- based research is insufficient to properly	

	assess the interest, a field evaluation. Where proposed development will affect the setting of a heritage asset, accurate representative visualisations may be necessary to explain the impact.	substations within the Scheme have the potential to truncate or totally remove the archaeological remains within their footprint. Such effects would result in harm to or total loss of significance of these buried archaeological features. An appropriate programme of mitigation by design and additional mitigation (as required) will allow the magnitude of effect to be Moderate harm (**not significant**). The installation of the solar arrays has the potential to result in localised adverse effects upon archaeological deposits lying beneath the push pin foundations. An appropriate programme of mitigation by design and additional mitigation (as required) will allow the magnitude of effect to be Minor harm (**not significant**). The construction phase of the Scheme has the potential to affect the settings of five designated heritage assets and three non-designated built heritage assets and one No. Area of Special Historic Landscape Interest. Such effects would result in harm to the significance of these assets, leading to Less than Substantial Residual Harm at the lower end of the spectrum in relation to the
5.9.12	The applicant should ensure that the extent of the impact of the proposed development on the significance of any heritage assets affected can be adequately understood from the application and supporting documents. Studies will be required on those heritage assets affected by noise, vibration, light and indirect impacts, the extent and detail of these studies will be proportionate to the significance of the heritage asset affected.	
5.9.13	The applicant is encouraged, where opportunities exist, to prepare proposals which can make a positive contribution to the historic environment, and to consider how their scheme takes account of the significance of heritage assets affected. This can include, where possible: • enhancing, through a range of measures such a sensitive design, the significance of heritage assets or setting affected • considering where required the development of archive capacity	

	which could deliver significant public benefits • considering how visual or noise impacts can affect heritage assets, and whether there may be opportunities to enhance access to, or interpretation, understanding and appreciation of, the heritage assets affected by the scheme	designated assets and Minor Residual Harm in relation to the non-designated assets (**Not Significant**). <u>Operational Phase</u> The operational phase of the Scheme has the potential to affect the settings of five designated heritage assets and three non-designated built heritage assets and one Area of Special Historic Landscape Interest. Such effects would result in harm to the significance of these assets, leading to Less than Substantial Residual Harm at the lower end of the spectrum in relation to the designated assets and Minor Residual Harm in relation to the non-designated assets. <u>Decommissioning Phase</u> The decommissioning phase of the Scheme has the potential to affect the settings of four designated heritage assets and three non-designated built heritage assets and one Area of Special Historic Landscape Interest. Such effects would result in harm to the significance of these assets, leading to Less than Substantial Residual Harm at the lower end of the
5.9.14	Careful consideration in preparing the scheme will be required on whether the impacts on the historic environment will be direct or indirect, temporary, or permanent.	
5.9.15	Applicants should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably.	
5.9.22	In determining applications, the Secretary of State should seek to identify and assess the particular significance of any heritage asset that may be	

	affected by the proposed development, including by development affecting the setting of a heritage asset (including assets whose setting may be affected by the proposed development), taking account of: • relevant information provided with the application and, where applicable, relevant information submitted during the examination of the application • any designation records, including those on the National Heritage List for England237, or included on Cof Cymru238 for Wales. • historic landscape character records • the relevant Historic Environment Record(s), and similar sources of information • representations made by interested parties during the examination process • expert advice, where appropriate, and when the need to understand the significance of the heritage asset demands it.	spectrum in relation to the designated assets and Minor Residual Harm in relation to the non-designated assets. <u>Mitigation and Enhancement</u> Designed mitigation in relation to built heritage assets has been agreed and will entail a combination of screening through appropriate boundary treatments and offsets to retain suitable margins around/or views from the assets to minimise the adverse effects upon their settings. Opportunities to minimise adverse effects upon the buried archaeological resource have also been considered. Site investigation work has determined that some areas of the Site, such as the Romano-British settlement (MLS901) within Land Parcel E, will have no intrusive construction to enable *in situ* preservation of the archaeological remains in this area. It is envisaged that buried remains may be able to be preserved in situ in some parts of the Order Limits through the use of ballast foundations.
5.9.24	In considering the impact of a proposed development on any heritage assets, the Secretary of State should consider the particular nature of the significance of the heritage assets and the value that they hold for this and future generations. This understanding should	

	be used to avoid or minimise conflict between their conservation and any aspect of the proposal.	A proportionate programme of archaeological survey and mitigation, by means of field investigation and recording, will be followed by an appropriate and proportionate mitigation strategy that will ensure that they are subject to preservation by record at an appropriate stage in the development process. The appropriate and proportionate additional mitigation, to be determined in consultation with the archaeological advisors, is secured as requirement set out in the draft **DCO [Document Reference 3.1 Revision 10]**. This will partially offset their loss through the knowledge gained through the investigations. For the archaeological remains the mitigation may include, as appropriate, excavation, strip map and sample investigation, or archaeological monitoring of ground works during construction (known as a watching brief), with appropriate post-excavation analysis and dissemination of results. For Deadline 4 submission, the Applicant has supplemented the **Planning Statement** with a **Heritage Statement [Document Reference 5.5 Revision 3REP4-013**]. The Heritage Statement concludes that the significant effects on the designated heritage assets
5.9.27	When considering the impact of a proposed development on the significance of a designated heritage asset, the Secretary of State should give great weight to the asset's conservation. The more important the asset, the greater the weight should be. This is irrespective of whether any potential harm amounts to substantial harm, total loss, or less than substantial harm to its significance	
5.9.28	The Secretary of State should give considerable importance and weight to the desirability of preserving all heritage assets. Any harm or loss of significance of a designated heritage asset (from its alteration or destruction, or from development within its setting) should require clear and convincing justification.	
5.9.29	Substantial harm to or loss of significance of a grade II Listed Building or a grade II Registered Park or Garden should be exceptional.	

5.9.30	Substantial harm to or loss of significance of assets of the highest significance, including Scheduled Monuments; Protected Wreck Sites; Registered Battlefields; grade I and II* Listed Buildings; grade I and II* Registered Parks and Gardens; and World Heritage Sites, should be wholly exceptional.	resulting from the Scheme can be equated with less than substantial harm. Paragraph 5.9.36 of NPS EN-1 requires that any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of the development, recognising that the greater the harm to the significance of the heritage asset, the greater the justification will be needed for any harm. Section 4.9 of the Planning Statement sets out the significant public benefits associated with this Scheme. In accordance with EN-1 paragraphs 5.9.32 and 5.9.33, and taking into account of the principles set out in EN-1 paragraphs 4.2.16 and 4.2.17, the substantial public benefits and needs of the Scheme clearly and demonstrably outweigh the less than substantial harm to designate heritage assets. **Section 4 of the Planning Statement [Document Reference 5.5 Revision 3Document Reference 5.5 Revision 3 Revision 3]** sets out the significant public benefits of the Scheme, including its contribution to meeting the urgent need for low carbon generating infrastructure and that it would result in negative GHG emissions. The Applicant asserts that there is a clear justification for the less than
5.9.31	Where the proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset the Secretary of State should refuse consent unless it can be demonstrated that the substantial harm to, or loss of, significance is necessary to achieve substantial public benefits that outweigh that harm or loss, or all the following apply: • the nature of the heritage asset prevents all reasonable uses of the site • no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation • conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible • the harm or loss is outweighed by the benefit of bringing the site back into use.	

5.9.32	Where the proposed development will lead to less than substantial harm to the significance of the designated heritage asset, this harm should be weighed against the public benefits of the proposal, including, where appropriate securing its optimum viable use.	substantial harm that would arise to the designated heritage assets, both individually and collectively. Reference is also made to the assessment conclusions set out within section 8.10 of the ES Chapter 8: Cultural Heritage [Document Reference 6.2.8 Revision 2], whereby it has been established that subject to the appropriate mitigation measures in place, the Scheme would not result in any significant adverse effects upon the cultural heritage resources within the Order Limits and its surroundings. Furthermore, it should be recognised that any of the adverse effects identified would be temporary and reversible following decommissioning.
5.9.33	In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.	
5.9.34	Not all elements of a Conservation Area or World Heritage Site will necessarily contribute to its significance. Loss of a building (or other element) which makes a positive contribution to the significance of the Conservation Area or World Heritage Site should be treated either as substantial harm under paragraph 5.9.30 or less than substantial harm under paragraph 5.9.32, as appropriate, considering the relative significance of the element	

	affected and its contribution to the significance of the Conservation Area or World Heritage Site as a whole.	
5.9.36	When considering applications for development affecting the setting of a designated heritage asset, the Secretary of State should give appropriate weight to the desirability of preserving the setting such assets and treat favourably applications that preserve those elements of the setting that make a positive contribution to, or better reveal the significance of, the asset. When considering applications that do not do this, the Secretary of State should give great weight to any negative effects, when weighing them against the wider benefits of the application. The greater the negative impact on the significance of the designated heritage asset, the greater the benefits that will be needed to justify approval.	
5.10.6	Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints the aim should be to minimise harm to the	Good design has been a key consideration from the outset. The Scheme has undergone an iterative design process, informed by **ES Chapter 6: Landscape and Visual [REP4-021]**. The assessment has informed the iterative design process, which is detailed in the **ES Chapter 3: Site Description, Site**

	landscape, providing reasonable mitigation where possible and appropriate.	**Selection and Iterative Design Process [REP2-019]** and **the Design Approach Document [APP-032].** The primary mitigation adopted in relation to landscape and visual matters is that which has been embedded within the design of the Scheme and comprises the consideration given to avoiding and reducing landscape and visual effects during the evolution of the Scheme layout. This is sometimes referred to as 'mitigation by design'. This has included the location and offsetting of key elements of the Scheme in response to the identification of potential visual receptors and the protection of existing landscape elements such as existing trees and hedgerows during the construction period, further details on which are set out in **ES Appendix 6.6 - Arboricultural Impact Assessment [APP-070]].** In addition, a series of landscape and ecological mitigation and enhancement measures are included as part of the Scheme, each of which has been developed collaboratively alongside the project Ecologists as set out below and illustrated on **ES**

		Figure 6.4 Landscape and Visual Mitigation Strategy, (Landscape Masterplan). [REP3-032]. These are also considered to form embedded mitigation which would be implemented as part of the Scheme.
5.10.7	National Parks, the Broads and AONBs have been confirmed by the government as having the highest status of protection in relation to landscape and natural beauty. Each of these designated areas has specific statutory purposes. Projects should be designed sensitively given the various siting, operational, and other relevant constraints. For development proposals located within designated landscapes the Secretary of State should be satisfied that measures which seek to further purposes of the designation are sufficient, appropriate and proportionate to the type and scale of the development.	The Scheme is not located within any of these designations. **ES Chapter 6: Landscape and Visual [REP4-021]** identifies no national landscape designations that would be impacted by the Scheme. The assessment confirms that the landscape of the Order Limits is not covered by any designation at a national, regional or local level that recognises it as having specific landscape importance. An area of Special Landscape Value is located to the north west of Thorne, within the Doncaster district, but there is no intervisibility with this area located beyond the M18 and the Order Limits. An Area of Historic Landscape Interest, (The Isle of Axholme) is located to the south west and is in part within the extent of the Order Limits. Refer to **ES Chapter 8: Cultural Heritage and Archaeology [REP2-037]** of the ES for more
5.10.12	Outside nationally designated areas, there are local landscapes that may be highly valued locally. Where a local development document in England or a local	

	development plan in Wales has policies based on landscape or waterscape character assessment, these should be paid particular attention. However, locally valued landscapes should not be used in themselves to refuse consent, as this may unduly restrict acceptable development.	detail on The Isle of Axholme Area of Historic landscape Interest.
5.10.13	All proposed energy infrastructure is likely to have visual effects for many receptors around proposed sites.	**ES Chapter 6: Landscape and Visual [REP4-021]** confirms that where individual properties, particularly on the edges of the settlements may be subject to potential significant visual effects an RVAA has been undertaken to consider these which may include properties located within or on the edge of other settlements within 500m of the Scheme. The assessment is provided at **ES Appendix 6.7 - Residential Visual Amenity Assessment [REP4-027].**
5.10.14	The Secretary of State will have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the project.	**ES Chapter 6: Landscape and Visual [REP4-021]** confirms how some significant adverse effects are identified (to ground cover and the landscape character of the site and immediate surroundings during construction and at operation to the landscape character of the site and immediate surroundings, some residential receptors, some users of the public

		rights of way network and canal corridor and some users of the transport network), but these are highly localised and limited in nature, with many of the effects reduced by Year 15 following implementation of the landscape mitigation planting. Indeed, this planting would result in significant beneficial effects in terms of the hedgerow network within the Scheme. Following the application of embedded mitigation measures and the implementation of best practice measures in accordance with **Outline Construction Environmental Management Plan [Document Reference 7.1 Revision 7], Outline Decommissioning Environmental Management Plan [REP4-051]** and planting proposals in accordance with **Outline Landscape Ecological Management Plan [REP6-036]** the construction, operation (including maintenance) and decommissioning phases of the Scheme are not anticipated to result in any significant adverse effects on landscape and visual receptors. Benefits of the Scheme outweigh less than significant impacts that have been minimised and mitigated.

5.10.16	The applicant should carry out a landscape and visual impact assessment and report it in the ES, including cumulative effects (see Section 4.3). Several guides have been produced to assist in addressing landscape issues	The landscape and visual assessment is reported in the **ES Chapter 6: Landscape and Visual [REP4-021].** The **ES Chapter 17 Cumulative Impacts [REP6-016]** sets out cumulative impacts of the development and details how the Applicant has taken these into account through the Scheme.
5.10.17	The landscape and visual assessment should include reference to any landscape character assessment and associated studies as a means of assessing landscape impacts relevant to the proposed project. The applicant's assessment should also take account of any relevant policies based on these assessments in local development documents in England and local development plans in Wales.	
5.10.19	The applicant should consider landscape and visual matters in the early stages of siting and design, where site choices and design principles are being established. This will allow the applicant to demonstrate in the ES how negative effects have been minimised and opportunities for creating positive benefits or enhancement have been recognised and	Good design has been a key consideration from the outset. The Scheme has undergone an iterative design process, informed by **ES Chapter 6: Landscape and Visual [REP4-021]**. The assessment has informed the iterative design process, which is detailed in the **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019]** and **the Design Approach Document [APP-032**The primary

	incorporated into the design, delivery and operation of the scheme.	mitigation adopted in relation to landscape and visual matters is that which has been embedded within the design of the Scheme and comprises the consideration given to avoiding and reducing landscape and visual effects during the evolution of the Scheme layout. This is sometimes referred to as 'mitigation by design'. This has included the location and offsetting of key elements of the Scheme in response to the identification of potential visual receptors and the protection of existing landscape elements such as existing trees and hedgerows during the construction period, further details on which are set out in **ES Appendix 6.6 - Arboricultural Impact Assessment [APP-070]].**
5.10.20	The assessment should include the effects on landscape components and character during construction and operation. For projects which may affect a National Park, The Broads or an AONBs the assessment should include effects on the natural beauty and special qualities of these areas'	An Assessment of Likely Effects is provided in **ES Chapter 6: Landscape and Visual [REP4-021]**. The Scheme would not affect a National Park, The Broads or National Landscapes.

5.10.21	The assessment should include the visibility and conspicuousness of the project during construction and of the presence and operation of the project and potential impacts on views and visual amenity. This should include light pollution effects, including on dark skies, local amenity, and nature conservation.	This is assessed in **ES Chapter 6: Landscape and Visual [REP4-021]**.
5.10.22	The assessment should also address the landscape and visual effects of noise and light pollution, and other emissions (see Section 5.2 and Section 5.7), from construction and operational activities on residential amenity and on sensitive locations, receptors and views, how these will be minimised.	Good design and measures to reduce noise and light pollution have been minimised during all stages of the Scheme. Preferred locations for infrastructure were identified, including substations, storage compounds, access routes and office locations. These were sited to take advantage of separation distances and vegetation screening to limit impacts on sensitive receptors such as residential properties. **ES Chapter 6: Landscape and Visual [REP4-021]** includes an assessment of the potential landscape and visual impacts associated with the construction, operation and decommissioning of the Scheme on local amenity, including an assessment of lighting within the substation compounds.

5.10.24	Applicants should consider how landscapes can be enhanced using landscape management plans, as this will help to enhance environmental assets where they contribute to landscape and townscape quality.	The Scheme's landscape proposals include for numerous additional new and enhanced hedgerows across the Order Limits, alongside allowing the existing hedgerow network to grow out to maximise its biodiversity potential and to assist with screening of the built elements of the Scheme. Further details on the benefits to biodiversity of allowing the hedgerows to grow out are set out in the **ES Chapter 7 Ecology and Nature Conservation [REP5-013REP2-027REP5-012].** In total over 65km of new hedgerow is proposed across the Order Limits. This would represent a medium magnitude of positive change at year one, resulting in a major/moderate beneficial effect, rising to a high magnitude of positive change at Year 15, resulting in a major, **(significant),** beneficial effect. There are also 391 individual trees and 223 tree groups located within the Order Limits, further details of which are set out in **Appendix 6.6 - Arboricultural Impact Assessment [APP-070]]**. All trees are to be retained as part of the Scheme bar four grade C2 trees, with an appropriate standoff also applied from any built elements, including the fences and access tracks to be used during the operational period, to ensure no potential for any effects

		to these high sensitivity landscape features. In addition, the landscape proposals include for numerous additional trees across the Order Limits, primarily planted within the hedgerow network. In total over 450 new trees are proposed across the Order Limits. This would represent a low magnitude of positive change at year one, resulting in a minor beneficial effect, rising to a medium magnitude of positive change at Year 15, resulting in a moderate, (non-significant), beneficial effect at Year 15.
5.10.25	In considering visual effects it may be helpful for applicants to draw attention, in the supporting evidence to their applications, to any examples of existing permitted infrastructure they are aware of with a similar magnitude of impact on equally sensitive receptors. This may assist the Secretary of State in judging the weight they should give to the assessed visual impacts of the proposed development.	**ES Chapter 6: Landscape and Visual [REP4-021]** identifies the existing landscape the Scheme's Land Parcels are dissected by several major roads and routes, including the M180 motorway, the A18, the South Humberside Main Line railway route and the Stainforth & Keadby Canal. Numerous other minor roads cross the landscape connecting scattered residential properties and farmsteads, many of which lie adjacent or in proximity to the Scheme. Tween Bridge Wind Farm lies in the northern part of the Scheme. Overhead power lines and lattice pylons run across the northern part of the Scheme which creates other vertical elements

		within the landscape. There are also wooden pole lines and masts within the Scheme. . These features create tall vertical structures that contrast with the surrounding low-lying landscape.
5.10.26	Reducing the scale of a project can help to mitigate the visual and landscape effects of a proposed project. However, reducing the scale or otherwise amending the design of a proposed energy infrastructure project may result in a significant operational constraint and reduction in function – for example, electricity generation output. There may, however, be exceptional circumstances, where mitigation could have a very significant benefit and warrant a small reduction in function. In these circumstances, the Secretary of State may decide that the benefits of the mitigation to reduce the landscape and/or visual effects outweigh the marginal loss of function.	Good design has been a key consideration from the outset. The Scheme has undergone an iterative design process, informed by the LVIA, set out in the **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019]** and **the Design Approach Document [APP-032].** The Scheme layout has been developed in response to policy requirements, published landscape character assessment and fieldwork analysis. The design mitigation has been embedded into the Scheme to minimise effects on landscape character and visual amenity as outlined in **Outline Landscape Ecological Management Plan [REP6-036]** The landscape design principles incorporate the following: a) Careful siting in the landscape responding sensitively to its proximity to dwellings, settlements and PRoW;

		b) Conserving the existing vegetation patterns including reinstatement and/or improvement of field boundaries; c) Creating new green infrastructure including areas for woodland belts and screening; and d) Sensitive design in relation to form and materials.
5.10.28	Depending on the topography of the surrounding terrain and areas of population it may be appropriate to undertake landscaping off site. For example, filling in gaps in existing tree and hedge lines may mitigate the impact when viewed from a more distant vista.	The Scheme will not undertake any landscaping off site.
5.10.30	The Secretary of State should be satisfied that local authorities will have sufficient design content secured to ensure future consenting will meet landscape, visual and good design objectives.	The **Outline Landscape Ecological Management Plan [REP6-036] and ES Figure 6.4 Landscape and Visual Mitigation Strategy, (Landscape Masterplan [REP3-032]** will inform the detailed design of the Scheme secured through Requirements forming part of the DCO.

5.10.34	The duty to seek to further the purposes of nationally designated landscapes also applies when considering applications for projects outside the boundaries of these areas, which may have impacts within them. The aim should be to avoid harming the purposes of designation or to minimise adverse effects on designated landscapes, and such projects should be designed sensitively given the various siting, operational, and other relevant constraints. The fact that a proposed project will be visible from within a designated area should not in itself be a reason for the Secretary of State to refuse consent.	No nationally designated landscapes will be impacted by the Scheme.
5.10.35	The scale of energy projects means that they will often be visible across a very wide area. The Secretary of State should judge whether any adverse impact on the landscape would be so damaging that it is not offset by the benefits (including need) of the project.	This policy acknowledges that virtually all NSIPs will have effects on the landscape, and this also applies to the Scheme. When taking into account the scale of the Scheme and its benefits, there are few impacts. Good design has been a key consideration from the outset. The Scheme has undergone an iterative design process, informed by the LVIA, set out in the **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019], the Design Approach Document [APP-032] and ES Chapter 6:**

		Landscape and Visual [REP4-021]. The Scheme layout has been developed in response to policy requirements, published landscape character assessment and fieldwork analysis. The design mitigation has been embedded into the Scheme to minimise effects on landscape character and visual amenity as outlined in **Outline Landscape Ecological Management Plan [REP6-036].**
5.10.36	In reaching a judgement, the Secretary of State should consider whether any adverse impact is temporary, such as during construction, and/or whether any adverse impact on the landscape will be capable of being reversed in a timescale that the Secretary of State considers reasonable.	Construction and decommissioning stage impacts will be for a relatively short duration, and operational effects beginning at Year 1 will reduce over time as mitigation planting establishes. The change to the landscape character, via the introduction of solar panels and associated infrastructure is considered to be localised. The reduction of effects over time and the reversibility of effects should be taken into consideration when reaching a judgement on the DCO Application. All operational effects will be reversed following 40 years of operation which will be secured by the DCO, and all adverse landscape and visual effects identified during the construction and decommissioning phases are short term and

		temporary. The Scheme has sought to minimise impacts through design iteration. The substantial benefits and need for the Scheme as set out in Section 3 of the **Planning Statement [Document Reference 5.5 Revision 3],** including the delivery of CNP Infrastructure to contribute towards meeting national energy objectives outweighs the residual landscape effects when applying the planning balancing exercise to the Scheme with no requirement to demonstrate exceptional circumstances given that the presumption for allowing the DCO.
5.10.37	The Secretary of State should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, including by appropriate mitigation.	The Scheme has been designed taking into account the environmental effects on the landscape, siting, operational and other relevant constraints, to minimise adverse impacts on the landscape, including by appropriate mitigation. This is outlined in **ES Chapter 6: Landscape and Visual [REP4-021], Outline Landscape Ecological Management Plan [REP6-036] and ES Figure 6.4 Landscape and Visual Mitigation Strategy, (Landscape Masterplan [REP3-032ES Appendix 6.7 - Residential Visual Amenity**

		Assessment [REP4-027] and **Appendix 6.6 - Arboricultural Impact Assessment [APP-070]]**.
5.10.38	The Secretary of State should consider whether requirements to the consent are needed requiring the incorporation of particular design details that are in keeping with the statutory and technical requirements for landscape and visual impacts.	The **Outline Landscape Ecological Management Plan [REP6-036]** will secure the landscape requirements of the Scheme through a DCO Requirement.
5.11.8	The ES (see Section 4.3) should identify existing and proposed land uses near the project, any effects of replacing an existing development or use of the site with the proposed project or preventing a development or use on a neighbouring site from continuing. Applicants should also assess any effects of precluding a new development or use proposed in the development plan. The assessment should be proportionate to the scale of the preferred scheme and its likely impacts on such receptors. For developments on previously developed land, the applicant should ensure that they have considered the risk posed by land contamination and how it is proposed to address this.	The **ES Chapter 15 Agriculture Circumstances [REP3-022] has assessed** the effects on farm businesses and on the wider land-based rural economy based on information gathered from discussions with landowners and occupiers. There are 19 farm businesses with land within Parcels A to E of the Scheme. The land is all used for arable cropping and the impacts on all farm businesses are **minor adverse** or **negligible**, which is **not significant**. There are no significant adverse effects on food production or security, or the wider land-based rural economy. A Soil Management Plan will be implemented to minimise damage to soils and ensure that any damage is ameliorated. The restoring of arable soils with grassland for the duration of the operation

		phase will produce benefits for the soil resource. The Soil Management Plan will need to be in accordance with the measures set out in the **Outline Soil Management Plan [REP2-078]. The ES Chapter 9 Ground Conditions [REP3-018] identifies there** is a low potential for contaminants to be present in any shallow depth Made Ground and Negligible for natural soils. This will be clarified during further assessment walkover and research and confirmed at the post-consent investigation to inform both detailed design and the detailed CEMP, will need to be in accordance with the measures set out in the **Outline Construction Environmental Management Plan [Document Reference 7.1 Revision 7].**
5.11.12	Applicants should seek to minimise impacts on the best and most versatile agricultural land (defined as land in grades 1, 2 and 3a of the Agricultural Land Classification) and preferably use land in areas of poorer quality (grades 3b, 4 and 5).	The **ES Volume 2, Chapter 15 Agricultural Circumstances [REP3-022]** sets out how the majority of the Scheme will not affect agricultural land quality. Works that involve soil disturbance during construction and decommissioning will be limited in scale, generally temporary and reversible, and therefore of low magnitude, as totalled in **Table 15-13**. There is land of BMV within the Order Limits, approximately 44.4% of
5.11.13	Applicants should also identify any effects and seek to minimise impacts on soil health and protect and	

	improve soil quality taking into account any mitigation measures proposed.	which is BMV, but the quantum disturbed is only 13.7ha. There will be no further disturbance to soils during the operational phase of the Scheme. In the worst-case scenario where the RWE 400kV substation and all of the access tracks are retained at decommissioning stage up to 9.5ha of BMV land could be lost permanently. This would be considered significant in EIA terms, but the retention of access tracks (at the discretion of the landowners) would be of longer-term benefit to farming operations. The remainder of the BMV land disturbed during construction would be fully restored at the decommissioning stage. The effects of the Scheme on agricultural land are assessed in **ES Chapter 15 Agricultural Circumstances [REP3-022].** The implementation of a soil management plan will minimise damage to soils and ensure that any damage is ameliorated. The restoring of arable soils with grassland for the duration of the operation phase will produce benefits for the soil resource. An **Outline Soil Management Plan [REP2-078]** has been prepared as part of the DCO Application. A Soil
5.11.14	Applicants are encouraged to develop and implement a Soil Management Plan which could help minimise potential land contamination. The sustainable reuse of soils needs to be carefully considered in line with good practice guidance where large quantities of soils are surplus to requirements or are affected by contamination.	

		Management Plan will be secured pursuant to the **Draft DCO [Document Reference 3.1]** as a requirement, which must be substantially in accordance with the **Outline Soil Management Plan [REP2-078]**. The **Outline Soil Management Plan [REP2-078]** seeks to identify the importance and sensitivity of the soil resource and to provide specific measures for the management of the soil resource to maintain the physical properties of the soil on within the Order Limits and to avoid and minimise adverse effects on the soil resource as a result of the Scheme. The Applicant has demonstrated that the Scheme minimises impacts upon BMV land and, there are insufficient areas of available non-BMV land without constraints on which to accommodate the whole Scheme. The Scheme will only lead to a small amount of permanent loss of BMV land within the Site, which is justified due to factors related to site location and context within the Scheme, wider landholding and in relation to adjacent and surrounding land. There is no general requirement from a policy perspective to consider alternatives or to establish whether the

		Scheme represents the 'best option'. The **ES Chapter 3 Site Description, Site Selection and Iterative Design Process [REP2-019]** sets out information in relation to alternatives that is required by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and includes information about the main alternatives studied. There will also be additional benefits from the recovery of soil organic matter include carbon sequestration and hydrological function, for the majority of land within the Order Limits, where arable soils will go into long-term grassland land coverage, there will be a benefit for soils.
5.11.17	Applicants should ensure that a site is suitable for its proposed use, taking account of ground conditions and any risks arising from land instability and contamination.	**The ES Chapter 9 Ground Conditions [REP3-018]** assesses the impact on ground conditions. There is not expected to be any likely significant effects associated with ground conditions. There is a low potential for contaminants to be present in any shallow depth Made Ground and Negligible for natural soils. This will be clarified during further assessment walkover and research and confirmed at the post-consent investigation to inform both

		detailed design and the detailed CEMP, will need to be in accordance with the measures set out in the **Outline Construction Environmental Management Plan [Document Reference 7.1 Revision 7].**
5.11.19	Applicants should safeguard any mineral resources on the proposed site as far as possible, taking into account the long-term potential of the land use after any future decommissioning has taken place.	**The ES Chapter 9 Ground Conditions [REP3-018]** considers safeguarded mineral areas within the Order Limits**.** Parts of the western and eastern areas are included in Minerals Safeguarding Areas for sands and gravels, although these do not include any operational extraction sites, consented, proposed or search areas within the current Local Plans. For Safeguarded Minerals Areas within the Order Limits, the temporary nature of the development and the fact that it would not deplete or damage the resource for the longer term indicates a **Minor to Moderate (Not Significant) effect**. The resource would not be permanently sterilised and would be available for extraction following the decommissioning of the Scheme should this be necessary and viable.
5.11.23	Although in the case of most energy infrastructure there may be little that can be done to mitigate the	The **ES Volume 2, Chapter 15 Agricultural Circumstances [REP3-022]** sets out how the majority

	direct effects of an energy project on the existing use of the proposed site (assuming that some of that use can still be retained post project construction) applicants should nevertheless seek to minimise these effects and the effects on existing or planned uses near the site by the application of good design principles, including the layout of the project and the protection of soils during construction.	of the Scheme will not affect agricultural land quality. Works that involve soil disturbance during construction and decommissioning will be limited in scale, temporary and reversible, and therefore of low magnitude, as totalled in **Table 15-13**. There is land of BMV within the Order Limits, approximately 44.4% of which is BMV, but the quantum disturbed is only 13.7ha. There will be no further disturbance to soils during the operational phase of the Scheme. In the worst-case scenario where the RWE 400kV substation and all of the access tracks are retained at decommissioning stage up to 9.5ha of BMV land could be lost permanently. This would be considered significant in EIA terms, but the retention of access tracks (at the discretion of the landowners) would be of longer-term benefit to farming operations. The remainder of the BMV land disturbed during construction would be fully restored at the decommissioning stage. The Applicant has demonstrated that the Scheme minimises impacts upon BMV land and, there are insufficient areas of available non-BMV land without constraints on which to accommodate the whole Scheme. Use of BMV land within the Site is justified

		due to factors related to site location and context within the Scheme, wider landholding and in relation to adjacent and surrounding land. There is no general requirement from a policy perspective to consider alternatives or to establish whether the Scheme represents the 'best option'. The **ES Chapter 3 Site Description, Site Selection and Iterative Design Process [REP2-019]** sets out information in relation to alternatives that is required by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and, as a matter of fact, includes information about the main alternatives studied. There will also be additional benefits from the recovery of soil organic matter include carbon sequestration and hydrological function, for the majority of land within the Order Limits, where arable soils will go into long-term grassland land coverage, there will be a benefit for soils.
5.11.27	Existing trees and woodlands should be retained wherever possible. In the EIP, the Government committed to increase the tree canopy and woodland cover to 16.5% of total land area of England by 2050.	**ES Appendix 6.6 Arboriculture Impact Assessment (AIA) [APP-070]]** has been produced setting out the likely direct and indirect impacts of the Scheme on trees. This concludes that the scheme will not require

	The applicant should assess the impacts on, and loss of, all trees and woodlands within the project boundary and develop mitigation measures to minimise adverse impacts and any risk of net deforestation as a result of the scheme. Mitigation may include, but is not limited to, the use of buffers to enhance resilience, improvements to connectivity, and improved woodland management. Where woodland loss is unavoidable, compensation schemes will be required, and the long-term management and maintenance of newly planted trees should be secured.	the complete removal of any significant trees or whole tree groups or whole hedgerows. The removal of sections of hedgerow totalling c.49 linear meters together with an estimated 4 no. semi-mature, low-quality trees is proposed across the Order Limits to implement the design proposals. The impact of these removals is to remain very low across the Order Limits as a whole. In total over 65km of new hedgerow is proposed across the Order Limits together with over 450 new trees. The **Outline Landscape Ecological Management Plan [REP6-036]** will secure the landscape requirements of the Scheme through a DCO Requirement.
5.11.28	Where a proposed development has an impact upon a Mineral Safeguarding Area (MSA), the Secretary of State should ensure that appropriate mitigation measures have been put in place to safeguard mineral resources	**The ES Chapter 9 Ground Conditions [REP3-018**considers safeguarded mineral areas within the Order Limits**.** Parts of the western and eastern areas are included in Minerals Safeguarding Areas for sands and gravels, although these do not include any operational extraction sites, consented, proposed or search areas within the current Local Plans. For Safeguarded Minerals Areas within the Order Limits,

		the temporary nature of the development and the fact that it would not deplete or damage the resource for the longer term indicates a Minor to Moderate (Not Significant) effect. The resource would not be permanently sterilised and would be available for extraction following the decommissioning of the Scheme should this be necessary and viable.
5.11.30	Public Rights of way, National Trails, and other rights of access to land are important recreational facilities for example for walkers, cyclists and horse riders. The Secretary of State should expect applicants to take appropriate mitigation measures to address adverse effects on coastal access, National Trails, other rights of way and open access land and, where appropriate, to consider what opportunities there may be to improve or create new access. In considering revisions to an existing right of way, consideration should be given to the use, character, attractiveness, and convenience of the right of way.	The Scheme has been designed to have minimal impact on PRoWs. As set out in the **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019], the Design Approach Document [APP-032] and ES Chapter 6: Landscape and Visual [REP4-021],** the Scheme design retains all existing PRoWs during its operational phase, whilst temporary diversion is proposed during construction and decommissioning. These measures are included as part of the **Outline Construction Environmental Management Plan [Document Reference 7.1 Revision 7] and the Outline Decommissioning Environmental Management Plan [REP4-051].**
5.11.34	The Secretary of State should ensure that applicants do not site their scheme on the best and most	The **ES Volume 2, Chapter 15 Agricultural Circumstances [REP3-022]** sets out how the majority

	versatile agricultural land without justification. Where schemes are to be sited on best and most versatile agricultural land the Secretary of State should take into account the economic and other benefits of that land. Where development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.	of the Development will not affect agricultural land quality. Works that involve soil disturbance during construction and decommissioning will be limited in scale, temporary and reversible, and therefore of low magnitude, as totalled in **Table 15-13**. There is land of BMV within the Order Limits, approximately 44.4% of which is BMV, but the quantum disturbed is only 13.7ha. There will be no further disturbance to soils during the operational phase of the Scheme. In the worst-case scenario where the RWE 400kV substation and all of the access tracks are retained at decommissioning stage up to 9.5ha of BMV land could be lost permanently. This would be considered significant in EIA terms, but the retention of access tracks (at the discretion of the landowners) would be of longer-term benefit to farming operations. The remainder of the BMV land disturbed during construction would be fully restored at the decommissioning stage. The Applicant has demonstrated that the Scheme minimises impacts upon BMV land and, there are insufficient areas of available non-BMV land without constraints on which to accommodate the whole Scheme. The Scheme will not lead to any permanent

		loss of BMV land within the Site. Use of BMV land within the Site is justified due to factors related to site location and context within the Scheme, wider landholding and in relation to adjacent and surrounding land. There is no general requirement from a policy perspective to consider alternatives or to establish whether the Scheme represents the 'best option'. The **ES Chapter 3 Site Description, Site Selection and Iterative Design Process [REP2-019]** sets out information in relation to alternatives that is required by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and, as a matter of fact, includes information about the main alternatives studied. There will also be additional benefits from the recovery of soil organic matter include carbon sequestration and hydrological function, for the majority of land within the Order Limits, where arable soils will go into long-term grassland land coverage, there will be a benefit for soils.
5.12.4	Noise resulting from a proposed development can also have adverse impacts on wildlife and biodiversity.	**ES Chapter 7 Ecology and Nature Conservation [REP5-013REP2-027REP5-012]** includes an

	Noise effects of the proposed development on ecological receptors should be assessed by the Secretary of State in accordance with the Biodiversity and Geological Conservation section of this NPS at Section 5.4. This should consider underwater noise and vibration especially for marine developments. Underwater noise can be a significant issue in the marine environment, particularly in regard to energy production.	assessment of the likely impacts and effects on noise relevant ecological features. It is therefore considered that the Scheme is compliant with this policy. The **Outline Ecological Construction Management Plan [REP6-034]** describes measures to be implemented during the construction process and includes commitments to Species Protection Plans, Reasonable Avoidance Measures (RAMs), pre-construction surveys and appropriate derogation licenses as well as pollution (including dust) control, managed construction lighting and noise / traffic management measures and directional drilling details. Once constructed, the Scheme will be fenced and there will be limited disturbance, noise or lighting associated with the Scheme.
5.12.6	Where noise impacts are likely to arise from the proposed development, the applicant should include the following in the noise assessment: • a description of the noise generating aspects of the development proposal leading to noise impacts, including the identification of any distinctive tonal characteristics, if the noise is impulsive, whether the noise contains particular high or low frequency content or any	**ES Chapter 13: Noise and Vibration [REP6-014]** presents a noise assessment in accordance with the requirements of this policy, including a description of the noise generating aspects of the Scheme. The assessment describes the existing characteristics of the noise environment for the Scheme and surrounding areas; embedded design mitigation

	temporal characteristics of the noise • identification of noise sensitive receptors and noise sensitive areas that may be affected • the characteristics of the existing noise environment • a prediction of how the noise environment will change with the proposed development o in the shorter term, such as during the construction period o in the longer term, during the operating life of the infrastructure o at particular times of the day, evening and night (and weekends) as appropriate, and at different times of year; an assessment of the effect of predicted changes in the noise environment on any noise-sensitive receptors, including an assessment of any likely impact on health and quality of life / well-being where appropriate, particularly among those disadvantaged by other factors who are often disproportionately affected by noise-sensitive areas • if likely to cause disturbance, an assessment of the effect of underwater or subterranean noise261 • all reasonable steps taken to mitigate and minimise potential adverse effects on health and quality of life.	relevant to the Scheme with respect to noise and vibration, encompassing the construction, operational and decommissioning phases; assesses the noise and vibration effects on sensitive receptors arising from the construction, decommissioning, and operating life of the infrastructure including at particular times of the day and at night.

5.12.7	The nature and extent of the noise assessment should be proportionate to the likely noise impact.	
5.12.8	Applicants should consider the noise impact of ancillary activities associated with the development, such as increased road and rail traffic movements, or other forms of transportation.	
5.12.9	Operational noise, with respect to human receptors, should be assessed using the principles of the relevant British Standards and other guidance. Further information on assessment of particular noise sources may be contained in the technology specific NPSs. In particular, for renewables (EN-3) and electricity networks (EN-5) there is assessment guidance for specific features of those technologies. For the prediction, assessment and management of construction noise, reference should be made to any relevant British Standards and other guidance which also give examples of mitigation strategies.	
5.12.12	Applicants should submit a detailed impact assessment and mitigation plan as part of any	**ES Chapter 13: Noise and Vibration [REP6-014]** presents a noise assessment in accordance with the

	development plan, including the use of noise mitigation and noise abatement technologies during construction and operation.	requirements of this policy, including a description of the noise generating aspects of the Scheme and a detailed impact assessment and mitigation plan. Specific measures to mitigate noise and vibration impacts are embedded into the design of the Scheme. Further management of potential impacts is secured through measures identified in the **Outline CEMP [REP2-078.3 Revision 7]**, **Outline OEMP [REP2-078REP5-024]**, and **Outline DEMP [REP2-078REP5-026]**. These include standard good practice measures such as use of Best Practicable Means to reduce disturbance associated with noise and vibration during construction as far as reasonably practicable, with reference to relevant guidance.
5.12.13	The Secretary of State should consider whether mitigation measures are needed both for operational and construction noise over and above any which may form part of the project application. In doing so the Secretary of State may wish to impose mitigation measures. Any such mitigation measures should take account of the NPPF or any successor to it and the Planning Practice Guidance on Noise.	
5.12.14	Mitigation measures may include one or more of the following: • engineering: reducing the noise generated at source and/or containing the noise generated • lay-out: where possible, optimising the distance between the source and noise-sensitive receptors and/or incorporating good design to minimise noise transmission through the use of screening by natural or purpose-built barriers, or other buildings • administrative: using planning conditions/obligations to restrict activities allowed on the site at certain times and/or specifying permissible noise limits/noise	

	levels, differentiating as appropriate between different times of day, such as evenings and late at night, and taking into account seasonality of wildlife in nearby designated sites • insulation: mitigating the impact on areas likely to be affected by noise including through noise insulation when the impact is on a building.	
5.12.15	The project should demonstrate good design through selection of the quietest or most acceptable cost-effective plant available; containment of noise within buildings wherever possible, taking into account any other adverse impacts that such containment might cause (e.g. on landscape and visual impacts; optimisation of plant layout to minimise noise emissions; and, where possible, the use of landscaping, bunds or noise barriers to reduce noise transmission).	**ES Chapter 13: Noise and Vibration [REP6-014]** acknowledges that the final technical specifications of the plant associated with the Scheme is not yet determined. However, good design with regard to minimising noise and vibration impacts is demonstrated through embedded mitigation. As a result of the outcome of the noise and vibration assessment, it is not anticipated that the SoS will need to consider additional mitigation measures above those already embedded within the design. Specific measures to mitigate noise and vibration impacts are embedded into the design of the Scheme. Further management of potential impacts is secured through measures identified in the **Outline CEMP [REP2-078.1]**, **Outline OEMP [REP2-078REP5-024]**, and **Outline DEMP [REP2-078REP5-026]**. These
5.12.17	The Secretary of State should not grant development consent unless they are satisfied that the proposals will meet the following aims, through the effective management and control of noise: • avoid significant adverse impacts on health and quality of life from noise • mitigate and minimise other adverse impacts on health and quality of life from noise • where	

	possible, contribute to improvements to health and quality of life through the effective management and control of noise	include standard good practice measures such as use of Best Practicable Means to reduce disturbance associated with noise and vibration during construction as far as reasonably practicable, with reference to relevant guidance.
5.12.18	When preparing the Development Consent Order, the Secretary of State should consider including measurable requirements or specifying the mitigation measures to be put in place to ensure that noise levels do not exceed any limits specified in the development consent. These requirements or mitigation measures may apply to the construction, operation, and decommissioning of the energy infrastructure development	
5.13.2	Where the project is likely to have socio- economic impacts at local or regional levels, the applicant should undertake and include in their application an assessment of these impacts as part of the ES (see Section 4.3).	**ES Volume 2, Chapter 11: Socio Economics [APP-048]** sets out how significant beneficial effects are expected in relation to employment and economic contribution during both the construction and decommissioning phases, and business rates during the operational phases. Additionally, during the construction and decommissioning phases there will be no adverse impacts on local tourism as there is sufficient capacity to accommodate workers, therefore the additional
5.13.4	The applicant's assessment should consider all relevant socio-economic impacts, which may include: • the creation of jobs and training opportunities. Applicants may wish to provide	

	information on the sustainability of the jobs created, including where they will help to develop the skills needed for the UK's transition to Net Zero the contribution to the development of low-carbon industries at the local and regional level as well as nationally • the provision of additional local services and improvements to local infrastructure, including the provision of educational and visitor facilities • any indirect beneficial impacts for the region hosting the infrastructure, in particular in relation to use of local support services and supply chains • effects (positive and negative) on tourism and other users of the area impacted • the impact of a changing influx of workers during the different construction, operation and decommissioning phases of the energy infrastructure. This could change the local population dynamics and could alter the demand for services and facilities in the settlements nearest to the construction work (including community facilities and physical infrastructure such as energy, water, transport and waste). There could also be effects on social cohesion depending on how populations and service provision change as a result of the development • cumulative	workforce will provide a boost to local accommodation and tourism businesses.. There are no significant adverse effects relating to socio-economics, and therefore no mitigation measures proposed. Significant beneficial effects (moderate significance) are predicted in respect of employment during the construction and decommissioning phases. Enhancement of employment is proposed in the form of an **Outline Supply Chain, Employment and Skills Plan (OSCESP) [REP1-036]** which will be agreed with the relevant authorities and secured by a DCO Requirement. It aims to optimise the number of local people who will have access to employment and training opportunities arising from the Scheme. The **Outline Supply Chain, Employment and Skills Plan (OSCESP) [REP2-078REP1-036]** aims to optimise the number of local people who will have access to employment and training opportunities arising from the Scheme. The legacy effect of upskilling the local workforce where possible will result in a long-term

	effects - if development consent were to be granted for a number of projects within a region and these were developed in a similar timeframe, there could be some short-term negative effects, for example a potential shortage of construction workers to meet the needs of other industries and major projects within the region.	significant benefit for Doncaster, North Lincolnshire and East Riding of Yorkshire. Given that the Order Limits sits within both City of Doncaster and North Lincolnshire administrative boundaries, and is extremely close to East Riding of Yorkshire administrative boundary, the **ES Chapter 11: Socio Economics [APP-048]** provides an assessment on accommodation demand in relation to all three Districts, as well as in relation to all three authorities combined. For the combined perspective, in order to ensure a reasonable worst-case assessment, accommodation of all construction workers is presented for the authorities, rather than assuming a proportion is to be accommodated across the three. The assessment concludes that there would be sufficient capacity throughout the year to accommodate the construction workers throughout the year, both for each District in isolation and for all three Districts combined. There would still be capacity for additional tourist visits throughout the year. Accordingly, an accommodation strategy is not proposed for the Scheme as there is considered to be
5.13.5	Applicants should describe the existing socio-economic conditions in the areas surrounding the proposed development and should also refer to how the development's socio-economic impacts correlate with local planning policies.	
5.13.6	Socio-economic impacts may be linked to other impacts, for example visual impacts considered in Section 5.10 but may also have an impact on tourism and local businesses. Applicants are encouraged, where possible, to demonstrate that local suppliers have been considered in any supply chain.	
5.13.7	Applicants should consider developing accommodation strategies where appropriate, especially during construction and decommissioning	

	phases, that would include the need to provide temporary accommodation for construction workers if required.	sufficient local supply to facilitate all construction workers.
5.13.8.	The Secretary of State should consider whether mitigation measures are necessary to mitigate any adverse socio-economic impacts of the development. For example, high quality design can improve the visual and environmental experience for visitors and the local community alike.	
5.13.9	The Secretary of State should have regard to the potential socio-economic impacts of new energy infrastructure identified by the applicant and from any other sources that the Secretary of State considers to be both relevant and important to its decision.	
5.13.10	The Secretary of State may conclude that limited weight is to be given to assertions of socio-economic impacts that are not supported by evidence (particularly in view of the need for energy infrastructure as set out in this NPS).	

5.13.11	The Secretary of State should consider any relevant positive provisions the applicant has made or is proposing to make to mitigate impacts (for example through planning obligations) and any legacy benefits that may arise as well as any options for phasing development in relation to the socio-economic impacts.	The Scheme provides environmental, economic, social and community benefits. Economic benefits will arise through the provision of temporary jobs during the construction phase(s) of the Scheme. Based on previous experience of similar projects, it is estimated that the total capital cost of the Scheme is in the region of £820million, as outlined in the **Funding Statement [Document Reference 4.2 Revision 4].** Investment in the Scheme is likely to create opportunities for local businesses through the supply chain, during the construction process and significant direct and indirect/induced job creation. The overall gross value added (GVA) impact associated with the construction phase is estimated at £36.5million per annum, which equates to £164.2million over the 4.5-year build timeframe. Local accommodation facilities would benefit from a proportion of bedspaces being filled throughout the year by the construction workers. This enables local businesses to be boosted through

		increased occupancy rates and revenue during the construction phase of the Scheme. Opportunities for employment and skills are supported through the preparation of an **Outline Supply Chain, Employment and Skills Plan ("Outline SCESP") [REP1-036].** The Outline SCESP is submitted with the application and the delivery of a final, detailed SCESP secured by a DCO requirement. It is expected that during the operational phase, there will be approximately 1 visit per month to the Site by workers. This means that no full time jobs will be supported specifically by the Scheme. Business rates are an important economic contributor to an area. It is estimated that the solar project element of the Scheme could generate around £0.9 million per annum in business rates. Over the intended 40-year lifespan of the Scheme, business rates generated could total around £19.8 million (present value). Economic benefits will also arise through the provision of temporary jobs during the decommissioning phase at the Order Limits. It is estimated that the number of workers on site for the decommissioning phase will

		equate to 50% of the number for the construction phase. This means that 115 temporary direct and indirect/induced jobs could be supported by the decommissioning phase which is expected to last for around 2 years. The delivery of a substantial CNP infrastructure that will deliver large amounts of cheap, secure and low-carbon electricity both during and beyond the critical 2020s and 2030s timeframe. Maximising the capacity of generation in the resource-rich, well- connected and technically deliverable proposed location for the Scheme, represents a significant and economically rational step forwards in the fight against the global climate emergency. The provision of a circular loop permissive paths offering recreational access in an area where PRoW are limited and also improving north- south off-road links. The Scheme has the potential to generate approximately 1,260,000MWh of electricity each year. Over the lifetime of the Scheme this is

		estimated to equate to 48,233,679MWh which assumes a 0.45% annual degradation rate in energy production. Based on a lifetime GHG footprint of 777,732TCO2e, this equates to a carbon intensity factor of 0.016kgCO2e per kWh. Biodiversity improvements including landscaping, habitat management and biodiversity enhancement to retain and enhance ecological and recreational connectivity, expecting to achieve at least a 10% net gain in area habitats, hedgerows and watercourses. 2,928,399TCO2e saved over lifespan of the Scheme when compared to Combined Cycle Gas Turbine-generated electricity. Enhancement of soil quality through a reinstatement and habitat creation program. Reduction in surface water run off which is polluted with herbicides, pesticides or fertilizers through the cessation of agricultural activity on some parts of the Land Parcels.
5.13.12	The Secretary of State may wish to include a requirement that specifies the approval by the local	Prior to construction, a local skills and employment plan, prepared in accordance with the **Outline Supply**

	authority of an employment and skills plan detailing arrangements to promote local employment and skills development opportunities, including apprenticeships, education, engagement with local schools and colleges and training programmes to be enacted.	**Chain, Employment and Skills Plan [REP1-036**], will be prepared setting out measures the Applicant will use to advertise and promote employment opportunities associated with construction and operation of the Scheme locally.
5.14.5	If a project is likely to have significant transport implications, the applicant's ES (see Section 4.3) should include a transport appraisal. The DfT's Transport Analysis Guidance (TAG) and Welsh Governments WelTAG provides guidance on modelling and assessing the impacts of transport schemes.	**ES Appendix 13.1 Transport Assessment [APP-111]** has been prepared in accordance with appropriate guidance including the Department for Transport's guidance on Travel Plans, Transport Assessments and Statements in Decision Taking (2014). The Applicant has consulted with the relevant Highways Authorities regarding the assessment. Comments from these stakeholders are included in **ES Chapter 12 Transport and Access [REP6-012].**
5.14.6	National Highways and Highways Authorities are statutory consultees on NSIP applications including energy infrastructure where it is expected to affect the strategic road network and / or have an impact on the local road network. Applicants should consult with National Highways and Highways Authorities as appropriate on the assessment and mitigation to inform the application to be submitted.	The **ES Chapter 12 Transport and Access [REP6-012**has been prepared in consultation with the relevant Highway Authorities.

5.14.7	The applicant should prepare a travel plan including demand management and monitoring measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by active, public and shared transport to: • reduce the need for parking associated with the proposal • contribute to decarbonisation of the transport network • improve user travel options by offering genuine modal choice.	**ES Volume 2, Chapter 12: Transport and Access [REP6-012]** assesses the impact of the Scheme on traffic and transport and is supported by **ES Volume 4, Appendix 12.1: Transport Statement [APP-111]**. The nature of the Scheme is such that the greatest traffic and transport impacts are likely to occur during both the construction and decommissioning phases. This is acknowledged in paragraph 2.10.161 of the NPS EN-3 which confirms that once solar farms are in operation, traffic movements to and from the Scheme are generally 'very light'. Mitigation measures that have been embedded into the design of the Scheme in the form of an **Outline Construction Traffic Management Plan [REP6-038, REP6-040 and REP6-042]** to reduce the impacts of the construction phase. The document includes a range of management and mitigation measures to reduce the impacts of the construction phase. The **ES Volume 2, Chapter 12: Transport and Access [REP6-012]**concludes that following the application of
5.14.11	Where mitigation is needed, possible demand management measures must be considered. This could include identifying opportunities to: • reduce the need to travel by consolidating trips • locate development in areas already accessible by active travel and public transport • provide opportunities for shared mobility • re-mode by shifting travel to a sustainable mode that is more beneficial to the network • retime travel outside of the known peak times • reroute to use parts of the network that are less busy.	

5.14.14	The Secretary of State may attach requirements to a consent where there is likely to be substantial HGV traffic that: • control numbers of HGV movements to and from the site in a specified period during its construction and possibly on the routing of such movements • make sufficient provision for HGV parking,270 and associated high quality drive facilities either on the site or at dedicated facilities elsewhere, to support driver welfare, avoid 'overspill' parking on public roads, prolonged queuing on approach roads and uncontrolled on-street HGV parking in normal operating conditions • ensure satisfactory arrangements for reasonably foreseeable abnormal disruption, in consultation with network providers and the responsible police force.	mitigation measures, the potential for adverse traffic and transport related effects during the construction, operational and decommissioning phases arising from the Scheme would not be significant.
5.14.18	A new energy NSIP may give rise to substantial impacts on the surrounding transport infrastructure and the Secretary of State should therefore ensure that the applicant has sought to mitigate these impacts, including during the construction phase of the development and by enhancing active, public and shared transport provision and accessibility.	

5.15.8	The applicant should set out the arrangements that are proposed for managing any waste produced and prepare a report that sets out the sustainable management of waste and use of resources throughout any relevant demolition, excavation and construction activities.	Section 16.3 of **ES Volume 1, Chapter 16: Other Environmental Topics [REP2-027]** sets out the Applicant's approach to waste management. Waste arisings will be prevented and designed out where possible. Opportunities to re-use material resources will be sought where practicable. Where re-use and prevention are not possible, waste arisings will be managed in line with the Waste Hierarchy. Design considerations will seek to minimise waste from the construction phase and are likely to follow these approaches: • Maximise the use of reclaimed materials during construction; • Maximise recycling opportunities in the decommissioning phase (further details below); • Use prefabricated and standardised components in the standard product sizes (e.g., panels, mounting structures). As these are made in a factory-controlled environment, they tend to generate less waste and if standard product sizes are made use of, this minimises wastage within the Order Limits;
5.15.9	The arrangements described and a report setting out the sustainable management of waste and use of resources should include information on how re-use and recycling will be maximised in addition to the proposed waste recovery and disposal system for all waste generated by the development. They should also include an assessment of the impact of the waste arising from development on the capacity of waste management facilities to deal with other waste arising in the area for at least five years of operation	
	The Secretary of State should consider the extent to which the applicant has proposed an effective system for managing hazardous and non-hazardous waste arising from the construction, operation and decommissioning of the proposed development	

5.15.15	The Secretary of State should be satisfied that: any such waste will be properly managed, both on-site and off-site. • the waste from the proposed facility can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Such waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arisings in the area. • adequate steps have been taken to minimise the volume of waste arisings, and of the volume of waste arisings sent for recovery or disposal, except where that is the best overall environmental outcome.	• Segregation of construction waste within the Order Limits to maximise potential for reuse/recycling; • Use of suppliers who collect and reuse/recycle packaging materials; • The off-site separation and recycling of materials where separation within the Order Limits is not possible; and • Training of contractors in waste minimisation and materials reuse. A Construction Environmental Management Plan is secured pursuant to the **DCO [Document Reference 3.1 Revision 10]** as a requirement, and in accordance with the **Outline Construction Environmental Management Plan [Document Reference 7.1 Revision 7**], submitted in support of the DCO application. The **Outline Construction Environmental Management Plan [Document Reference 7.1 Revision 7]** sets out how construction materials and waste would be managed within the Order Limits and how opportunities to recycle waste would be explored during the construction phase of the Scheme. A Site Waste
5.15.16	Where necessary, the Secretary of State should use requirements or obligations to ensure that appropriate measures for waste management are applied	
5.15.17	The Secretary of State may wish to include a condition on revision of waste management plans at reasonable intervals when giving consent.	

		Management Plan will be produced prior to the construction phase, and secured within the final Construction Environmental Management Plan. The Site Waste Management Plan will include measures to manage waste during the construction, operational (including maintenance) and decommissioning phases and will be substantially in accordance with the **Outline Construction and Environmental Management Plan [Document Reference 7.1 Revision 7].** A Decommissioning Environmental Management Plan would be secured pursuant to the DCO as a requirement, and in accordance with the **Outline Decommissioning Environmental Management Plan [REP4-051]** submitted in support of the DCO application. The **Outline Decommissioning Environmental Management Plan** sets out how waste would be managed and detail opportunities for re-use and recycling during the decommissioning phase of the Scheme. Re-useable waste includes soil excavated from trenches, roads, compound areas and foundations. Soils are an important resource, and to minimise effects to this resource, a Soil Management Plan is secured

		pursuant to the DCO as a requirement, and in accordance with an **Outline Soil Management Plan [REP2-078]** and will be implemented across the Order Limits and will comprise the best practice for soil handling. To avoid wastage stripped soils will be stored in separate resource bunds no more than 3m high, and kept grassed and free from construction traffic, to ensure that the soil can be re-used elsewhere within the Order Limits. The primary measures to mitigate against the loss of soil resources will be to reuse as much of the surplus resources on-site and to dispose of any surplus soils thereafter in a sustainable manner (i.e., as close to the Scheme as possible and to an after-use appropriate to the soil's quality). However, surplus resources requiring removal outside of the Order Limits are not expected. There may be a need to remove some soils from the Order Limits for treatment or disposal, if found to be contaminated and if it is not practical to treat this onsite. This would be overseen by a soil advisor

		specialist as outlined in the Outline Soil Management Plan **[REP2-078].** All waste transported out of the Order Limits will be delivered to the appropriately licensed receivers of such materials. Operators receiving any waste materials resulting from the Scheme will be subject to their own consenting procedures. During construction, operation (including maintenance), and decommissioning, the re-use or recycling of materials will be explored before resorting to landfill options. Waste during the construction, operation and decommissioning phase will be dealt with as part of the **Outline Construction and Environmental Management Plan [Document Reference 7.1 Revision 7], Outline Operational and Environmental Management Plan [REP5-024],** and **Outline Decommissioning Plan [REP4-051**] which are prepared in line with relevant legislation and guidance. Therefore, it is anticipated that there would be no significant residual effects on waste from the Scheme. In summary, through the application of the measures set out in the suite of relevant management plans, as set out above,

		the Scheme is in accordance with the relevant NPSs, the NPPF and the Local Policy.
5.16.3	Where the project is likely to have effects on the water environment, the applicant should undertake an assessment of the existing status of, and impacts of the proposed project on, water quality, water resources and physical characteristics of the water environment, and how this might change due to the impact of climate change on rainfall patterns and consequently water availability across the water environment, as part of the ES or equivalent (see Section 4.3 and 4.10).	**ES Volume 1, Chapter 10: Water Resources [REP2-021]** identifies the potential impacts on the water environment from the construction, operation and decommissioning of the Scheme and covers the matters set out by paragraph 5.16.7. The water environment includes surface waterbodies (e.g. rivers, streams, ditches, canals, lakes and ponds, etc.), groundwater bodies, as well as flood risk and drainage. The ES is supported by **ES Volume 3, Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016] and ES Volume 3, Appendix 10.2: Water Framework Directive Assessment [APP-110]**. The likely effects of the Scheme associated with flood risk have been assessed in **ES Volume 3, Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016]**. The FRA concludes that the Scheme will be safe from all forms of flooding and will provide a betterment in terms of downstream flood risk and pollution. The **Outline Construction Environmental Management Plan [Document Reference 7.1 Revision**
5.16.5	Where possible, applicants are encouraged to manage surface water during construction by treating surface water runoff from exposed topsoil prior to discharging and to limit the discharge of suspended solids e.g. from car parks or other areas of hard standing, during operation.	
5.16.6	Applicants are encouraged to consider protective measures to control the risk of pollution to groundwater beyond those outlined in River Basin	

	Management Plans and Groundwater Protection Zones – this could include, for example, the use of protective barriers.	**7]** includes measures to ensure potential effects on the water environment are avoided or effectively mitigated during construction.
5.16.7	The ES should in particular describe: • the existing quality of waters affected by the proposed project and the impacts of the proposed project on water quality, noting any relevant existing discharges, proposed new discharges and proposed changes to discharges • existing water resources affected by the proposed project and the impacts of the proposed project on water resources, noting any relevant existing abstraction rates, proposed new abstraction rates and proposed changes to abstraction rates (including any impact on or use of mains supplies and reference to Abstraction Licensing Strategies) and also demonstrate how proposals minimise the use of water resources and water consumption in the first instance • existing physical characteristics of the water environment (including quantity and dynamics of flow) affected by the proposed project and any impact of physical modifications to these characteristics • any impacts of the proposed project on water bodies or protected areas (including shellfish	

	protected areas) under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 and source protection zones (SPZs) around potable groundwater abstractions • how climate change could impact any of the above in the future • any cumulative effects.	
5.16.8	The Secretary of State should consider whether mitigation measures are needed over and above any which may form part of the project application. A construction management plan may help codify mitigation at that stage	
5.16.16	The Secretary of State should consider proposals to mitigate adverse effects on the water environment and any enhancement measures put forward by the applicant and whether appropriate requirements should be attached to any development consent and/or planning obligations are necessary	

3 National Policy Statement for Renewable Energy (EN-3)

3.1. Introduction

3.1.1. The following provides the Applicant's position over the relevant policies set out in National Policy Statement for Renewable Energy (NPS EN-3).

NPS Para	NPS Relevant Detail	Applicant assessment and scheme compliance
National Policy Statement for Renewable Energy Infrastructure (NPS EN-3)		
1.1.1	There is an urgent need for new electricity generating capacity to meet our energy objectives.	This policy notes the need to dramatically increase the quantity of energy supplies from low carbon sources, requiring a large amount of low-carbon electricity generation. The Scheme will provide a significant amount of renewable electricity. Section 4 of the **Planning Statement [Document Reference 5.5 Revision 3]** explains the Scheme will be a substantial infrastructure asset, which if consented will deliver large amounts of cheap, secure and low-carbon electricity both during and beyond the critical 2020's and 2030's timeframe. The Scheme has the ability to generate and export renewable electricity to decarbonise the electricity network. The siting of the
1.1.2	Electricity generation from renewable sources is an essential element of the transition to net zero and meeting our statutory targets for the sixth carbon budget (CB6). Our analysis suggests that demand for electricity is likely to increase significantly over the coming years and could more than double by 2050. This could require a fourfold increase in low carbon	

	electricity generation, with most of this likely to come from renewables.	Scheme has been through a thorough consenting and technical appraisal in order to maximise the benefits to mitigate against climate change impacts.
1.1.5	This National Policy Statement (NPS), taken together with the Overarching National Policy Statement for Energy (EN-1), provides the primary policy for decisions by the Secretary of State on applications they receive for nationally significant renewable energy infrastructure defined at Section 1.6 of this NPS.	This policy confirms that the EN-1 and EN-3 are the primary policy basis against which this DCO Application should be determined.
2.4.11	Solar photovoltaic (PV) sites may also be proposed in low lying exposed sites. For these proposals, applicants should consider, in particular, how plant will be resilient to: • increased risk of flooding; and • impact of higher temperatures	The **Climate Change Adaptation and Resilience Assessment [APP-125]** consider the direct and indirect effects of the Scheme on flooding, storms, major accidents and disasters and climate change. The have been considered in the design, construction, operation and decommissioning of the Scheme. Details of climate change adaptation measures are set out within the relevant aspect chapters of the ES, including **ES Chapter 10 Water Resources [REP2-021]** The resilience of the Scheme to climate change has been assessed. Four key climate hazards have been identified, these being:

		(i) hotter summers with extreme temperatures (heatwaves); (ii) wetter winters including extreme rainfall (pluvial and groundwater flooding); (iii) Drier summers and drought; and (iv) increased wind and storms The assessment considers the recommendations in the IEMA *Guide to Climate Change Resilience and Adaptation* (2020) and was adapted to ensure the assessment was proportionate to the Scheme. It utilised the most up-to-date published projections of climate change for the UK, and adopted a precautionary approach whereby a high-emissions scenario was selected (as suggested by IEMA). Resilience and adaptation measures have been embedded into the design of the Scheme and are detailed across the suite of application documents. Further measures will be developed within the detailed production of the Construction Environmental Management Plan, Decommissioning Environmental Management Plan, Landscaping & Ecological Management Plan and Ecological Construction Management Plan

		documents. The assessment has identified that there are no significant effects in relation to climate change resilience during construction, operation, or decommissioning.
2.6.1	Where details are still to be finalised, applicants should explain in the application which elements of the proposal have yet to be finalised, and the reason why this is the case.	The Applicant notes how **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019]** and **ES Chapter 4 Approach to EIA [APP-041**] sets out how the design of the Scheme has been an iterative process, based on environmental assessments and consultation with statutory and non-statutory consultees. In order to maintain flexibility in the design and layout, the ES has adopted the Rochdale Envelope approach, as described in the NSIP - Advice Note Nine: Rochdale Envelope (2025). Some flexibility in the design is important in order to meet the changing demands of the UK solar energy market and respond to changes in technology that may emerge prior to construction. The ES has assessed the maximum (and where relevant, minimum) parameters, size (footprint, width, and height) technology, and locations of the different elements of the Scheme for the elements where flexibility needs to be retained, recognising that the worst-case parameter for
2.6.2	Where flexibility is sought in the consent as a result, applicants should, to the best of their knowledge, assess the likely worst-case environmental, social and economic effects of the proposed development to ensure that the impacts of the project as it may be constructed have been properly assessed.	

		one technical assessment may differ from another.
2.10.9	The government has committed to sustained growth in solar capacity to ensure that we are on a pathway that allows us to meet net zero emissions by 2050. As such, solar is a key part of the government's strategy for low-cost decarbonisation of the energy sector.	This policy emphasises that the Scheme is therefore strongly supported by both the need for decarbonised grid and also to ensure affordable energy supplies.
2.10.10	Solar also has an important role in delivering the government's goals for greater energy independence. The British Energy Security Strategy states that government expects a five-fold increase in combined ground and rooftop solar deployment by 2035 (up to 70GW). It sets out that government is supportive of solar that is "co-located with other functions (for example, agriculture, onshore wind generation, or storage) to maximise the efficiency of land use".	
2.10.13	Solar farms are one of the most established renewable electricity technologies in the UK and the cheapest form of electricity generation.	This policy emphasises that solar is also one of the lowest cost ways of generating electricity and that solar is one of the predominant technologies anticipated to produce

		electricity by 2050. The Scheme is therefore strongly supported by both the need for decarbonised grid and affordable energy supplies. The Scheme will provide decarbonisation and commercial benefits to consumers. Single, large- scale solar schemes deliver more quickly and at a lower unit cost than multiple independent schemes which make up the same total capacity, bringing forward carbon reductions and more affordable electricity, in line with government policy.
2.10.16	Associated infrastructure may also be proposed and may be treated, on a case by case basis, as associated development, such as energy storage, electrolysers associated with the production of low carbon hydrogen, or security arrangements (which may encompass flood defences, fencing, lighting and surveillance)	The policy confirms that battery energy storage system is an associated infrastructure. Whilst significant weight should be afforded to the solar PV energy generation, additional weight must also be given to the battery storage system. **ES Chapter 1 Introduction [APP-038]** confirms how the Order Limits extends to approximately 1,831 hectares (ha) (4525 acres) of land divided into five Land Parcels.
2.10.17	Along with associated infrastructure, a solar farm requires between 2 to 4 acres for each MW of output. A typical 50MW solar farm will consist of around 100,000 to 150,000 panels	

	and cover between 125 to 200 acres. However, this will vary significantly depending on the site, with some being larger and some being smaller. This is also expected to change over time as the technology continues to evolve to become more efficient. Nevertheless, this scale of development will inevitably have impacts, particularly if sited in rural areas.	
2.10.19	Irradiance will be a key consideration for the applicant in identifying a potential site as the amount of electricity generated on site is directly affected by irradiance levels. Irradiance of a site will in turn be affected by surrounding topography, with an uncovered or exposed site of good elevation and favourable south-facing aspect more likely to increase year-round irradiance levels. This in turn affects the carbon emission savings and the commercial viability of the site.	The **ES Chapter 6 Landscape and Visual [REP4-021**] confirms that the landform within the Order Limits is predominantly flat, low-lying and open in nature. It is therefore appropriately suited for solar PV. As set out in **ES Chapter 2 Scheme Description Development [APP-039]**, solar PV modules are rapidly developing due to innovation in technology and processing techniques for the PV cells, the dimensions of the solar PV modules available at the time of construction may vary. The ES therefore considers a height parameter which represents the worst-case scenario in terms of identifying potential environmental effects and these are set out within the **Parameters Document [REP3-014].**
2.10.20	In order to maximise irradiance, applicants may choose a site and design its layout with variable and diverse panel types and aspects, and panel	

	arrays may also follow the movement of the sun in order further to maximise the solar resource.	Two design options for the ground-mounted solar PV generating station are assessed within the ES. Option 1 is a mixed design with both fixed and tracker panels. In this design, the majority of the Scheme will be fixed panels, with areas of tracker panels in the northern and western section of the Order Limits. Option 2 is for the entirety of the Scheme to be a fixed panel layout. This option has been developed and assessed to ensure the Applicant has sufficient flexibility to deliver the most appropriate scheme following detailed design and having regard to ongoing technological advancements. Option 2 is shown on **Figure 2.2a Indicative Operational Plan (Fixed Solar Panel) [REP4-037].** Option 1 is shown on **Figure 2.2b Indicative Operational Layout Plan (Fixed and Tracker Solar Panel) [REP4-038]**
2.10.23	Larger developments may seek connection to the transmission network if there is available network capacity and/or supportive infrastructure.	The Applicant's current Grid Connection Agreement is set out in the **Grid Connection Statement [Document Reference 5.8 Revision 4].** This Grid Connection Statement confirms that the Applicant has secured a viable grid connection with the appropriate bodies.
2.10.24	In either case the connection voltage, availability of network capacity, and the	

	distance from the solar farm to the existing network can have a significant effect on the commercial feasibility of a development proposal.	
2.10.25	To maximise existing grid infrastructure, minimise disruption to existing local community infrastructure or biodiversity and reduce overall costs, applicants may choose a site based on nearby available grid export capacity.	
2.10.26	Where this is the case, applicants should consider the cumulative impacts of situating a solar farm in proximity to other energy generating stations and infrastructure.	The cumulative impact of the Scheme and developments within the surrounding area is included in the **ES Chapter 17 Cumulative Impacts [REP6-016].**
2.10.27	Utility-scale solar farms are large sites that may have a significant zone of visual influence. The two main impact issues that determine distances to sensitive receptors are therefore likely to be visual amenity and glint and glare. These are considered in Landscape, Visual and Residential Amenity (paragraphs 2.10.93-	These effects of the Scheme on dwellings are considered within the **ES Chapter 6: Landscape and Visual [REP4-021] , ES Appendix 6.7 - Residential Visual Amenity Assessment [REP4-027], ES Chapter 16 Other Environmental Topics [REP2-027], ES Appendix 16.1 & 6.2– Glint and Glare Assessment [APP-122 & REP1-**

	2.10.101) and Glint and Glare (paragraphs 2.10.102 – 2.10.106) impact sections below	**025]**.
2.10.29	While land type should not be a predominating factor in determining the suitability of the site location applicants should, where possible, utilise suitable previously developed land, brownfield land, contaminated land and industrial land. Where the proposed use of any agricultural land has been shown to be necessary, poorer quality land should be preferred to higher quality land avoiding the use of "Best and Most Versatile" agricultural land where possible. 'Best and Most Versatile agricultural land is defined as land in grades 1, 2 and 3a of the Agricultural Land Classification	The NPS acknowledges that the use of agricultural land for ground mounted solar arrays is likely, but consideration should be given to allowing continuation of the agricultural use or co-location with other functions to maximise the efficiency of land use. The Scheme holds an agreement to connect and if DCO consent is not granted a critical opportunity will be missed to deliver a significant capacity of low-carbon solar generation capacity onto the National Electricity Transmission System (NETS). The Order Limits is highly suitable for large-scale solar because of the attractive combination of the grid connection, solar irradiation and the suitability of the land. **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019]** explains the Applicant's approach to site selection**.** It has not been possible to remove BMV agricultural land from the Order Limits, or from the areas solar PV modules and related
2.10.30	Whilst the development of ground mounted solar arrays is not prohibited on Best and Most Versatile agricultural land, or sites designated for their natural beauty, or recognised for ecological or archaeological importance, the impacts of such are expected to be considered	

	and are discussed under paragraphs 2.10.73 – 92 and 2.10.107 – 2.10.126.	infrastructure are to be sited. To do so would reduce the renewable energy generation capability in a location where there is available grid capacity, at a time when the need for such development is a priority. This is consistent with paragraph 2.10.31 of NPS EN-3 where it is recognised that at this scale, it is likely that Applicants' developments may use some agricultural land. For a development of this scale, it is considered impracticable to locate on land that is entirely outside of very high sensitivity Best and Most Versatile agricultural land, given the BMV context for the region. The co-location of BESS duly enhances the usable output of the scheme as encouraged by EN-1 and EN-3. Furthermore, land beneath the solar PV modules is proposed to be used for ecological mitigation and enhancements, which could include planting (including establishment of grassland and wildflowers), which would help to reduce soil degradation and erosion during the operation (including maintenance) phase. **ES Volume 3, Appendix 15.1: Agricultural Land Classification Report [APP-120]** provides details of the
2.10.31	It is recognised that at this scale, it is likely that applicants' developments will use some agricultural land. Applicants should explain their choice of site, noting the preference for development to be on suitable brownfield, industrial and low and medium grade agricultural land.	
2.10.32	Where sited on agricultural land, consideration may be given as to whether the proposal allows for continued agricultural use and/or can be co-located with other functions (for example, onshore wind generation, storage, hydrogen electrolysers) to maximise the efficiency of land use.	
2.10.33	The Agricultural Land Classification (ALC) is the only approved system for grading agricultural quality in England and Wales and, if necessary, field surveys should be used to establish the ALC grades in accordance with the current, or	

	any successor to it, grading criteria and identify the soil types to inform soil management at the construction, operation, and decommissioning phases in line with the Defra Construction Code.	soil type and Agricultural Land Classification of soil and these are summarised in Table 15-9 of **ES Volume 2, Chapter 15 Agricultural Circumstances [REP3-022]**. The Order Limits comprises a mixture of land quality, from Grade 1 to Subgrade 3b. The Order Limits contains approximately 813ha of BMV land, representing 44.4% of the Order Limits, and approximately 1,001ha of moderate quality Subgrade 3b land. 17ha of mitigation land will remain in arable farming use, with no effect on land quality. The pattern of distribution of land quality is complex. Soils are loamy or sandy. An **Outline Soil Management Plan [REP2-078]** has been prepared as part of the DCO Application. A Soil Management Plan will be secured pursuant to the **Draft DCO [Document Reference 3.1 Revision 10]** as a requirement, which must be in accordance with the **Outline Soil Management Plan [REP2-078]**. The **Outline Soil Management Plan [REP2-078]** seeks to identify the importance and sensitivity of the soil resource and to provide specific measures for the management of the soil resource to maintain the physical properties of the soil on within the Order Limits and to ensure adverse effects on the
2.10.34	Applicants are encouraged to develop and implement a Soil Resources and Management Plan which could help to use and manage soils sustainably and minimise adverse impacts on soil health and potential land contamination. This should be in line with the ambition set out in the Environmental Improvement Plan to bring at least 40% of England's agricultural soils into sustainable management by 2028 and increase this up to 60% by 2030.	

		soil resource as a result of the Scheme are avoided and mitigated. The **Outline Soil Management Plan [REP2-078]** provides detail on the following during the construction, operation (including maintenance) and decommissioning phases of the Scheme: • A description of the soil types and their resilience to being trafficked; • Measures for soil handling; • Description of works and how soil damage will be minimised; and • Monitoring measures for soil condition and criteria against which compliance will be assessed. Therefore, impacts upon soil structure and quality during the construction and decommissioning phases of the Scheme are limited, and will be protected through the operational phase in a way which will permit unrestricted agricultural use to be facilitated after decommissioning.

2.10.35	Applicants will need to consider the suitability of the access routes to the proposed site for both the construction and operation of the solar farm with the former likely to raise more issues.	Considerations in respect of the suitability of access routes for both construction and operational phases of the Scheme are assessed within the **ES Volume 2, Chapter 12: Transport and Access [REP6-012]** which is supported by **ES Volume 4, Appendix 12.1: Transport Statement [APP-111]**. The nature of the Scheme is such that the greatest traffic and transport impacts are likely to occur during both the construction and decommissioning phases. This is acknowledged in paragraph 2.10.161 of the NPS EN-3 which confirms that once solar farms are in operation, traffic movements to and from the Scheme are generally 'very light'. Mitigation measures that have been embedded into the design of the Scheme in the form of an **Outline Construction Traffic Management Plan [REP6-038, REP6-040 and REP6-042]** to reduce the impacts of the construction phase. The document includes a range of management and mitigation measures to reduce the impacts of the construction phase. The **ES Volume 2, Chapter 12: Transport and Access [REP6-012]** concludes that following the application of mitigation measures, the potential for adverse traffic and transport related effects
2.10.36	Given that potential solar farm sites are largely in rural areas, access for the delivery of solar arrays and associated infrastructure during construction can be a significant consideration for solar farm siting.	
2.10.37	Developers will usually need to construct on-site access routes for operation and maintenance activities, such as footpaths, earthworks, or landscaping.	
2.10.38	In addition, sometimes access routes will need to be constructed to connect solar farms to the public road network	
2.10.39	Applications should include the full extent of the access routes necessary for operation and	

	maintenance and an assessment of their effects.	during the construction, operational and decommissioning phases arising from the Scheme would not be significant. The **Outline Construction Traffic Management Plan [REP6-038, REP6-040 and REP6-042]** sets out full extent of the access routes necessary for operation and maintenance and this is assessed within the **Chapter 12: Transport and Access [REP6-012].** There are currently a total of 29 access points proposed. The majority of the access points relate to existing agricultural accesses that will require upgrading. 5 new access points will be required. Details of the accesses are provided in the **Outline Construction Traffic Management Plan (Outline CTMP) [REP6-038, REP6-040 and REP6-042]** and **ES Chapter 12: Transport and Access [REP6-012].**
2.10.40	Proposed developments may affect the provision of public rights of way networks	The **Outline Construction Traffic Management Plan [REP6-038, REP6-040 and REP6-042]** sets out how mitigation and management procedures will be put in place where the PRoWs cross through the Scheme. These measures will include: • When construction plant and machinery are
2.10.41	Public rights of way may need to be temporarily closed or diverted to enable construction, however, applicants should keep,	

	as far as is practicable and safe, all public rights of way that cross the proposed development site open during construction and protect users where a public right of way borders or crosses the site.	accessing a relevant Land Parcel, a banksman will be employed to control both movements on the PRoW and HGV traffic. Banksmen will ensure that users of the PRoW always have priority. • Where possible fencing will be placed along the PRoW routes where they cross the Scheme with gated sections in the vicinity of the internal access tracks. Vehicles will only be permitted to cross the PRoW at designated crossing points. Only smaller vehicles will be required to cross the PRoW at the designated crossing points. • Signage will be erected at either end of the affected PRoWs in the vicinity of the Scheme boundary advising users of ongoing construction activities. Further signage will be positioned on the approach to either side of each crossing point for both construction traffic and PRoW users.
2.10.42	Applicants are encouraged to design the layout and appearance of the site to ensure continued recreational use of public rights of way where possible during construction, and in particular during operation of the site.	
2.10.43	Applicants are encouraged where possible to minimise the visual impacts of the development for those using existing public rights of way, considering the impacts this may have on any other visual amenities in the surrounding landscape.	
2.10.44	Applicants should consider and maximise opportunities to facilitate enhancements to the public rights of way and the inclusion, through site layout and design of access, of new opportunities for the public to access and	Temporary diversion of a sections of PRoWs Thorne 19 and CROW 21, which traverse the Order Limits, may be required during the construction period in order to separate and keep apart members of the public from the

	cross proposed solar development sites (whether via the adoption of new public rights of way or the creation of permissive paths), taking into account, where appropriate, the views of landowners.	construction vehicles and machinery. If a PRoW needs to be closed temporarily during construction, an alternative path will be provided. and these measures are included as part of the **Outline Construction Environmental Management Plan [Document Reference 7.1 Revision 7] and the Outline Decommissioning Environmental Management Plan [REP4-051]** The temporary diversion will cease following construction of the relevant works. Temporary diversion of the footpath would also take place during decommissioning. The mitigation proposals alongside the PRoWs within the Order Limits include new hedgerows and hedgerow trees planted adjacent to the proposed fence lines, and these measures would be secured through a LEMP that will need to be in accordance with the measures set out in the **Outline Landscape Ecological Management Plan [REP6-036] and ES Figure 6.4 Landscape and Visual Mitigation Strategy, (Landscape Masterplan) [REP3-032].**
2.10.45	Applicants should set out detail on how public rights of way would be managed to ensure they are safe to use in an outline Public Rights of Way Management Plan.	
2.10.46	Security of the site is a key consideration for developers. Applicants may wish to consider	It is confirmed in **ES Chapter 2 Scheme Description [APP-039]** that the perimeter fencing will enclose solar

	not only the availability of natural defences such as steep gradients, hedging and rivers but also perimeter security measures such as fencing, electronic security, CCTV and lighting, with the measures proposed on a site-specific basis.	panel areas, BESS Compound, and Substation Compound. Temporary fencing will be associated with Construction Compounds. Areas of solar PV panels will not require artificial lighting other than during temporary periods of maintenance/repair. Pole mounted internal facing closed circuit television (CCTV) systems are proposed around the perimeter of the operational areas of the Solar PV Site. These will not require lighting and will use infrared technology at night. Infrared sensor triggered security lighting would be required around key electrical infrastructure during all phases of development. Downward facing lighting will be attached to buildings or on columns 3m high in the BESS Compounds and substations compounds. No part of the Scheme would be continuously lit and any lighting would be directed downwards.
2.10.47	Applicants should assess the visual impact of these security measures, as well as the impacts on local residents, including for example issues relating to intrusion from CCTV and light pollution in the vicinity of the site.	The visual impacts of the security measures are assessed within the **ES Chapter 6 Landscape and Visual (REP4-021];** the ecological matters are assessed within the **ES Chapter 7 Ecology and Nature Conservation [REP5-013REP2-027REP5-012**] and confirms that lighting is not

2.10.48	Applicants should consider the need to minimise the impact on the landscape and the visual impact of security measures.	anticipated to impact upon retained habitats (such as woodland and hedgerows) and any assessed sensitive receptors (such as bats and birds) using such habitats. During the construction and decommissioning period there will be limited working outside of daylight hours and where any such works were to take place standard best practice will be implemented to minimise light spill and any potential for effects of lighting on human receptors such that no significant effects would arise, and this would be secured through the CEMP and DEMP. These will need to be in accordance with the measures set out in the **Outline Construction Management Plan [Document Reference: 7.1 Revision 7]** and the **Outline Decommissioning Environmental Management Plan [REP4-051]**
2.10.54	The capacity threshold is 50MW (AC) in England and 350MW (AC) in Wales	The Scheme is AC coupled. This technology is described in **ES Chapter 2 Scheme Description [APP-039]** The output is approximately 800MWac.
2.10.55	The installed generating capacity of a solar farm will decline over time in correlation with the reduction in panel array efficiency. There is	The indicative design for the Scheme includes an element of overplanting to have regard to the degradation of panels.

	a range of sources of degradation that developers need to consider when deciding on a solar panel technology to be used. Applicants may account for this by overplanting solar panel arrays	
2.10.59	Applicants should consider the criteria for good design set out in EN-1 Section 4.7 at an early stage when developing projects.	As detailed in the **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019]** and the **Design Approach Document [APP-032],** the Scheme has undergone an iterative design process. Design objectives were developed at an early stage and have guided the Scheme's design response to the local context to develop a good design that balances the need to maximise renewable energy generation from the Scheme, whilst minimising potential adverse impacts and providing mitigation and enhancement measures where practicable, these include: (i) Delivery of significant amounts of affordable renewable energy to support policy objectives and national targets for reducing carbon emissions to net zero by 2050;
2.10.60	As set out above applicants will consider several factors when considering the design and layout of sites, including proximity to available grid capacity to accommodate the scale of generation, orientation, topography, previous land–use, and ability to mitigate environmental impacts and flood risk.	
2.10.61	For a solar farm to generate electricity efficiently the panel array spacing should seek to maximise the potential power output of the site. The type, spacing and aspect of panel arrays will depend on the physical	

	characteristics of the site such as site elevation.	(ii) Delivery of improved energy resilience, affordability and security by diversifying energy production and stored energy; (iii) Develop a Scheme sensitive to surrounding landscape, limiting impact on views for key landscape receptors, residential properties and recreational routes; (iv) Develop a Scheme sensitive to heritage assets and settings; (v) Safeguard surrounding hydrological systems and resilience to flooding without increasing flood risk elsewhere taking into account impacts of climate change; (vi) Develop a Scheme sensitive to existing land quality; and (vii) Provide safe access, minimise impact on the local highway network; and protect and enhance existing Public Rights of Way ensuring continued safe use. Two design options for the ground-mounted solar PV generating station are assessed within the ES. Option 1 is a mixed design with both fixed and tracker panels. In this
2.10.62	In terms of design and layout, applicants may favour a southfacing arrangement of panels to maximise output although other orientations may be chosen. For example, an east-west layout, whilst likely to result in reduced output compared to south-facing panels on a panel-by-panel basis, may allow for a greater density of panels to compensate and therefore for generation to be spread more evenly throughout the day.	

		design the majority of the Scheme will be fixed panels, with areas of tracker panels in the northern and western section of the Order Limits. Option 2 is for the entirety of the Scheme to be a fixed panel layout. This option has been developed and assessed to ensure the Applicant has sufficient flexibility to deliver the most appropriate scheme following detailed design and having regard to ongoing technological advancements. Option 2 is shown on **Figure 2.2a Indicative Operational Plan (Fixed Solar Panel) [REP4-037].** Option 1 is shown on **Figure 2.2b Indicative Operational Layout Plan (Fixed and Tracker Solar Panel) [REP4-037]**
2.10.63	It is likely that underground and overhead cabling will be required to connect the electrical assets of the site, such as from the substation to the panel arrays or storage facilities.	As detailed in **ES Chapter 2 Scheme Description [APP-039],** all cabling works will be underground**.** Overhead cabling is not proposed as part of the development. The methodology for cabling would be secured through the CEMP and SMP, these will need to be in accordance with the measures set out in the **Outline Construction Management Plan [Document Reference: 7.1 Revision 7]** and **Outline Soil Management Plan [REP2-078].**
2.10.64	In the case of underground cabling, applicants are expected to provide a method statement describing cable trench design, installation	

	methodology, as well as details of the operation and maintenance regime	
2.10.65	Applicants should consider the design life of solar panel efficiency over time when determining the period for which consent is required. An upper limit of 40 years is typical, although applicants may seek consent without a time-period or for differing time-periods of operation.	As detailed in **ES Chapter 2 Scheme Description [APP-039], a fully operational lifespan of 40 years is proposed**. It is anticipated that construction of the Scheme is built out over up to, a 54 month-period (2028- 2032) in either a single phased approach (development of Land Parcels completed one after another with the potential for breaks between development of Land Parcels) or through multiple phases (development of Land Parcels concurrently). For the multiple phase construction option, no more than two land parcels (within land parcels A-E) would be built out at the same time. ES Environmental Aspect Chapters determine in the methodology 'Assessment Approach' section which of the two options for the construction phasing approach would give rise to the 'worst-case scenario' for the purpose of their assessment. The current connection date for the Scheme, within the NESO Connection Agreement is 2029. As with all electricity generation projects, this date is under
2.10.66	Time limited consent, where granted, is described as temporary because there is a finite period for which it exists, after which the project would cease to have consent and therefore must seek to extend the period of consent or be decommissioned and removed.	
2.10.67	Solar panel efficiency deteriorates over time and applicants may elect to replace panels during the lifetime of the site.	

		review by NESO as part of the ongoing connections reform process. If the NESO Connection Agreement remains with the connection date of 2029, it would be possible to operate a phased start to operational generation. This phased approach would connect each Land Parcel to the RWE on-site 400kV substation when construction of that Land Parcel was completed. In this operational scenario there would be partial Scheme operation from 2029-2032 (3 years). From 2032 onwards the full Scheme would be generating at full operational capacity. The full Scheme would operate for 40 years until 2072. If the NESO Grid Connection date varies, which is not within the Applicants direct control, the timeframe where there could be partial operation of the Scheme could reduce or fail to materialise. In this situation the full operational Scheme would operate for 40 years from its new grid connection date. In either connection scenario there will be full operational generation for 40 years, which would be the worst-case scenario operational time period for the Scheme.

		The final construction programme will depend on the detailed layout, design and potential environmental constraints on the timing of construction activities. An indicative overview of the final construction programme will be set out in the Construction Environmental Management Plan(s) for information.
2.10.68	Solar panels can be decommissioned relatively easily and cheaply. The nature and extent of decommissioning of a site can vary. Generally, it is expected that the panel arrays and mounting structures will be decommissioned, and underground cabling dug out to ensure that prior use of the site can continue.	The decommissioning strategy is set out the **Outline Decommissioning Environmental Management Plan [REP4-051].** Decommissioning activities will involve the removal of above-ground solar infrastructure comprising the solar PV modules and associated mounting structures, inverters, BESS, and ancillary infrastructure, including any on-site compounds. It is assumed that all the below-ground cables will be left in situ to avoid unnecessary disturbance to the ground or to nearby human or ecological receptors. The retention or removal of the internal access tracks and/or the RWE
2.10.69	Applicants should set out what would be decommissioned and removed from the site at the end of the operational life of the generating station, considering instances where it may be less harmful for the ecology of the site to keep or retain certain types of infrastructure, for example underground cabling, and where there	

	may be socio-economic benefits in retaining site infrastructure after the operational life, such as retaining pathways through the site or a site substation.	400kV Substation will be discussed with the relevant stakeholders and landowners. Public access to the proposed permissive path would cease upon the start of decommissioning of the relevant phase of development and the land delineated for permissive paths would be returned to the landowners in private ownership upon restoration. At present, it is not possible to confirm the exact method of uninstalling the solar PV modules and piles during the decommissioning phase of the Scheme, as current techniques may be superseded by alternative techniques during the lifetime of the Scheme. The current method of removing piles is to use a pile driver/extractor which vibrates the piles out of the ground, allowing for a clean extraction with minimal soil disturbance. Details of the methodology used for the above activities will be included in the Decommissioning Environmental Management Plan(s) prior to decommissioning. Temporary decommissioning compounds would be created to house necessary plant and equipment and provide areas for parking for site staff. These would be removed upon at the end of the decommissioning phase.

		At the end of the operational phase, any above-ground infrastructure that is to be removed will be dismantled and removed in accordance with industry best practices. The decommissioned materials will follow the waste hierarchy such that they will be reused where reasonably practicable before recycling and disposal are considered. It is assumed that all concrete, hardstanding areas, and foundations for the infrastructure will be removed to a depth of up to 1m. Where infrastructure is removed, land will be reinstated to conditions agreed with the local authorities and in consultation with the landowner. The socio-economic benefits associated with decommissioning are assessed within the **ES Chapter 11: Socio Economics [APP-048].**
2.10.70	In many cases, not all aspects of the proposal may have been settled in precise detail at the point of application. Such aspects may include: • the type, number and dimensions of the panels; • layout and spacing; • the type of inverter or transformer; and • whether storage	The Applicant notes how **ES Chapter 3: Site Description, Site Selection and Iterative Design Process [REP2-019]** and **ES Chapter 4 Approach to EIA [APP-041**] set out how the design of the Scheme has been an iterative process, based on environmental assessments and

	will be installed (with the option to install further panels as a substitute)..	consultation with statutory and non-statutory consultees. In order to maintain flexibility in the design and layout, the ES has adopted the Rochdale Envelope approach, as described in the NSIP - Advice Note Nine: Rochdale Envelope (2025). Some flexibility in the design is important in order to meet the changing demands of the UK solar energy market and respond to changes in technology that may emerge prior to construction. The ES has assessed the maximum (and where relevant, minimum) parameters, size (footprint, width, and height) technology, and locations of the different elements of the Scheme for the elements where flexibility needs to be retained, recognising that the worst-case parameter for one technical assessment may differ from another.
2.10.71	Applicants should set out a range of options based on different panel numbers, types and layout, with and without storage.	
2.10.76	The applicant's ecological assessments should identify any ecological risk from developing on the proposed site.	**ES Chapter 7: Ecology and Nature Conservation [REP5-013REP2-027REP5-012]** explains how the Scheme includes a range of inherent embedded elements, which avoid or reduce the potential for adverse ecological impacts, including retaining identified higher value statutory designated sites as well as habitat features such as, hedgerows, ditches, and woodlands, and focusing the built development proposals within lower ecological value
2.10.77	Issues that need assessment may include habitats, ground nesting birds, wintering and migratory birds, bats, dormice, reptiles, great crested newts, water voles and badgers.	

2.10.78	The applicant should use an advising ecologist during the design process to ensure that adverse impacts are avoided, minimised or mitigated in line with the mitigation hierarchy, and biodiversity enhancements are maximised.	agricultural and pastoral farmland. This is in line with both the Mitigation Hierarchy and the Biodiversity Net Gain Hierarchy. Buffer distances between development areas and potentially sensitive features have been included to avoid and minimise effects such as the substation locations being 'set-back' from the Thorne and Hatfield Moors Special Protection Area (SPA) to avoid noise disturbance in operation. Additionally, sensitive, or high value ecological features outside the Order Limits have been protected as part of the design which sets in place buffer zones and other safeguarding measures, all of which has been built-in to as part of the iterative design process. The proposed **Landscape and Visual Mitigation Strategy [REP3-032]** includes extensive embedded habitat creation which will diversify and strengthen the biodiversity interest of the Scheme itself, and neighbouring areas. Measures embedded within the Scheme design will ensure that no significant effects are anticipated on designated sites during construction, operation or decommissioning e.g., through siting construction routes away from designated sites, incorporating suitable buffer zones and erection of temporary construction fencing to avoid incursion into exclusion zones
2.10.79	The assessment may be informed by a 'desk study' of existing ecological records, an evaluation of the likely impacts of the solar farm upon ecological features, and should specify mitigation to avoid or minimise these impacts, and any further surveys required.	

2.10.82	Applicants should consider how security and lighting installations may impact on the local ecology. Where pole mounted CCTV facilities are proposed the location of these facilities should be carefully considered to minimise impact. If lighting is necessary, it should be minimised and directed away from areas of likely habitat	Areas of solar PV panels will not require artificial lighting other than during temporary periods of maintenance/repair. Pole mounted internal facing closed circuit television (CCTV) systems are proposed around the perimeter of the operational areas of the Solar PV Site. These will not require lighting and will use infrared technology at night. Infrared sensor triggered security lighting would be required around key electrical infrastructure during all phases of development. Downward facing lighting will be attached to buildings or on columns 3m high in the BESS compounds and substations compounds. No part of the Scheme would be continuously lit and any lighting would be directed downwards.
2.10.83	Applicants should consider how site boundaries are managed. If any hedges/scrub are to be removed, further surveys may be necessary to account for impacts. Buffer strips between perimeter fencing and hedges may be proposed, and the construction and design of any fencing should account for enabling mammal, reptile and other fauna access into	The approach to the ecological management within and along the boundaries of the Order Limits are presented within the **ES Chapter 7 Ecology and Nature Conservation [REP5-012]**. Measures to protect retained trees and hedgerows will be put in place and secured through a detailed CEMP, DEMP and LEMP as requirements of the DCO. These will need

	the site if required to do so in the ecological report.	to be in accordance with the measures set out in the **Outline Construction Environmental Management Plan [Document Reference: 7.1 Revision 7], Outline Ecological Construction Management Plan [REP6-034], Outline Landscape Ecological Management Plan [REP6-036], ES Appendix 6.6 Arboriculture Impact Assessment (AIA) [APP-070]]** and the **Outline Decommissioning Environmental Management Plan [REP4-051].**
2.10.84	Where a Flood Risk Assessment has been carried out this must be submitted alongside the applicant's ES. This will need to consider the impact of drainage. As solar PV panels will drain to the existing ground, the impact will not, in general, be significant	The likely effects of the Scheme associated with flood risk have been assessed in **ES Volume 3, Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016]**. The FRA concludes that the Scheme will be safe from all forms of flooding and will provide a betterment in terms of downstream flood risk and pollution.
2.10.85	Where access tracks need to be provided, permeable tracks should be used, and localised Sustainable Drainage Systems (SuDS), such as swales and infiltration trenches, should be used to control any run-off where recommended.	**ES Volume 1, Chapter 10: Water Resources Other [REP2-021]** and **ES Volume 3, Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016]** identifies how the impact of the proposed solar PV modules on surface water runoff rates and flow patterns is considered to be

2.10.86	Given the temporary nature of solar PV farms, sites should be configured or selected to avoid the need to impact on existing drainage systems and watercourses.	negligible, with the land use changes discussed below providing betterment over the existing situation. No further mitigation measures are therefore considered necessary. The proposed BESS and substation areas will increase the area of impermeable hardstanding within the Order Limits. As such, a surface water drainage strategy has been prepared to manage surface water runoff from the proposed impermeable catchments associated with the development. Infiltration as the primary means of surface water disposal has been discounted for these areas. Surface water runoff from proposed infrastructure on site will be directed towards SuDS features that would provide water quality treatment to mitigate the risk of water pollution on site. Contributions could be made from permeable surfacing and wildflower planting for example. High level surface water drainage proposals are included in the appended FRA (**ES Appendix 10.1 Flood Risk Assessment [REP5-014 and REP5-016]),** with full details to be confirmed during details design post-consent of the DCO Application. In order to protect the downstream receiving water body, a key element of SuDS is that they have the potential to improve the quality of surface water discharged from a
2.10.87	Culverting existing watercourses/drainage ditches should be avoided.	
2.10.88	Where culverting for access is unavoidable, applicants should demonstrate that no reasonable alternatives exist and where necessary it will only be in place temporarily for the construction period.	

		site. The SuDS Manual (CIRIA C753) states that the design of surface water drainage should consider minimising contaminants in surface water runoff discharged from the Order Limits. The level of treatment required depends on the proposed land use, according to the pollution hazard indices. Based on the nature of the Scheme, surface water runoff pollution indices are considered to be low/very low. Treatment of surface water from the BESS and Substation areas is to be provided by the gravel subbase through which surface water is to percolate. Downstream defenders are proposed where necessary in order to treat surface water generated from the impermeable access roadways prior to being attenuated within the below ground network. In the event of a fire within the BESS compounds, a separate penstock and attenuation crates procedure is in place in order to prevent contaminated runoff from entering the receiving waterbodies. Culverting is necessary for the development to improve accessibility and connectivity within the Order Limits.

2.10.89	Solar farms have the potential to increase the biodiversity value of a site, especially if the land was previously intensively managed. In some instances, this can result in significant benefits and enhancements beyond Biodiversity Net Gain, which result in wider environmental gains which is encouraged.	The Scheme would provide a number of environmental and ecological enhancements and has been designed to avoid key nature conservation and ecological features present within or adjacent to the Order limits. These measures are set out in the **ES Appendix 7.12 Biodiversity Net Gain [APP-0722]** and **Outline Landscape and Ecological Management Plan [REP6-036].** These demonstrate that the Scheme has potential to achieve a biodiversity net gain of at least 10%.
2.10.90	For projects in England, applicants should consider enhancement, management, and monitoring of biodiversity in line with the ambition set out in the Environmental Improvement Plan and any relevant measures and targets, including statutory targets set under the Environment Act or elsewhere.	
2.10.92	Applicants should consider whether they need to provide geotechnical and hydrological information (such as identifying the presence of peat at each site) including the risk of landslide connected to any development work.	**The ES Chapter 9 Ground Conditions [REP3-018**assesses the impact on ground conditions. There is not expected to be any likely significant effects associated with ground conditions. There is a low potential for contaminants to be present in any shallow depth Made Ground and Negligible for natural soils. This will be clarified during further assessment walkover and

		research and confirmed at the post-consent investigation to inform both detailed design and the detailed CEMP, will need to be in accordance with the measures set out in the **Outline Construction Environmental Management Plan [Document Reference 7.1 Revision 7].**
2.10.94	The approach to assessing cumulative landscape and visual impact of large-scale solar farms is likely to be the same as assessing other onshore energy infrastructure. Solar farms are likely to be in low lying areas of good exposure and as such may have a wider zone of visual influence than other types of onshore energy infrastructure.	**ES Chapter 17 Cumulative Impacts [REP6-016]** considers the assessment of cumulative effects and has considered the potential for effects from other developments in the area to combine with and intensify effects caused by the Scheme. While the appearance of solar PV is largely set by its function, the site layout, landscaping and access design have all been designed to reflect good design principles. **ES Chapter 6 Landscape and Visual [REP4-021]** sets out how the primary mitigation adopted in relation to landscape and visual matters is that which has been embedded within the design of the Scheme and comprises the consideration given to avoiding and reducing landscape and visual effects during the evolution of the Scheme layout. This is sometimes referred to as 'mitigation by design'. This has included the location and offsetting of key elements of the
2.10.95	However, whilst it may be the case that the development covers a significant surface area, in the case of ground-mounted solar panels it should be noted that with effective screening and appropriate land topography, the area of a zone of visual influence could be appropriately minimised.	

2.10.96	Landscape and visual impacts should be considered carefully pre-application. Potential impacts on the statutory purposes of nationally designated landscapes should form a part of the preapplication process.	Scheme in response to the identification of potential visual receptors and the protection of existing landscape elements such as existing trees and hedgerows during the construction period, further details on which are set out in **ES Appendix 6.6 - Arboricultural Impact Assessment [APP-070]** In addition, a series of landscape and ecological mitigation and enhancement measures are included as part of the Scheme, each of which has been developed collaboratively alongside the project Ecologists as set out below and illustrated on **ES Figure 6.4 Landscape and Visual Mitigation Strategy, (Landscape Masterplan). [REP3-032].** These are also considered to form embedded mitigation which would be implemented as part of the Scheme. Further details of the benefits of the proposed measures for biodiversity are discussed separately in the **ES Chapter 7 Ecology and Nature Conservation [REP5-013REP2-027REP5-012].**
2.10.97	Applicants should carry out a landscape and visual assessment and report it in the ES. Visualisations may be required to demonstrate the effects of a proposed solar farm on the setting of heritage assets and any nearby residential areas or viewpoints.	
2.10.98	Applicants should follow the criteria for good design set out in Section 4.7 of EN-1 when developing projects and will be expected to direct considerable effort towards minimising the landscape and visual impact of solar PV arrays especially within nationally designated landscapes.	
2.10.99	Whilst there is an acknowledged need to ensure solar PV installations are adequately	

	secured, required security measures such as fencing should consider the need to minimise the impact on the landscape and visual impact (see paragraphs 2.10.46 – 2.10.48 above).	
2.10.100	The applicant should consider as part of the design, layout, construction, and future maintenance plans how to protect and retain, wherever possible, the growth of vegetation on site boundaries, as well as the growth of existing hedges, established vegetation, including mature trees within boundaries. Applicants should also consider opportunities for individual trees within the boundaries to grow on to maturity.	
2.10.101	The impact of the proposed development on established trees and hedges should be informed by a tree survey and arboricultural/hedge assessment as appropriate.	**ES Appendix 6.6 Arboriculture Impact Assessment (AIA) [APP-070]]** has been produced setting out the likely direct and indirect impacts of the Scheme on trees. This concludes that the scheme will not require the complete removal of any significant trees or whole tree groups or whole hedgerows. The removal of sections of hedgerow totalling c.49 linear meters together with an estimated 4 no. semi-mature, low-quality trees is proposed across the

		Order Limits to implement the design proposals. The impact of these removals is to remain very low across the Order Limits as a whole. Measures to protect retained trees and hedgerows will be put in place and secured through a detailed CEMP, DEMP and LEMP as requirements of the DCO. These will need to be in accordance with the measures set out in the **Outline Construction Environmental Management Plan [Document Reference: 7.1 Revision 7], Outline Landscape Ecological Management Plan [REP6-036], ES Appendix 6.6 Arboriculture Impact Assessment (AIA) [APP-070]], Outline Ecological Construction Management Plan [REP6-034]** and the **Outline Decommissioning Environmental Management Plan [REP4-051]**
2.10.102	Solar panels are specifically designed to absorb, not reflect, irradiation. However, solar panels may reflect the sun's rays at certain angles, causing glint and glare. Glint is defined as a momentary flash of light that may be produced as a direct reflection of the sun in the solar panel. Glare is a continuous source of	A Glint and Glare Assessment are presented as standalone reports within the technical appendices to **ES Chapter 16 Other Environmental Topics [REP2-027]**, namely **ES Appendix 16.1 & 6.2– Glint and Glare Assessment [APP-122 & REP1-025]**.

	excessive brightness experienced by a stationary observer located in the path of reflected sunlight from the face of the panel. The effect occurs when the solar panel is stationed between or at an angle of the sun and the receptor.	
2.10.103	Applicants should map receptors qualitatively to identify potential glint and glare issues and determine if a glint and glare assessment is necessary as part of the application.	
2.10.104	When a quantitative glint and glare assessment is necessary, applicants are expected to consider the geometric possibility of glint and glare affecting nearby receptors, and provide an assessment of potential impact and impairment based on the angle and duration of incidence and the intensity of the reflection.	
2.10.105	The extent of reflectivity analysis required to assess potential impacts will depend on the specific project site and design. This may need to account for 'tracking' panels if they are	

	proposed as these may cause differential diurnal and/or seasonal impacts	
2.10.106	When a glint and glare assessment is undertaken, the potential for solar PV panels, frames and supports to have a combined reflective quality may need to be assessed, although the glint and glare of the frames and supports is likely to be significantly less than the panels.	
2.10.107	The impacts of solar PV developments on the historic environment will require expert assessment in most cases and may have effect both above and below ground	The sources of information, including relevant historic records, used to inform the Archaeological Desk-Based Assessment are set out **in ES Chapter 8: Cultural Heritage & Archaeology [REP2-037]**. This includes ES **Volume 4, Appendix 8.1: Heritage Technical Baseline, Appendix 8.2: Geophysical Survey Report, Appendix 8.3: Geoarchaeological Assessment [REP2-043], Appendix 8.4: Archaeological Trial Trenching Report [APP-094], Appendix 8.5 Test Pitting Report [APP-095]** and **Appendix 8.6 Outline Archaeological Mitigation Strategy [REP6-028]**.
2.10.108	Above ground impacts may include the effects on the setting of Listed Buildings and other designated heritage assets as well as on Historic Landscape Character	
2.10.109	Below ground impacts, although generally limited, may include direct impacts on	

	archaeological deposits through ground disturbance associated with trenching, cabling, foundations, fencing, temporary haul routes etc.	The **ES Chapter 8: Cultural Heritage & Archaeology [REP2-037]** has considered the likely significant effects of the Scheme upon the cultural heritage resource, including buried archaeological remains within the Order Limits and heritage assets (including Scheduled Monuments and Listed Buildings) located within the wider Study Area. It has been established that subject to appropriate mitigation being implemented, the Scheme would not result in any significant adverse effects upon the cultural heritage resource within the Order Limits and in its surroundings. The construction phase of the Scheme has the potential to affect known, non-designated, archaeological remains associated with possible prehistoric Romano-British, post-medieval and modern archaeological remains as well as potential previously unrecorded archaeological remains. The groundworks associated with the construction of the below ground cable routes, directional drilling access pits, temporary compounds, BESS and substations within the Scheme have the potential to truncate or totally remove the archaeological remains within their footprint. Such effects would result in harm to or total loss of significance of these buried archaeological features.
2.10.110	Equally, solar PV developments may have a positive effect, for example archaeological assets may be protected by a solar PV farm as the site is removed from regular ploughing and shoes or low-level piling is stipulated.	
2.10.112	Applicant assessments should be informed by information from Historic Environment Records (HERs)95 or the local authority.	
2.10.113	Where a site on which development is proposed includes, or has the potential to include, heritage assets with archaeological interest, the applicant should submit an appropriate desk-based assessment and, where necessary, a field evaluation. These should be carried out using expertise where necessary and in consultation with the local planning authority, and should identify archaeological study areas and propose	

	appropriate schemes of investigation, and design measures, to ensure the protection of relevant heritage assets.	An appropriate programme of mitigation by design and additional mitigation (as required) will allow the magnitude of effect to be Moderate harm (not significant). The installation of the solar arrays has the potential to result in localised adverse effects upon archaeological deposits lying beneath the push pin foundations. An appropriate programme of mitigation by design and additional mitigation (as required) will allow the magnitude of effect to be Minor harm (not significant). The construction phase of the Scheme has the potential to affect the settings of five designated heritage assets and three non-designated built heritage assets and one No. Area of Special Historic Landscape Interest. Such effects would result in harm to the significance of these assets, leading to Less than Substantial Residual Harm at the lower end of the spectrum in relation to the designated assets and Minor Residual Harm in relation to the non-designated assets (**Not Significant**). <u>Operational Phase</u> The operational phase of the Scheme has the potential to affect the settings of five designated heritage assets and
2.10.114	In some instances, field studies may include investigative work (and may include trial trenching beyond the boundary of the proposed site) to assess the impacts of any ground disturbance, such as proposed cabling, substation foundations or mounting supports for solar panels on archaeological assets.	
2.10.115	The extent of investigative work should be proportionate to the sensitivity of, and extent of, proposed ground disturbance in the associated study area.	
2.10.116	Applicants should take account of the results of historic environment assessments in their design proposal	
2.10.117	Applicants should consider what steps can be taken to ensure heritage assets are conserved	

	in a manner appropriate to their significance, including the impact of proposals on views important to their setting.	three non-designated built heritage assets and one Area of Special Historic Landscape Interest. Such effects would result in harm to the significance of these assets, leading to Less than Substantial Residual Harm at the lower end of the spectrum in relation to the designated assets and Minor Residual Harm in relation to the non-designated assets. <u>Decommissioning Phase</u> The decommissioning phase of the Scheme has the potential to affect the settings of four designated heritage assets and three non-designated built heritage assets and one Area of Special Historic Landscape Interest. Such effects would result in harm to the significance of these assets, leading to Less than Substantial Residual Harm at the lower end of the spectrum in relation to the designated assets and Minor Residual Harm in relation to the non-designated assets. <u>Mitigation and Enhancement</u> Designed mitigation in relation to built heritage assets has been agreed and will entail a combination of screening through appropriate boundary treatments and offsets to
2.10.118	As the significance of a heritage asset derives not only from its physical presence but also from its setting, careful consideration should be given to the impact of large-scale solar farms which depending on their scale, design, and prominence, may cause substantial harm to the significance of the asset	
2.10.119	Applicants may need to include visualisations to demonstrate the effects of a proposed solar farm on the setting of heritage assets.	

		retain suitable margins around/or views from the assets to minimise the adverse effects upon their settings. Opportunities to minimise adverse effects upon the buried archaeological resource have also been considered. Site investigation work has determined that some areas of the Site, such as the Romano-British settlement (MLS901) within Land Parcel E, will have no intrusive construction to enable *in situ* preservation of the archaeological remains in this area. It is envisaged that buried remains may be able to be preserved in situ in some parts of the Order Limits through the use of ballast foundations. A proportionate programme of archaeological survey and mitigation, by means of field investigation and recording, will be followed by an appropriate and proportionate mitigation strategy that will ensure that they are subject to preservation by record at an appropriate stage in the development process. The appropriate and proportionate additional mitigation, to be determined in consultation with the archaeological advisors, is secured as requirement set out in the draft **DCO [Document Reference 3.1 Revision 10]**. This will partially offset their loss through the knowledge gained through the

		investigations. For the archaeological remains the mitigation may include, as appropriate, excavation, strip map and sample investigation, or archaeological monitoring of ground works during construction (known as a watching brief), with appropriate post-excavation analysis and dissemination of results.
2.10.120	Modern solar farms are large sites that are mainly comprised of small structures that can be transported separately and constructed on-site, with developers designating a compound on-site for the delivery and assemblage of the necessary components.	**ES Volume 2, Chapter 12: Transport and Access [REP6-012]** assesses the impact of the Scheme on traffic and transport and is supported by **ES Volume 4, Appendix 12.1: Transport Statement [APP-111]**. The nature of the Scheme is such that the greatest traffic and transport impacts are likely to occur during both the construction and decommissioning phases. This is acknowledged in paragraph 2.10.161 of the NPS EN-3 which confirms that once solar farms are in operation, traffic movements to and from the Scheme are generally 'very light'. Mitigation measures that have been embedded into the design of the Scheme in the form of an **Outline**
2.10.121	Many solar farms will be sited in areas served by a minor road network. Public perception of the construction phase of solar farms will derive mainly from the effects of traffic movements, which is likely to involve smaller vehicles than typical onshore energy infrastructure but may be more voluminous.	

2.10.122	Generic traffic and transport impacts are covered Section 5.14 of EN-1.	**Construction Traffic Management Plan [REP6-038, REP6-040 and REP6-042]** to reduce the impacts of the construction phase. The document includes a range of management and mitigation measures to reduce the impacts of the construction phase. The **ES Volume 2, Chapter 12: Transport and Access [REP6-012]** concludes that following the application of mitigation measures, the potential for adverse traffic and transport related effects during the construction, operational and decommissioning phases arising from the Scheme would not be significant.
2.10.123	Applicants should assess the various potential routes to the site for delivery of materials and components where the source of the materials is known at the time of the application, and select the route that is the most appropriate	
2.10.124	Where the exact location of the source of construction materials, such as crushed stone or concrete is not be known at the time of the application, applicants should assess the worst-case impact of additional vehicles on the likely potential routes.	
2.10.125	Applicants should ensure all sections of roads and bridges on the proposed delivery route can accommodate the weight and volume of the loads and width of vehicles. Although unlikely, where modifications to roads and/or bridges	

	are required, these should be identified, and potential effects addressed in the ES	
2.10.126	Where a cumulative impact is likely because multiple energy infrastructure developments are proposing to use a common port and/or access route and pass through the same towns and villages, applicants should include a cumulative transport assessment as part of the ES. This should consider the impacts of abnormal traffic movements relating to the project in question in combination with those from any other relevant development. Consultation with the relevant local highways authorities is likely to be necessary.	**ES Chapter 17 Cumulative Impacts [REP6-016]** considers the assessment of cumulative effects and has considered the potential for effects from other developments in the area to combine with and intensify effects caused by the Scheme. This includes consideration of traffic and transport effects.
2.10.127	The Defra Construction code of practice for the sustainable use of soils on construction sites provides guidance on ensuring that damage to soil during construction is mitigated and minimised. Mitigation measures focus on minimising damage to soil that remains in place, and minimising damage to soil being excavated and stockpiled. The measures aim to	A Soil Management Plan will be implemented to minimise damage to soils and ensure that any damage is ameliorated. The restoring of arable soils with grassland for the duration of the operation phase will produce benefits for the soil resource. The Soil Management Plan will need to be in accordance with the measures set out in the **Outline Soil Management Plan [REP2-078].**

	preserve soil health and soil structure to minimise soil carbon loss and maintain water infiltration and soil biodiversity. Mitigation measures for agricultural soils include use of green cover, multispecies cover crops - especially during the winter minimising compaction and adding soil organic matter.	
2.10.128	In England, proposed enhancements should take account of the above factors and as set out in Sections 4.6 and 5.4 of EN-1 aim to achieve environmental and biodiversity net gain in line with the ambition set out in the Environmental Improvement Plan and any relevant measures and targets, including statutory targets set under the Environment Act or elsewhere	The Scheme would provide a number of environmental and ecological enhancements and has been designed to avoid key nature conservation and ecological features present within or adjacent to the Order Limits. These measures are set out in the **ES Appendix 7.12 Biodiversity Net Gain [APP-0722]** and **Outline Landscape and Ecological Management Plan [REP6-036].** These demonstrate that the Scheme has potential to achieve biodiversity net gain of at least 10%. The Outline LEMP includes provisions for ecological monitoring during the lifetime of the Scheme.
2.10.129	This might include maintaining or extending existing habitats and potentially creating new important habitats, for example by installing cultivated strips/plots for rare arable plants,	

	rough grassland margins, bumble bee plant mixes, and wild bird seed mixes.	
2.10.130	Applicants are advised to develop an ecological monitoring programme to monitor impacts upon the flora of the site and upon any particular ecological receptors (such as bats and wintering birds). Results of the monitoring will then inform any changes needed to the land management of the site, including, if appropriate, any livestock grazing regime	
2.10.131	Applicants should consider the potential to mitigate landscape and visual impacts through, for example, screening with native hedges, trees and woodlands.	While the appearance of solar PV is largely set by its function, the site layout, landscaping and access design have all been designed to reflect good design principles. **ES Chapter 6 Landscape and Visual [REP4-021]** sets out how the primary mitigation adopted in relation to landscape and visual matters is that which has been embedded within the design of the Scheme and comprises the consideration given to avoiding and reducing landscape and visual effects during the evolution of the Scheme layout. This is sometimes referred to as 'mitigation by design'. This has included the location and offsetting of key elements of the
2.10.132	Applicants should aim to minimise the use and height of security fencing. Where possible applicants should utilise existing features, such as hedges or landscaping, to assist in site security, or screen security fencing.	

		Scheme in response to the identification of potential visual receptors and the protection of existing landscape elements such as existing trees and hedgerows during the construction period, further details on which are set out in **ES Appendix 6.6 - Arboricultural Impact Assessment [APP-070]** In addition, a series of landscape and ecological mitigation and enhancement measures are included as part of the Scheme, each of which has been developed collaboratively alongside the project Ecologists as set out below and illustrated on **ES Figure 6.4 Landscape and Visual Mitigation Strategy, (Landscape Masterplan). [REP3-032].** These are also considered to form embedded mitigation which would be implemented as part of the Scheme. Further details of the benefits of the proposed measures for biodiversity are discussed separately in the **ES Chapter 7 Ecology and Nature Conservation [REP5-013REP2-027REP5-012].**
2.10.133	Applicants should minimise the use of security lighting. Any lighting should utilise a passive infra-red (PIR) technology and should be	Areas of solar PV panels will not require artificial lighting other than during temporary periods of maintenance/repair. Pole mounted internal facing closed circuit television (CCTV) systems are proposed around

	designed and installed in a manner which minimises impact.	the perimeter of the operational areas of the Solar PV Site. These will not require lighting and will use infrared technology at night. Infrared sensor triggered security lighting would be required around key electrical infrastructure during all phases of development. Downward facing lighting will be attached to buildings or on columns 3m high in the BESS Compounds and substations compounds. No part of the Scheme would be continuously lit and any lighting would be directed downwards.
2.10.137	The ability of the applicants to microsite specific elements of the proposed development during the construction phase should be an important consideration by the Secretary of State when assessing the risk of damage to archaeology	The Applicant wishes to retain flexibility regarding the design detail of certain components of the Scheme. The extent of flexibility is described in **ES Chapter 2: Scheme Description [APP-039] and ES Chapter 3 Site Description, Site Selection and Iterative Design Process [REP2-019].**
2.10.138	Where requested by the applicant, the Secretary of State should consider granting consents which allow for the micrositing within a specified tolerance of elements of the permitted infrastructure, so that precise locations can be amended during the	

	construction phase if unforeseen circumstances, such as the discovery of previously unknown archaeology, arise.	
2.10.139	In some cases, the local highway authority may request that the Secretary of State impose controls on the number of vehicle movements to and from the solar farm site in a specified period during its construction and, possibly, on the routeing of such movements particularly by heavy vehicles.	**ES Volume 2, Chapter 12: Transport and Access [REP6-012]** assesses the impact of the Scheme on traffic and transport and is supported by **ES Volume 4, Appendix 12.1: Transport Statement [APP-111]**. The nature of the Scheme is such that the greatest traffic and transport impacts are likely to occur during both the construction and decommissioning phases. This is acknowledged in paragraph 2.10.161 of the NPS EN-3 which confirms that once solar farms are in operation, traffic movements to and from the Scheme are generally 'very light'. Mitigation measures that have been embedded into the design of the Scheme in the form of an **Outline Construction Traffic Management Plan [REP6-038, REP6-040 and REP6-042]** to reduce the impacts of the construction phase. The document includes a range of management and mitigation measures to reduce the impacts of the construction phase. The **ES Volume 2,**
2.10.140	Where the Secretary of State agrees that this is necessary, requirements could be imposed on development consent.	
2.10.141	Where cumulative effects on the local road network or residential amenity are predicted from multiple solar farm developments, it may be appropriate for applicants for various projects to work together to ensure that the number of abnormal loads and deliveries are minimised, and the timings of deliveries are managed and coordinated to ensure that	

	disruption to residents and other highway users is reasonably minimised	**Chapter 12: Transport and Access [REP6-012**concludes that following the application of mitigation measures, the potential for adverse traffic and transport related effects during the construction, operational and decommissioning phases arising from the Scheme would not be significant. The **Outline Construction Traffic Management Plan [REP6-038, REP6-040 and REP6-042]** sets out full extent of the access routes necessary for operation and maintenance and this is assessed within the **Chapter 12: Transport and Access [REP6-012].** The majority of the access points relate to existing agricultural accesses that will require upgrading. Five new access points will be required. Details of the accesses are provided in the **Outline Construction Traffic Management Plan (Outline CTMP) [REP6-038, REP6-040 and REP6-042]** and **ES Chapter 12: Transport and Access [REP6-012].**
2.10.142	It may also be appropriate for the highway authority to set limits for, and coordinate these deliveries through, active management of the delivery schedules through the abnormal load approval process.	
2.10.143	Once consent for a scheme has been granted, applicants should liaise with the relevant local highway authority (or other coordinating body) regarding the start of construction and the broad timing of deliveries. Applicants may need to agree a planning obligation to secure appropriate measures, including restoration of roads and verges.	
2.10.144	Further, it may be appropriate for any non-permanent highway improvements carried out for the development (such as temporary road widening) to be made available for use by other subsequent solar farm developments.	

2.10.145	The Secretary of State should take into account the economic and other benefits of the best and most versatile agricultural land. The Secretary of State should ensure that the applicant has put forward appropriate mitigation measures to minimise impacts on soils or soil resources.	The chapter which considers the likely significant effects of the Scheme on farm economics and on the products they provide in terms of food, non-food and environmental benefits is presented within the **ES Volume 2, Chapter 15 Agricultural Circumstances [REP3-022] and accompanying ES Appendix 15.2 Farm Reports [APP-121].** The assessment of effects on farm businesses has been undertaken following interviews with land owners or occupiers, and field walking of much of the land within Parcels A to E. Farm impact reports are set out in **Appendix 15.2 Farm Report [APP-121]**. Much of the land is owner-occupied, meaning that the land owner is also the farmer. Landowners would not have entered into land agreements unless they had concluded that there would not be significant adverse effects on the operation of their businesses. Some of the land is occupied by tenant farmers, although none is occupied by secure tenants. Where land is occupied by tenants it is mostly on short term, word-of-mouth arrangement with neighbours occupying small

		parcels of land, or periodic crop agreements (e.g. for potatoes). The breakdown of agricultural land use in a particular area can be recorded, but there are no powers or incentives to influence that land use. On a national and regional basis the implications of the use of BMV in this case for solar PV arrays and potential sheep production, rather than for arable crop production, is negligible. Assuming that solar deployment needs to take place on agricultural land, the incremental difference is the reduction in production of circa 1,000 tonnes of cereals can be compared to the UK cereal production in 2024 of just under 20 million tonnes. In respect of food production, the impact is temporary and of low magnitude. A low magnitude impact on a resource of low sensitivity (arable production) results in an effect of negligible significance, which is not significant. In respect of the local agricultural economy, the impact is beneficial, but at a negligible scale. A negligible benefit on a low sensitivity resource is overall a negligible effect, which is not significant. Appropriate soil management is considered to be embedded mitigation. Therefore the assessment assumes

		that an appropriate level of soil management, especially in respect of timing of land work operations, is part of the Scheme. The **Outline Soil Management Plan [REP2-078]**, which will help inform a SMP to be controlled by the DCO, is part of the methodology for construction, operation and decommissioning of the Scheme. No mitigation measures beyond those set out in the **Outline Soil Management Plan [REP2-078]** are required.
2.10.146	The Secretary of State should ensure that the applicant has put forward outline plans for decommissioning the generating station when no longer in use and restoring the land to a suitable use (taking into account paragraphs 2.10.68 and 2.10.69).	A Decommissioning Environmental Management Plan would be secured pursuant to the DCO as a requirement, and in accordance with the **Outline Decommissioning Environmental Management Plan [REP4-051]** submitted in support of the DCO application. The **Outline Decommissioning Environmental Management Plan** sets out how waste would be managed and detail opportunities for re-use and recycling during the decommissioning phase of the Scheme.
2.10.147	Where the consent for a solar farm is to be time-limited, the DCO should impose a requirement setting that time-limit from the	As detailed in **ES Chapter 2 Scheme Description [APP-039], a fully operational lifespan of 40 years is proposed**.

	date the solar farm starts to generate electricity	Following 40 years of a fully operational Scheme, it is proposed that the Scheme will be decommissioned. This decommissioning with take approximately 24 months and will be in a phased approach. The process of decommissioning would involve the removal of all solar infrastructure, including the solar PV modules and on-site supporting equipment, to be recycled or disposed of in accordance with industry best practices at that time. It is anticipated at this stage that underground cabling would be left in-situ to avoid unnecessary ground disturbance. Any proposals to leave certain infrastructure, for example access tracks, would be discussed and agreed with landowners as part of the decommissioning process. Temporary diversion of the PRoW traversing the Order Limits may also take place during decommissioning. The effects of decommissioning are often similar to, or to a lesser magnitude than, the construction effects. However, there can be a high degree of uncertainty regarding decommissioning as engineering approaches and technologies evolve over the operational life of the Scheme. Furthermore, at the time that decommissioning would take place, the regulatory framework, good
2.10.148	Such a requirement should also secure the decommissioning of the generating station after the expiration of its permitted operation to ensure that inoperative plant is removed after its operational life.	
2.10.149	An upper limit of 40 years is typical, although applicants may seek consent without a time period or for differing time-periods for operation	
2.10.150	The time limited nature of the solar farm, where a time limit is sought as a condition of consent, is likely to be an important consideration for the Secretary of State.	
2.10.151	The Secretary of State should consider the period of time the applicant is seeking to operate the generating station, as well as the extent to which the site will return to its original	

	state, when assessing impacts such as landscape and visual effects and potential effects on the settings of heritage assets and nationally designated landscapes	industry practices and the future baseline could have altered. . A Decommissioning Environmental Management Plan will be secured by requirement**.** This will need to be in accordance with the measures set out in the **Outline Decommissioning Environmental Management Plan [REP4-051]**
2.10.154	Water management is a critical component of site design for ground mount solar plants. Where previous management of the site has involved intensive agricultural practice, solar sites can deliver significant ecosystem services value in the form of drainage, flood attenuation, natural wetland habitat, and water quality management.	**ES Volume 1, Chapter 10: Water Resources Other [REP2-021]** identifies the potential impacts on the water environment from the construction, operation and decommissioning of the Scheme. The water environment includes surface waterbodies (e.g. rivers, streams, ditches, canals, lakes and ponds, etc.), groundwater bodies, as well as flood risk and drainage. The ES is supported by **ES Volume 3, Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016] and ES Volume 3, Appendix 10.2: Water Framework Directive Assessment [APP-110]**. The likely effects of the Scheme associated with flood risk have been assessed in **ES Volume 3, Appendix 10.1: Flood Risk Assessment [REP5-014 and REP5-016]**. The FRA concludes that the Scheme will be safe from all forms of

		flooding and will provide a betterment in terms of downstream flood risk and pollution.
2.10.156	Where developments are proposed on peat, to ensure the development will result in minimal disruption to the ecology, or release of CO2, and that the carbon balance savings of the scheme are maximised, the Secretary of State should be satisfied that the solar farm layout and construction methods have been designed to minimise soil disturbance during construction and maintenance of roads, tracks, and other infrastructure and in England should take into account the policies set out in the England Peat Action Plan 2021. Where developments are located in Wales, the Secretary of State may take into account the policies set out in the National Peatlands Action Programme, 2020-2025 (cyfoethnaturiol.cymru) and Future Wales the National Plan 2040 - Policy 18.	**The ES Chapter 9 Ground Conditions [REP3-018**provides an assessment on peat ,it identifies that the Order Limits is underlain by thick sequences of complex superficial deposits including former lake laminated silt/clay deposits, sands and gravels and infill sediments to deep glacial period channels. Thick alluvial clay and silt blankets these and overlap marginal peat deposits. The old rivers have been historically diverted and artificial alluvium (floodwarp) deposited to provide better draining agricultural soils. Surface soils are loamy or clayey, slowly to moderately permeable, or relatively impermeable and seasonally wet with impeded drainage. This helps maintain a naturally high groundwater table. There are no bog peat soils mapped. Peat soils were formerly more extensive, but peat cutting, drainage, ploughing and flood warping has lowered and compacted the relatively thin surface peats, such that they are classed as 'wasted' within the Draft Order Limits area. Parts of the western and eastern areas are included

		in Minerals Safeguarding Areas for sands and gravels, although these do not include any operational extraction sites, consented, proposed or search areas within the current Local Plans. Peat working is not specifically mapped but has likely occurred historically, with peat works beyond the boundaries. Permeable alluvial superficial deposits typically form a Secondary A Aquifer, whilst the peat and laminated silt/clay deposits are Unproductive. Sherwood Sandstone at depth forms a Principal Bedrock Aquifer. Where peaty soils are present, these are classed as 'wasted' due to prolonged drainage and agriculture. The limited degree of disturbance caused by array piles is unlikely to create any further enhanced drainage or wasting due to the installation. Groundwater within the deeper organic deposits beneath the pin piles would be unaffected. Peat stability will be assessed during detailed design at any specific locations where existing geological data or intrusive investigation indicates a sufficient peat thickness would be intersected by the proposed construction, such as at new accesses, tracks or where structures are proposed. Critical areas will be identified and protocols for groundworks activities in these areas developed. The requirement to

		minimise disturbance of peat soils during construction and maintenance in order to minimise release of carbon dioxide and maximise the carbon balance savings of the Scheme is considered in **ES Chapter 14 Air Quality [REP2-025]**.
2.10.157	The Secretary of State will consider the landscape and visual impact of any proposed solar PV farm, taking account of any sensitive visual receptors, and the effect of the development on landscape character, together with the possible cumulative effect with any existing or proposed development. Nationally designated landscapes (National Parks, The Broads and Areas of Outstanding Beauty) are afforded extra protection due their statutory purpose. Development in these areas needs to satisfy policy as set out in EN-1 Section 5.10.	An assessment of likely significant effects is provided in **ES Chapter 6: Landscape and Visual [REP4-021]**. The Scheme would not affect a National Park, The Broads or National Landscapes. The **ES Chapter 6: Landscape and Visual [REP4-021]** has concluded that the Scheme will result in some significant adverse effects are identified (to ground cover and the landscape character of the site and immediate surroundings during construction and at operation to the landscape character of the site and immediate surroundings, some residential receptors, some users of the public rights of way network and canal corridor and some users of the transport network), but these are highly localised and limited in nature, with many of the effects reduced by Year 15 following implementation of the landscape mitigation planting. Indeed, this planting would result in significant beneficial effects in terms of the hedgerow network within the Scheme

2.10.158	Solar PV panels are designed to absorb, not reflect, irradiation. However, the Secretary of State should assess the potential impact of glint and glare on nearby homes, motorists, public rights of way, and aviation infrastructure (including aircraft departure and arrival flight paths).	**ES Chapter 6: Landscape and Visual [REP4-021]** confirms that where individual properties, particularly on the edges of the settlements may be subject to potential significant visual effects an RVAA has been undertaken to consider these which may include properties located within or on the edge of other settlements within 500m of the Scheme. The assessment is provided at **ES Appendix 6.7 - Residential Visual Amenity Assessment [REP4-027].** Turning to glint and glare**,** for layout option 1, the modelling has shown that solar reflections are geometrically possible towards 281 of the 405 assessed dwelling locations. Of the 281 properties, no impacts are predicted on 134 dwellings because there is significant existing screening such that views of reflecting panels are not expected to be possible in practice. Mitigation is not required. A low effect is predicted on the remaining 140 dwellings under baseline conditions, either because the duration of effects received in practice on the ground floor is expected to be reduced to less than three months per year and less than 60 minutes per any one day, or there are mitigating factors such as a significant separation distance to the closest reflecting panels and effects occurring within a few hours of

		sunrise/sunset when the Sun is low in the sky. Proposed vegetation planting is expected to screen panels from the ground floor once sufficiently matured, such that views of reflecting panels are not expected to be possible in practice, and therefore low or no impact with mitigation in place. Overall, no significant effects are predicted on dwelling receptors if layout option 1 is pursued. For layout option 2, the modelling has shown that solar reflections are geometrically possible towards 327 of the 459 assessed dwelling locations. Of the 327 dwellings, no impacts are predicted on 182 dwellings because there is significant existing screening such that views of reflecting panels are not expected to be possible in practice. Mitigation is not required. A low effect is predicted on the remaining 139 dwellings under baseline conditions, either because the duration of effects received in practice on the ground floor is expected to be reduced to less than three months per year and less than 60 minutes per any one day, or there are mitigating factors such as a significant separation distance to the closest reflecting panels and effects occurring within a few hours of sunrise/sunset when the Sun is low in the sky. Proposed vegetation planting is expected to screen panels from the ground floor once

		sufficiently matured, such that views of reflecting panels are not expected to be possible in practice, and therefore low or no impact with mitigation in place. Overall, no significant effects are predicted on dwelling receptors if layout option 2 is pursued. Therefore, the potential effects of glint and glare upon dwellings are considered acceptable with regard to paragraph 2.10.158 of NPS EN-3.
2.10.159	Whilst there is some evidence that glint and glare from solar farms can be experienced by pilots and air traffic controllers in certain conditions, there is no evidence that glint and glare from solar farms results in significant impairment on aircraft safety. Therefore, unless a significant impairment can be demonstrated, the Secretary of State is unlikely to give any more than limited weight to claims of aviation interference because of glint and glare from solar farms.	A Glint and Glare Assessment are presented as standalone report submitted as a technical appendices to **ES Chapter 16 Other Environmental Topics [REP2-027]**, namely **ES Appendix 16.1 & 6.2– Glint and Glare Assessment [APP-122 & REP1-025]**. **ES Chapter 16 Other Environmental Topics [REP2-027]** which conclude that with regards to the Sandtoft airfield, when runway is approach from the south west (runway 05), Solar reflections originating from outside of a pilot's primary field-of-view are predicted towards the 1-mile splayed approaches towards Runway 05. A low impact is predicted in accordance with the associated guidance and industry best practice. Mitigation is not

		recommended. When the runway is approached from the north east direction (runway 23), solar reflections with a maximum intensity of 'low potential for temporary after-image' (green glare) are predicted towards the 1-mile splayed approaches towards Runway 23, originating from panel areas within a pilot's primary field-of-view. Considering the associated guidance and industry best practice pertaining to approach paths at licensed aerodromes, which states that this level of glare is acceptable, it can be reliably concluded that this glare is acceptable. A low impact is predicted, and mitigation is not recommended. With regards to the standardised circular flight path followed by aircraft during takeoffs and landings, solar reflections with a maximum intensity of 'potential for temporary after-image' are predicted towards sections of visual circuits at Sandtoft Airfield, originating from panel areas within a pilot's primary field-of-view (50 degrees horizontally either side of the direction of travel). Pager Power generally recommends a pragmatic approach whereby instances of 'yellow' glare are evaluated in a technical and operational context.

		Considering the glare scenario (presented in Section 7.7.4), it is considered that this glare could be accommodated without significant changes to the operational activity of the airfield. The operational measures pilots use to mitigate the effects of direct sunlight can all be used to mitigate the effects of direct solar reflections from the solar panels given the operations at this unlicensed airfield. These mitigation measures include, wearing sunglasses; using darkened cockpit sun visors to reduce the intensity of the sun; overflying the airfield and inspecting the runway prior to landing; Landing in the opposite direction if wind conditions allow; and, aborting their landing if uncertain that it is to be successful (known as a missed approach or a go-around).
2.10.160	Solar farms are generally consented on the basis that they will be time-limited in operation. The Secretary of State should therefore consider the length of time for which consent is sought when considering the impacts of any indirect effect on the historic	As detailed in **ES Chapter 2 Scheme Description [APP-039], a fully operational lifespan of 40 years is proposed**. Following 40 years of a fully operational Scheme, it is proposed that the Scheme will be decommissioned. This decommissioning with take approximately 24 months

	environment, such as effects on the setting of designated heritage assets.	and will be in a phased approach. The process of decommissioning would involve the removal of all solar infrastructure, including the solar PV modules and on-site supporting equipment, to be recycled or disposed of in accordance with industry best practices at that time. It is anticipated at this stage that underground cabling would be left in-situ to avoid unnecessary ground disturbance. Any proposals to leave certain infrastructure, for example access tracks, would be discussed and agreed with landowners as part of the decommissioning process. Temporary diversion of the PRoW traversing the Order Limits may also take place during decommissioning. The effects of decommissioning are often similar to, or to a lesser magnitude than, the construction effects. However, there can be a high degree of uncertainty regarding decommissioning as engineering approaches and technologies evolve over the operational life of the Scheme. Furthermore, at the time that decommissioning would take place, the regulatory framework, good industry practices and the future baseline could have altered. A Decommissioning Environmental Management Plan will be secured by requirement**.** This will need to be

		in accordance with the measures set out in the **Outline Decommissioning Environmental Management Plan [REP4-051]**
2.10.161	Once solar farms are in operation, traffic movements to and from the site are generally very light, in some instances as little as a few visits each month by a light commercial vehicle or car. Should there be a need to replace machine components, this may generate heavier commercial vehicle movements, but these are likely to be infrequent.	The **ES Chapter 2 Scheme Description [APP-039]** confirms that during the operational phase, the activities within the Order Limits would amount to servicing and maintenance of plant and equipment associated with the Scheme, including delivery of spare parts and replacement equipment items, repair or replacement of solar PV modules, inverters, transformers, substation compound, vegetation and biodiversity management.
2.10.162	The Secretary of State is unlikely to give any more than limited weight to traffic and transport noise and vibration impacts from the operational phase of a project.	

4 Overarching National Policy Statement for Energy (EN-5)

4.1. Introduction

4.1.1. The following provides the Applicant's position regarding the relevant policies set out in National Policy Statement for Electricity Networks Infrastructure (NPS EN-5).

NPS Para	NPS Relevant Detail	Applicant assessment and scheme compliance
National Policy Statement for Electricity Networks Infrastructure (NPS EN-5)		
1.1.5	As identified in EN-1, government has concluded that there is a critical national priority (CNP) for the provision of nationally significant low carbon infrastructure. This includes: for electricity grid infrastructure, all power lines in scope of EN-5 including network reinforcement and upgrade works, and associated infrastructure such as substations. This is not limited to those associated specifically with a particular generation technology, as all new grid projects will contribute towards greater efficiency in constructing, operating and connecting low carbon	Section 3 of the **Planning Statement [Document Reference 5.5 Revision 3]** explains how the Scheme is a substantial infrastructure asset which will deliver large amounts of cheap, secure and low-carbon electricity both during and beyond the critical 2020s and 2030s timeframe. Maximising the capacity of generation in the resource-rich, well-connected and technically deliverable proposed location for the Scheme, represents a significant and economically rational step forwards in the fight against the global climate emergency.

	infrastructure to the National Electricity Transmission System. These are viewed by the government as being CNP infrastructure and should be progressed as quickly as possible.	
2.2.1	The Secretary of State should bear in mind that the initiating and terminating points – or development zone – of new electricity networks infrastructure is not substantially within the control of the applicant.	There is limited information that can be included at this stage regarding the point of connection to the NGET 400kV substation and 400kV export connection cable. The Environmental Statement submitted with the DCO Application includes a description of the works involved in the provision of a 400kV export connection cable within the Order Limits. Due to the limited information available at this stage regarding the route the 400kV export connection cable will take beyond the Order Limits, an assessment of the part of the 400kV export connection cable beyond the Order Limits and the NGET 400kV substation itself is not possible as part of the application. Requirement 12 included in the Applicant's draft DCO ensures there only works which have been assessed are proposed to be consented by way of this application for development consent.
2.2.5	Additionally, applicants retain control in managing the identification of routing and site selection between the identified initiating and terminating points or within the development zone.	
2.2.8	There will usually be a degree of flexibility in the location of the development's associated substations, and applicants should consider carefully their location, as well as their design.	

2.3.2	As climate change is likely to increase risks to the resilience of some of this infrastructure, from flooding for example, or in situations where it is located near the coast or an estuary or is underground, applicants should in particular set out to what extent the proposed development is expected to be vulnerable, and, as appropriate, how it has been designed to be resilient to: • flooding, particularly for substations that are vital to the network; and especially in light of changes to groundwater levels resulting from climate change; • the effects of wind and storms on overhead lines; • higher average temperatures leading to increased transmission losses; • earth movement or subsidence caused by flooding or drought (for underground cables); and • coastal erosion – for the landfall of offshore transmission cables and their associated substations in the inshore and coastal locations respectively.	The Climate Change Adaptation and Resilience Assessment [Document Reference 6.3.16.4] considers the direct and indirect effects of the Scheme on flooding, storms, major accidents and disasters and climate change. These have been considered in the design, construction, operation and decommissioning of the Scheme. Details of climate change adaptation measures are set out within the relevant aspect chapters of the ES, including **ES Chapter 10 Water Resources [REP2-021].** The resilience of the Scheme to climate change has also been assessed in **Climate Change Adaptation and Resilience Assessment** [**APP-125**]. Four key climate hazards have been identified, these being: (i) hotter summers with extreme temperatures (heatwaves); (ii) wetter winters including extreme rainfall (pluvial and groundwater flooding); (iii) drier summers and drought; and (iv) increased wind and storms The assessment considers the recommendations in the IEMA Guide to Climate Change Resilience and Adaptation (2020) and was adapted to ensure the
2.3.3	Section 4.10 of EN-1 advises that the resilience of the project to the effects of climate change must be assessed in the Environmental Statement (ES) accompanying an application. For example, future increased risk of flooding would be covered in any	

	flood risk assessment (see Sections 5.8 in EN-1). Consideration should also be given to coastal change (see sections 5.6 in EN1).	assessment was proportionate to the Scheme. It utilised the most up-to-date published projections of climate change for the UK, and adopted a precautionary approach whereby a high-emissions scenario was selected (as suggested by IEMA). Resilience and adaptation measures have been embedded into the design of the Scheme and are detailed across the DCO Application documentation. Further measures will be developed within the detailed production of the CEMP, DEMP, LEMP and OEMP documents, which will be in accordance with the Outline versions of those plans which are included in the DCO Application. The assessment has identified that there are no significant effects in relation to climate change resilience during construction, operation, or decommissioning.
2.7.1	EN-1 explains in Section 4.10 that the Planning Act 2008 aims to create a holistic planning regime, such that the cumulative effects of the same project can be considered together. Co-ordinated applications	

	typically bring economic efficiencies and reduced environmental impact.	
2.7.2	Accordingly, the government envisages that, wherever reasonably possible, applications for new generating stations and their related infrastructure should be contained in a single application to the Secretary of State. However, a consolidated approach of this kind may not always be possible, nor represent the most efficient strategy for delivery of new infrastructure.	The Applicant's position on consenting of the 400kV export connection cable outside of the Order Limits and the 400kV NGET Substation is set out in section 3 of the **Planning Statement [Document Reference 5.5 Revision 3]**
2.7.3	This could be, for example, due to the differing lengths of time needed to prepare the applications for submission to the Secretary of State, or because a network application relates to multiple generation projects (which could be onshore or offshore), or because the works involved are strategic reinforcements required for a number of reasons.	
2.7.4	It may also be the case that the networks infrastructure application and the application for a related generating station will of necessity come from	

	different legal entities, or from entities subject to different commercial and regulatory frameworks.	
2.7.5	It will also be common for applications to be submitted for the general purpose of reinforcing the network, which will be critical to deliver especially in light of the drive towards net zero, including the ambition for up to 50GW of offshore wind by 2030, and a CNP (see EN-3).	
2.8.4	The Secretary of State should also take into account that Transmission Owners (TOs) and Distribution Network Operators (DNOs) are required under Section 9 of the Electricity Act1989 to bring forward efficient and economical proposals in terms of network design.	
2.9.37	Audible noise effects can also arise from substation equipment such as transformers, quadrature boosters and mechanically switched capacitors.	**ES Chapter 13: Noise and Vibration [REP6-014]** has assessed the impacts of all components of the Scheme including the on-site substations. It is concluded that there will not be any significant impact on noise as a result of the Scheme.
2.9.38	Transformers are installed at many substations, and generate low frequency hum. Whether the noise can be heard outside a substation depends on a number of factors, including transformer type and the level of	

	noise attenuation present (either engineered intentionally or provided by other structures).	

5 GLOSSARY AND ACRONYMS

Term / Acronym	Description
132 kV Substation	The seven onsite substations that step up the voltage from 33kV to 132kV. They form part of the Scheme and will be delivered by the Applicant.
Access Tracks	The tracks within the Order Limits constructed to provide access around the Scheme.
AOD (Above Ordnance Datum)	Baseline standard for measuring height usually measured in metres AOD (mAOD).
Applicant	RWE Renewables UK Solar and Storage Limited.
Application	The Application for a Development Consent Order made to the Secretary of State under Section 37 of the 2008 Act in respect of the Authorised Development, required pursuant to Section 31 of the 2008 Act because the Authorised Development comprises an NSIP under Section 14(1)(a) and Section 15 of the 2008 Act by virtue of it comprising a generating station in England of 50 Megawatts electrical capacity or more. Application may be referred to as the 'DCO Application', and the terms are interchangeable.
Associated Development	Defined under s.115(2) of the 2008 Act as development which is associated with the principal development and that has a direct relationship with it. Associated Development should either support the construction or

Term / Acronym	Description
	operation of the principal development or help address its impacts. It should not be an aim in itself but should be subordinate to the principal development. In regard to this Application, 'Associated Development' in summary includes: enclosure and boundary treatment, site preparation and clearance works, security and monitoring infrastructure, landscaping and biodiversity measures including planting, drainage and irrigation works, utilities connection works, works to maintain and repair streets and access roads, signage and earthworks, works for the provision of security and monitoring measures, temporary footpath diversions, temporary storage of materials, drilling works, laying down and maintenance of internal access tracks, fencing, and construction of laydown areas. (this list is not exhaustive)
Baseline Conditions	Existing environmental conditions which are described in the Environmental Statement.
Battery Energy Storage Systems (BESS)	This comprises battery energy storage units, transformers, inverters, switchgear, power conversion systems, monitoring and control system, heating ventilation and air conditioning, electric cables and fire infrastructure to assist in providing peak generation and grid balancing services to the National Grid.
CCTV	Closed Circuit Television system, used as a security measure.
Construction Compound	A compound including offices, welfare facilities, accommodation facilities, storage and parking for construction of the authorised development and other associated facilities.

Term / Acronym	Description
Construction Phase	A period of up to 54 months in either a single, consecutive approach or through multiple stages to construct the Scheme. The construction programme is likely to begin in 2028 should the consent be granted.
Cumulative Effects	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.
Decommissioning Phase	A period of approximately 24 months within when the Scheme will be decommissioned, post the Operational Phase.
Design Parameters	The design parameters and principles and assessments set out in **Design Approach Document Appendix A: Parameters Document [REP3-014]].**
Development Consent Order (DCO)	A Development Consent Order made by the relevant Secretary of State pursuant to the 2008 Act to authorise an NSIP. A DCO does or can incorporate or remove the need for a range of consents which would otherwise be required for a development.
EIA (Environmental Impact Assessment)	Process for identifying the likely significance of environmental effects (beneficial or adverse) arising from a development, by comparing the existing environmental conditions prior to development (the baseline) with

Term / Acronym	Description
	the environmental conditions during/following the construction, operational and decommissioning phases of a development should it proceed.
EIA Regulations	Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended).
Environmental Statement	Document setting out the findings of an Environmental Impact Assessment.
Field Number	Each Land Parcel is made up of a number of referenced fields e.g. A1, B1 etc.
Fixed Solar PV Modules	Solar PV Tables that are mounted to fixed mounting structures that face south.
Geographical Information System (GIS)	A system designed to capture, store, manipulate, analyse, manage, and present spatial or geographic data.
Green Infrastructure (GI)	Network of green spaces and watercourses and water bodies that connect rural areas, villages, towns and cities.
Ground-mounted solar PV generating station	This comprises the solar PV modules and mounting structures.

Term / Acronym	Description
Hectare (ha)	Unit of measurement 100m x 100m, or 10,000m2
Hard Standing	Ground surfaced with a hard material suitable for supporting vehicular movement (e.g. tarmac, compacted gravel, concrete).
Heavy Goods Vehicle (HGV)	A commercial vehicle designed to transport goods and materials. In the UK, it's defined as any vehicle with a gross vehicle weight (GVW) exceeding 3,500 kg (3.5 tonnes). This includes a wide range of vehicles like lorries, articulated trucks, and specialized vehicles like fire engines and mobile cranes.
Horizontal Directional Drilling (HDD)	A construction technique whereby a tunnel is drilled under a waterway or other designated area, and a pipeline or other utility is pulled through the drilled underground tunnel.
In-combination effects	The cumulative effect of multiple environmental impacts arising from the Scheme on a specific location or resource that together give rise to greater impacts than the effects in isolation.
Indirect Effects	Effects that result indirectly from the Scheme as a consequence of the direct effects, often occurring away from the site, or as a result of a sequence of interrelationships or a complex pathway. They may be separated by distance or in time from the source of the effects.
Inverter	Electrical equipment required to convert direct current power generated by the solar panels to alternating current power.

Term / Acronym	Description
Iterative Design Process	The process by which the Scheme's design is amended and improved by successive stages of refinement which respond to growing understanding of environmental issues.
Land Parcels A to E	The Solar PV module areas and all associated infrastructure. The Land Parcels will be connected by a series of underground cables. Land Parcel are identified as follows: • Land Parcel A: Land to the east of Thorne and north of the Stainforth & Keadby Canal. • Land Parcel B: Land to the west of Crowle and north of the Stainforth & Keadby Canal • Land Parcel C: Land south of the Stainforth & Keadby Canal and north of the High Levels Bank (A18). • Land Parcel D: Land south of the High Levels Bank (A18) and north of the Hatfield Moors Nature Reserve. • Land Parcel E: Land south of the High Levels Bank (A18) and north of Sandtoft and the M180.
Magnitude (of effect)	A term that combines judgements about the size and scale of the effect, the extent of the area over which it occurs, whether it is reversible or irreversible and whether it is short or long term in duration.

Term / Acronym	Description
Mitigation	Measures including any process, activity, or design to avoid, reduce, or remedy for negative environmental impacts or effects of a development.
Module Mounting Structure	The structure that is fixed to the ground and onto which the Solar PV Modules are attached.
Monitoring	In EIA, 'monitoring' refers to the systematic and ongoing collection of data on the environmental and social effects of a project throughout its various phases (construction, operation and decommissioning).
National Planning Policy Framework (NPPF)	Document setting out the UK Government's planning policies for England and instruction on how they are expected to be applied. It serves as a framework for local plans to ensure sustainable development and provides guidance for planning decision-making. Latest version published in August 2026.
National Planning Practice Guidance (NPPG)	Online resource to support the implementation of the NPPF. The National Planning Practice Guidance provides context and practical details and is intended to be read alongside the NPPF, offering further explanation and guidance on how to apply the framework's principles in everyday planning practice. It replaces a large volume of previous planning guidance documents and is designed to be easily updated and readily accessible online.

Term / Acronym	Description
National Policy Statement	National Policy Statements are produced by government. They give reasons for the policy set out in the statement and must include an explanation of how the policy takes account of government policy relating to the mitigation of, and adaptation to, climate change. They comprise the government's objectives for the development of nationally significant infrastructure in a particular sector and state.
NGET 400kV Substation	The NGET 400kV substation that will facilitate the export and import of electricity from the Scheme.
Non-Technical Summary	A document that sets out an overview, in non-technical language, of the main findings of the ES.
NSIP	A Nationally Significant Infrastructure Project (NSIP) is a separate consenting route for major infrastructure projects in the fields of energy, transport, water, wastewater, and waste. NSIPs require development consent from the relevant Secretary of State rather than planning permission from the local planning authority.

Term / Acronym	Description
Onsite Cabling	33-400kV cabling, which transmits electricity from the Solar PV Modules to the 132 kv Substation(s) and RWE on-site 400kV Substation , located within the Scheme.
Order Limits	The limits of the land to which the Application for the DCO relates, within which the development must be carried out and which is required for its construction and operation. Order Limits may be referred to as the 'Site', and the terms are interchangeable.
Ordnance Survey	National mapping agency in the United Kingdom which covers the island of Great Britain.
Operational Phase	The period within which the Scheme is operational, following the Construction Phase and following connection and first export to the National Grid, no earlier than 2032.
Outline Battery Safety Management Plan (oBSMP)	A site or project specific plan identifying the measures required to avoid and reduce the risk of fire from battery energy storage systems within the Scheme, as well as how to effectively manage a fire should the event occur.
Outline Construction Environmental Management Plan (oCEMP)	A site or project specific plan designed to ensure best practice and/or appropriate environmental management practices are applied throughout the construction, operation and/or demolition phases of the Scheme.

Term / Acronym	Description
Outline Construction Traffic Management Plan (oCTMP)	A site or project specific plan detailing construction logistics, construction worker travel that includes information to guide the delivery of material, plant, equipment and staff during the construction phase.
Outline Decommissioning Environmental Management Plan (oDEMP)	A site or project specific plan developed to ensure that appropriate environmental management practices are followed during the decommissioning phase of the Scheme.
Outline Landscape and Ecology Management Plan (oLEMP)	A site or project specific plan setting out the landscape and ecological management actions for the Scheme, outlining how mitigation measures, identified within the Environmental Statement, will be delivered through future landscape works and management.
Outline Operational Environmental Management Plan (oOEMP)	A site or project specific plan setting out specific environmental management and monitoring during the operational phase of the Scheme.
Outline Soil Management Plan (oSMP)	A site or project specific plan identifying the importance and sensitivity of the soil resource at the Scheme and to provide specific guidance to ensure that there is no significant adverse effect on the soil resource as a result of the Scheme. Measures proposed will be considered prior to the commencement of construction works

Term / Acronym	Description
Outline Supply Chain, Employment and Skills Plan (oSCESP)	A site or project specific plan detailing the supply chain, employment, training and learning opportunities available during the construction and operational phase of the Scheme.
Planning Act 2008 (PA 2008)	A UK law that established a new regime for granting planning permission for major infrastructure projects (NSIPs).
Panel Areas	This comprises ground mounted solar photovoltaic (PV) generating station (solar PV modules and mounting structure), inverters, transformers and switchgear, and low voltage distribution cables, access tracks and ancillary infrastructure works.
Permissive Path	New recreational informal path that the landowner allows the public to use for the operational life of the Scheme.
Planning Inspectorate	The Planning Inspectorate deals with planning appeals, national infrastructure planning applications, examinations of local plans and other planning-related and specialist casework in England. DCO applications are handled by the Planning Inspectorate on behalf of the Secretary of State.
Preliminary Environmental Information Report (PEIR)	Preliminary Environmental Information is defined in the EIA Regulations as: 'information referred to in regulation 14(2) which – (a) has been compiled by the applicant; and

Term / Acronym	Description
	(b) is reasonably required for the consultation bodies to develop an informed view of the likely significant environmental effects of the development (and of any associated development). A Preliminary Environmental Information Report (PEIR) for the Scheme was produced in March 2025.
Public Right of Way (PRoW)	Footpath, bridleway or byways over which members of the public have a right to use.
PV String	A row of Solar PV Modules mounted onto the Mounted Structure that are connected to one another to form a PV string which is either connected to a string inverter or a central inverter.
PV Tables	Solar PV Modules mounted onto the Mounting Structure, forming tables, which are then set out in rows.
Receptor	A location, feature (ground, watercourse) or individual (person, plant, bird, animal etc) upon which the effects of a proposed development is assessed, i.e. the receiving environment.
Rochdale Envelope	An approach used in EIA that allows applicants to define a range of parameters within which the development can be built, allowing for flexibility while still ensuring a comprehensive assessment of potential environmental impacts. This is done by assessing the development as if it were operating at its maximum possible parameters, effectively creating a "worst-case scenario" for the EIA.
Residual effect	Those impacts that remain following the implementation of mitigation measures

Term / Acronym	Description
RWE onsite 400kV Substation	The 400kV substation that is proposed as part of the Scheme and will be built and operated by the Applicant, RWE.
Scheme	A NSIP for areas within the Order Limits that are proposed for the construction, operation, and decommissioning of a ground mounted solar photovoltaic (PV) electricity generation station with a capacity of over 50 Megawatts (MW) and associated development comprising of energy storage and grid connection infrastructure on land approximately 10 kilometres to the northeast of Doncaster and 14 kilometres to the west of Scunthorpe. The Scheme encompasses all areas within the Order Limits. Scheme may be referred to as the 'Tween Bridge Solar Farm', and the terms are interchangeable.
Scoping	The process of identifying the issues to be addressed by an EIA. It is a method of ensuring that an EIA focuses on the important issues and avoids those that are considered to be less significant.
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.
Significance	A measure of the importance or gravity of the environmental effect, defined by significance criteria specific to the environmental topic.
Solar PV Modules	A panel comprising a grouping of photovoltaic cells connected to each other and set within a single physical frame. The PV Panel is attached to a Mounting Structure.

Term / Acronym	Description
	Solar PV Modules may be referred to as 'PV Module' or 'Solar Panels', and the terms are interchangeable.
Stakeholder	Stakeholders are individuals, groups, or organisations that have an interest or influence in, or are affected by, a proposed project or activity.
Study Area	The area in which a particular assessment or survey targets. The study area will vary depending on the nature of the technical assessment work and individual ES Environmental Aspect Chapters will determine their methodologies the study area spatial extents.
Switchgear	Switchgear are the combination of electrical disconnect switches, fuses or circuit breakers used to control, protect and isolate electrical equipment.
Temporal Scope	In EIA, 'temporal scope' refers to the timeframe during which potential environmental impacts of a project are assessed during the various phases (construction, operation and decommissioning).
Tracker Solar PV Modules	Rotates Solar PV Tables on a single axis to follow the sun's path across the sky, typically from east to west, throughout the day.

Term / Acronym	Description
Transformers	Transformers control the voltage of the electricity generated across the Scheme before it reaches the primary onsite substations
Works Plan	The plans submitted with the Application known as the **Works Plans [APP-009]** and which delineate the work areas for the Scheme.
Zone of Influence (ZoI)	The area for the assessment of combined effects. Zones of Influence (ZoIs) are variable depending on the environmental factor being discussed.