



ARCUS

**PLANNING, DESIGN AND ACCESS STATEMENT
WITH MINERALS SAFEGUARDING STATEMENT**

SOAY SOLAR FARM AND GREENER GRID PARK

STATKRAFT UK LTD

NOVEMBER 2021



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1 INTRODUCTION

1.1 Background

This Planning, Design and Access Statement (the Statement) has been prepared by Arcus Consultancy Services Ltd (Arcus) to accompany the planning application (the Application) submitted to East Riding of Yorkshire Council (ERYC) by Statkraft UK LTD (the Applicant) for a solar photovoltaic (PV) array/solar farm with an export capacity of up to 49.9 Megawatts (MW), along with a Greener Grid Park, including a Battery Energy Storage System (BESS) and energy management system with associated infrastructure, access and landscaping (the Development).

The Development is proposed to be sited on land west of Melbourne Road, immediately to the west and north-west of the existing Thornton National Grid Substation, north-east of Thornton, and south-west of Allerthorpe (the Site).

This Statement explains the design principles and concepts which have been applied to the proposed development, demonstrates the steps taken to appraise the context of the proposed development, and how the design of the development takes that context into account. This Statement therefore meets the requirements for Design and Access Statements which are set out in the Planning Practice Guidance for Making and Application¹.

1.2 Planning Application Submission

The following plans and drawings are submitted alongside the Application:

General

- Figure 1 – Site Location;
- Figure 2 – Indicative Site Layout;
- Figure 3 – Indicative Greener Grid Park Layout;
- Figure 4 – Landscape and Ecology Mitigation and Enhancement Plan;
- Figure 5 – Access Route and PRoW Map;

Solar Farm

- Figure 6 – Indicative Solar Panel Design and Elevation;
- Figure 7 – Indicative Inverter Plan and Elevations (Solar);
- Figure 8 – Indicative Solar Field Transformer;
- Figure 9 - Indicative Control Building Plan;
- Figure 10 – Indicative Security Column (Solar);
- Figure 22 – Indicative Deer Fence Including Gate Elevation;
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Greener Grid Park

- Figure 11 – Indicative Battery Elevations;
- Figure 12 - Indicative Inverter and Transformer Elevations;
- Figure 13 – Indicative Transformer (GGP);
- Figure 14A – Energy Management Building Plan;
- Figure 14B – Energy Management Building Elevation;
- Figure 15A – Indicative HV Infrastructure Plan;
- Figure 15B – Indicative HV Infrastructure Elevation;

¹ HM Government (2021) *Planning Practice Guidance: Making an Application* [Online] Available from: <https://www.gov.uk/guidance/making-an-application> (Accessed 03/12/2021).

- Figure 15C – Indicative HV Infrastructure Elevation;
- Figure 15D – Indicative HV Infrastructure Elevation;
- Figure 16 – Indicative Container (GGP);
- Figure 17 – Indicative 4 x 4 Transformer;
- Figure 18 – Indicative Cooler;
- Figure 19 – Indicative Security Column (GGP);
- Figure 23 - Indicative Palisade Fence Including Gate Elevation;

Solar and Greener Grid Park

- Figure 20 – Indicative Access Track Typical Section;
- Figure 21 – Indicative Temporary Construction Compound Plan;
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- Figure 24 – Indicative Culvert Details; and
- Figure 25 – Indicative Bridge Details.

The following environmental and technical reports are appended to this Statement:

- Appendix 1 - Statement of Community Engagement;
- Appendix 2 – Community Benefit Statement;
- Appendix 3 - Applicant’s Statement of Need;
- Appendix 4 - Outline Construction Environmental Management Plan (CEMP);
- Appendix 5 - Landscape and Visual Appraisal (LVA);
- Appendix 6 - Arboricultural Impact Assessment (AIA);
- Appendix 7a - Glint and Glare Study – Residential and Traffic Receptors;
- Appendix 7b – Assessment of the Impact of the Soay Solar Farm on Aircraft and Glider Operations at Pocklington Airfield;
- Appendix 8a - Ecological Impact Assessment (EcIA);
- Appendix 8b - Ornithology Impact Assessment (OIA);
- Appendix 8c - Habitat Regulations Assessment (HRA) Screening Report;
- Appendix 8d - Biodiversity Enhancement Management Plan (BEMP);
- Appendix 8e- Biodiversity Metric Assessment (BMA);
- Appendix 9a - Heritage Impact Assessment (HIA);
- Appendix 9b - Outline Written Scheme of Investigation (WSI);
- Appendix 9c - Outline Archaeological Mitigation Strategy Brief;
- Appendix 10 - Transport Statement;
- Appendix 11a - Flood Risk Assessment (FRA);
- Appendix 11b - Drainage Impact Assessment (DIA);
- Appendix 12 - Noise Impact Assessment;
- Appendix 13 - Phase 1 Land Contamination Desk Study;
- Appendix 14 - Agricultural Land Classification (ALC) Report; and
- Appendix 15 – Fire Safety Statement.

1.3 The Applicant

The Applicant is Statkraft UK LTD. Statkraft is 100% owned by the Norwegian state and is Europe’s largest generator of renewable energy. In the UK Statkraft develop, own and operate wind, solar, hydro and greener-grid park projects. Since 2006 Statkraft has invested over £1.4 billion in the UK’s renewable energy infrastructure and is a leading provider of Power Purchase Agreements (PPAs), having facilitated over 6 GW of new-build renewable energy generation through PPAs. Statkraft is contracted to deliver grid stability services to National Grid ESO, supporting their target to deliver a zero-carbon electricity system by 2025. The first two projects in Moray and Liverpool are currently in construction.

The Applicant prioritises early engagement with local communities and consultees to ensure they have the relevant information regarding any proposed developments. For the purposes of the Development, further detail is provided in the Statement of

Community Engagement and the Community Benefit Statement, Appendices 1 and 2 respectively.

1.4 Rationale for the Development

This section sets out the rationale for the Development, which is underpinned by national and international commitments on climate change, policy objectives, electricity market reform and industry drivers.

The UK is one of 195 signatories to the Paris Agreement under the United Nations Framework Convention on Climate Change (2016)², which commits to limiting the global average temperatures to under 2 °C above pre-industrial levels with an aim of reducing this figure to 1.5 °C. Considerable reductions in greenhouse gas emissions are required to meet this goal.

The COP 26 Climate change Conference which was held in Glasgow in November 2021 reaffirmed the aim of limiting the temperature rise to 1.5 °C. All countries agreed to revisit and strengthen their current emissions targets to 2030, known as Nationally Determined Contributions (NDCs) in 2020. For the first time, heeding calls from the majority of world nations, the COP 26 agreed action on phasing down fossil fuels³.

The UK has recently committed to meeting a legally binding target to cut greenhouse gas emissions by at least 100% from the 1990 baseline by 2050, which would result in net zero greenhouse gas emissions. This target, which is set out in the Climate Change Act 2008 (2050 Target Amendment) Order 2019⁴, is more ambitious than the 80% reduction set out in the 2011 National Policy Statement for Energy (EN-1)⁵. The 2008 Climate Change Act⁶ also introduced legally binding carbon budgets which restrict maximum greenhouse emissions for five-year periods ahead of the 2050 Net Zero Target. The sixth carbon budget set out in the Carbon Budget Order 2021⁷, requires a 78% reduction in annual UK greenhouse gas emissions by 2030 relative to 1990 levels.

Meeting these legally binding targets requires major investment in new technologies, the electrification of heating, industry and transport, prioritisation of sustainable energy and cleaner power generation.

An integral part of the UK energy strategy is to reduce the dependency on fossil fuels. Paragraph 2.2.16 of National Policy Statement EN-1 identifies that a significant proportion of the UK's generating capacity is due to close, and that new low-carbon generation is required to make up for the reduction in energy generated by fossil fuels. Accordingly,

² United Nations Framework Convention on Climate Change (2016) *The Paris Agreement* [Online] Available at: <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement> (Accessed 23/07/21)

³ UN Climate Change Conference UK (2021) *COP26 Outcomes* [Online] Available at: <https://ukcop26.org/the-conference/cop26-outcomes/> (Accessed 03/12/2021).

⁴ HM Government (2019) The Climate Change Act 2008 (2050 Target Amendment) Order 2019 [Online] Available at: <http://www.legislation.gov.uk/ukxi/2019/1056/made> (Accessed 23/07/21)

⁵ Department of Energy & Climate Change (2011) Overarching National Policy Statement for Energy (EN-1) [Online] Available at: <https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure> (Accessed 23/07/21)

⁶ HM Government (2008) The Climate Change Act 2008 [Online] Available at: <https://www.legislation.gov.uk/ukpga/2008/27/contents> (Accessed 23/07/21)

⁷ HM Government (2021) Guidance: Carbon Budgets [Online] Available at: <https://www.gov.uk/guidance/carbon-budgets#setting-of-the-sixth-carbon-budget-2033-2037> (Accessed 14/05/21)

the 2021 Net Zero Strategy incorporates a commitment for to ensure that all electricity in the UK comes from low carbon sources by 2035.⁸

To address these objectives and meet the emissions reduction targets, the electricity being consumed will need to be almost exclusively from low carbon sources, in contrast with the third quarter of 2019, when around 39% of our electricity was supplied by burning gas, oil and coal. Therefore, a new low carbon energy mix is required which is reliable, secure, and affordable.

The Energy White Paper 'Powering our Net Zero Future'⁹, which was published on 14 December 2020, represents a sea change in UK policy and highlights the importance of renewable electricity.

It sets out that '*electricity is a key enabler for the transition away from fossil fuels and decarbonising the economy cost-effectively by 2050*'. A key objective is to '*accelerate the deployment of clean electricity generation through the 2020s*'. Electricity demand is forecast to double out to 2050, which will '*require a four-fold increase in clean electricity generation with the decarbonisation of electricity increasingly underpinning the delivery of our net zero target*'.

The White Paper builds on the Prime Minister's recently announced 'Ten Point Plan' to set the energy-related measures and a long-term strategic vision for the energy system, consistent with net zero emissions by 2050. It aims to support a 'green recovery' from COVID-19 and confirms that electricity demand could double by 2050.

Whilst offshore renewables are expected to grow significantly, the White Paper also sets out that '*onshore wind and solar will be key building blocks of the future generation mix. We will need sustained growth in the capacity of these sectors in the next decade to ensure that we are on a pathway that allows us to meet net zero emissions in all demand scenarios*'.

1.4.1 Benefits of Solar Energy

One of the most sustainable forms of energy production worldwide is the production of solar electricity through the use of solar PV arrays.

If consented, the solar farm would contribute to the delivery of the UK policy objectives, diversify the energy mix, and facilitate the transition to low carbon energy, whilst decreasing the dependency on fossil fuels. Solar energy generation does not require fossil fuel use during generation, and although there is variability in the amount and timing of sunlight over the day, season, and year, a properly sized and configured system can be designed to be highly reliable. Due to rapid advances in technology, solar PV is one of the most cost-effective sources of energy, leading to more affordable and secure energy supply to consumers.

Solar power production also generates electricity with a limited impact on the environment as it is temporary and reversible. There is no need for extensive ground disturbing foundations, there are no tall vertical structures or moving parts involved and there is no significant noise associated with solar PV arrays during operation.

⁸ HM Government (2021) *Net Zero Strategy – Build Back Greener* [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1026655/net-zero-strategy.pdf (Accessed 19/10/2021)

⁹ HM Government (2020) *Energy White Paper – Powering our Net Zero Future* [online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/943807/201214_BE_IS_EWP_Command_Paper_LR.pdf (Accessed 15/06/21)

1.4.2 The Need for the Greener Grid Park

1.4.2.1 Energy Management

It has become a necessity due to the growing number of renewables on the grid, to balance demand and supply in order to prevent shortages and blackouts, as experienced in the South East of England in August 2019. As such, there is a growing demand by network operators for a broad range of ancillary services such as grid stability, energy storage and management.

On Easter Monday 2020, National Grid needed to turn on 17 gas-fired power stations in England and Wales, not for their energy, but in order to keep the grid stable. The Applicant plans to develop projects and technologies to reduce and remove the need for such polluting fossil fuel generation, whilst providing the same services to the grid. A particular area National Grid have identified as requiring these services is in East Yorkshire.¹⁰ The Soay Greener Grid Park is designed to support the flexible operation of the National Grid and the decarbonisation of the electricity supply. The proposed Greener Grid Park would provide rapid-response electrical back-up and energy management and would also represent an early deployment within the UK of a high-tech grid balancing facility, addressing intermittency and fluctuations in inertia.

This is required for a number of reasons:

- The Climate Emergency;
- Electricity Market Reform;
- The Capacity Market; and
- Balancing the Network.

The Greener Grid Park would primarily provide grid stability services for the existing Thornton National Grid Substation as well as store energy generated by the solar farm and grid to balance the network. The Applicant has provided a Statement of Need for the Development which is attached as Appendix 3 to this Statement.

1.4.2.2 Energy Storage

The amount of electricity generated by solar farms varies throughout the day, peaking around mid-day. However, demand for energy tends to be highest in the early evening which is after sunset for much of the year.

Without energy storage, a large amount of electricity produced by the solar farm during the peak daylight hours would not be used and other forms of energy, usually non-renewable, would be required to ensure a sufficient supply of electricity 24 hours a day. The development of the Greener Grid Park facility will ultimately reduce the total amount of energy generation required to meet consumer needs.

The Greener Grid Park would incorporate synchronous compensator and a Battery Energy Storage System (BESS) which has many synergies with Soay Solar Farm. The BESS, at times, would store surplus energy from the solar farm and/or the grid in the daytime for use when it is needed most, preventing the loss of unused energy and increasing the efficiency of the solar development. The Greener Grid Park can also operate independently from the solar farm to provide grid stability.

1.4.2.2.1 Electricity Market Reform

¹⁰ nationalgridESO (2020) *Stability Pathfinder Phase 2: Request for Information – Procurement process and timescales* [Online] Available from: <https://www.nationalgrideso.com/transmission-constraint-management?market-information=> (Accessed 24/08/2021).

Given the reduction in centralised coal-fired power, increase in low-cost renewable energy supply and the transition to electric vehicles, it is increasingly likely that there will be peaks and troughs in the UK energy supply and demand.

The Development is proposed in response to the requirement for continuity of supply and storage of electricity, particularly during periods of peak demand and over-supply.

Electricity Market Reform ('EMR')¹¹ is a UK government policy designed to:

- Incentivise investment in secure, low-carbon electricity;
- Improve the security of the UK's electricity supply; and
- Improve affordability for consumers.

The UK's electricity grid has historically relied on large, centralised power plants. However, old coal power plants are in the process of reducing capacity and closing as they no longer meet the required environmental and performance standards. Existing nuclear power plants are reaching the end of their design lives, while the delivery of new nuclear plants has been beset by delays. In parallel, there is the requirement to deliver a greater amount of renewable energy but these technologies (e.g., wind and solar generation) are intermittent, generating when the wind blows or sun shines. These different factors mean that demand and supply are more challenging to match.

1.4.2.2.2 *The Capacity Market*

Through the Energy Act 2013¹², the Capacity Market mechanism was introduced to ensure security of electricity supply at the least cost to the consumer.

To deliver a supply of secure, sustainable, and affordable electricity, the UK needs not only investment in new generation projects and innovative technologies but to get the best out of existing assets on the network. The Capacity Market aims to deal with both these issues by bringing forward new investment while maximising current generation capabilities.

The Capacity Market aims to balance the difference between demand and supply and to bring forward investment in new generation projects and innovative technologies, in parallel with maximising the utilisation of the existing generation capacity. The Capacity Market operates alongside the electricity market, which is where most participants will continue to earn the majority of their revenues.

The Greener Grid Park is anticipated to participate in the Capacity Market in addition to providing other balancing services to the National Grid.

1.4.2.2.3 *Balancing the Network*

Balancing the system to ensure demand is met by supply is a key requirement of the National Grid, and it is becoming more challenging as renewable generation – such as wind and solar power – becomes a bigger proportion of the overall energy mix.

The National Grid has a constant supply of 'extra power' available for use when the power required by customers is not equal to the power generated and a reserve supply is needed. The Balancing Mechanism is used to ensure that the network is in balance and reserve power is then used when the network comes under 'stress'.

¹¹ UK Government (2012) Electricity Market Reform: Policy Overview [Online] Available at: <https://www.gov.uk/government/publications/electricity-market-reform-policy-overview--2> (Accessed 22/07/21)

¹² UK Government (2013) Energy Act 2013 [Online] Available at: <https://www.legislation.gov.uk/ukpga/2013/32/contents/enacted> (Accessed 22/07/21)

When unforeseen demand is put on the network, such as when a large power station suddenly comes offline, then the National Grid control room need an alternative source of power. This is achieved with rapid responding facilities such as the proposed Development which can release or absorb energy from the grid as instructed.

As an innovative technology, the Greener Grid Park element of the Development will provide a flexible and rapid release of electricity to allow the National Grid to regulate electricity supply and demand without any greenhouse gas emissions. Conversely, the Greener Grid Park will also have the capacity to absorb electricity quickly which will allow for the oversupply of the grid to be managed.

1.5 Site Selection

1.5.1 Site Selection of Soay Greener Grid Park

The Thornton site has been selected as it not only is within NGENSO's area of need for Stability but also for its proximity to a critical Transmission Boundary (B7a) as shown in the NGENSO Electricity Ten Year Statement (ETYS). Further detail is provided in the Statement of Need attached as Appendix 3 to the Statement. Figure 2 in the Statement of Need shows the position of Thornton in relation to the NGENSO transmission boundary B7a. The closer this Greener Grid Park is to these transmission boundaries, the more effective it becomes. Greener Grid Parks also operate at their optimum when connected at a 400 kV transmission level. The Thornton substation has been selected because it is able to accommodate stabilising technology and is close to the transmission boundary. Additionally, the Thornton substation is very "strong" as it is a well inter-connected 400 kV substation with 8 x 400 kV circuits which optimises the delivery of the service. Furthermore, the site is well screened, has a low risk of flooding and already has infrastructure suitable for access.

The Greener Grid Park has been strategically located immediately to the west and north west of the existing Thornton National Grid Substation. Given the close proximity, lengthy transmission cables will not be required, ensuring efficient connection to the National Grid and minimising construction disturbance and connection and transmission costs.

The existing Thornton National Grid Substation is capable of accommodating the transfer of electricity to and from the Greener Grid Park at an acceptable cost to the Applicant, which will provide valuable support to the grid, protecting customers at times when high demand places stress on the regional and national electricity networks.

1.5.2 Site Selection of Soay Solar Farm

The purpose of the solar farm is to harness solar power to generate electricity. The design of a solar element must also take account of potential environmental effects. The Development therefore aims to strike a balance between energy yield and minimising environmental effects.

Not every site will be suitable for accommodating solar, and therefore the Applicant has been through a thorough feasibility exercise to assess the suitability of the Site. The Site is in an area of northern England with relatively high solar irradiance (light energy received from the Sun)¹³ and the solar farm is intended to make efficient use of this resource. Technical and environmental aspects have been considered to determine the most appropriate proposed scale, location and infrastructure layout.

The key criteria which have led to the Site being selected for the Development include:

¹³ Met Office (2006) MIDAS: Global Radiation Observations. NCAS British Atmospheric Data Centre [Online] Available at: <https://catalogue.ceda.ac.uk/uuid/b4c028814a666a651f52f2b37a97c7c7> (Accessed 20/07/21)

- Solar irradiance levels;
- Proximity to an available grid connection at the existing Thornton National Grid Substation;
- Separation from residential areas;
- Existing screening provided by trees and hedges;
- Lack of environmental constraints such as ecological designations, heritage assets and flood risk etc. There are no statutory or non-statutory designated sites within the Site;
- Lack of planning designations such as Green Belt;
- Landscape capacity to accommodate Development;
- Relatively flat topography;
- Field size and lack of shading;
- Access to the Site for construction; and
- Avoidance of Best and Most Versatile (BMV) agricultural land.

Following consideration of the above operational, environmental and planning factors, the Site was identified as having very good potential for development with the likelihood of only minimal environmental impacts.

These issues are considered in further detail in Section 7 of this Statement.

1.6 Pre-Application Consultations

1.5.1 Consultation with ERYC

The Applicant has sought to front-load the planning process by engaging with ERYC through two separate pre-application enquiries (the Enquiries). An initial pre-application enquiry in relation to the Greener Grid Park, based on a preliminary design, was undertaken in June-July 2019 (ERYC Reference: 19/02103/STPREP). A separate pre-application enquiry for the proposed solar farm, also based on a preliminary design, was undertaken in November 2020 (ERYC Reference 20/11045/STPREP).

The purpose of the Enquiries was to determine the scope of the Application and the supporting technical reports, agree on the approach to addressing the main issues and seek ERYC's views on the principle of the Development.

Pre-application meetings with the Case Officer were held in July 2019 for the Greener Grid Park and December 2020 for the solar farm. During these meetings, general agreement was reached on how technical aspects should be assessed within the planning process, which has informed the reports appended to this Statement and the assessment of impacts at Section 5.

The pre-application advice provided detailed guidance on the key issues for the Application and the scope of documents required. A written response to the Greener Grid Park Enquiry was issued on June 25th 2019. The written response states that planning policy supports the principle of the proposal. The key planning and environmental considerations highlighted in the pre-application response are as follows:

- Visual impact on the surrounding landscape;
- Nature conservation and biodiversity considerations;
- Residential Amenity;
- Highways and access safety;
- Archaeology; and
- Flood risk and drainage.

A written response to the pre-application enquiry for the solar element of the Development was issued on 7th January 2021. The response states that *'the principle of the proposed development on this application site is therefore supported provided there are no unacceptable impacts.'*

The key technical issues to be addressed in the Application which are highlighted in the pre-application response are as follows:

- Visual impact on the surrounding landscape;
- Nature conservation and biodiversity considerations;
- Heritage and archaeology;
- Mineral safeguarding;
- Preservation of valuable agricultural land;
- Construction emissions and traffic management;
- Containment and remediation of contaminated land; and
- Flood risk and drainage.

Following the receipt of pre-application advice, the Applicant consulted with the Case Officer at ERYC regarding the combined solar and Greener Grid Park proposal and informed ERYC of any significant changes to the proposal.

A range of statutory and non-statutory consultees were consulted throughout the pre-application consultation process, both via the Case Officer and directly by Arcus' technical specialists, as follows:

- Bumblebee Conservation Trust;
- Highways Development Management Team;
- ERYC Trees and Landscape Team;
- ERYC Public Right of Way (PRoW) Team;
- ERYC Public Protection Team;
- ERYC Nature Conservation and Ecology Team;
- ERYC Biodiversity Officer;
- ERYC Conservation Officer;
- Natural England;
- Yorkshire Wildlife Trust (YWT);
- Humber Historic Environment Record;
- Humber Archaeological Partnership (HAP);
- Historic England;
- National Grid
- York Consortium Drainage Board; and.
- Foss Internal Drainage Board (IDB).

The consultees advised on the information required as part of the Application but did not raise any objections to the principle of the Development.

The extensive engagement with ERYC and statutory/technical consultees prior to submission of this Application has informed the design of the Development and the scope of the technical documents submitted.

1.5.2 Parish Council Consultation

The majority of the Site lies within Allerthorpe Parish, whilst the southern part of the Greener Grid Park area lies within Thornton Parish. Both Thornton and Allerthorpe Parish Councils were consulted in spring 2021 and a virtual meeting was held with members of both Parish Councils on 12th May 2021 to provide information on the Development and invite suggestions and comments. The Parish Council consultation and comments/queries received are summarised in Section 2.4 of the Statement of Community Engagement at Appendix 1.

Further meetings with elected representative took place in the lead up to the submission of the Application.

1.5.3 Public Consultation

As detailed in the Statement of Community Engagement (Appendix 1), the Applicant consulted extensively with local residents and elected members in Spring 2021 with the formal consultation running from 20th March to 12th April 2021. Further correspondence with consultees continued beyond the consultation period.

As face-to-face consultation was not possible due to Covid-19 restrictions, details of the proposal were sent to consultees by post and/or email, and a website with relevant documents and links to further information was published.

Consultees had the opportunity to comment and ask questions via postage feedback forms, email, freephone and the consultation website. 14 responses to the consultation were received in total, raising queries related to scale, traffic, glint and glare, wildlife/ecology, landscape, flood risk, the PRoW and community benefits.

The Applicant responded to each of the queries raised and where possible, incorporated the feedback received into the proposal, as detailed in the Statement of Community Engagement (Appendix 1).

1.7 The Development and the EIA Regulations (2017)

The Town and Country Planning (Environmental Impact Assessment) Regulations 2017¹⁴ define EIA development as either:

- Schedule 1 development; or
- Schedule 2 development likely to have significant effects on the environment by virtue of factors such as its nature, size or location.

Neither the Solar Farm nor the Greener Grid Park fall within Schedule 1 of the EIA Regulations. Under Schedule 2 of the EIA Regulations, a development area threshold of 0.5 hectares (ha) is applied to Category 3 (a) industrial installations for the production of electricity.

The Site exceeds the Schedule 2 area threshold of 0.5 ha and as such, whether the Development is EIA development or not depends on an assessment against the screening selection criteria, as set out in Schedule 3 of the EIA Regulations, which comprise:

- Characteristics of the development;
- Location of the development; and
- Characteristics of the potential impact.

An EIA screening request for the solar farm was submitted to the ERYC in March 2021 (Reference number: 21/00930/EIASCRC). A separate EIA screening request for the Greener Grid Park was submitted to ERYC in May 2021 (Reference number: 21/01741/EIASCRC). The Screening Opinion issued on 21st April 2021 confirmed that the solar farm comprises non-EIA development, while the Screening Opinion issued on 21st May 2021 states that the Greener Grid Park is also a non-EIA development.

It should be noted that since the EIA Screening Opinions were received, the solar farm and Greener Grid Projects have been merged into a single planning application and the Site boundaries and design of the Development have been amended slightly (i.e., combined). Feedback from ERYC confirmed that the combined solar farm and Greener Grid Park (i.e., the Development) is not anticipated to comprise EIA development based on the lack of potential significant adverse impacts on the environment as assessed in the two Screening Opinions received from ERYC to date. However, the Development will

¹⁴ UK Government (2017) the Town and Country Planning (EIA) Regulations 2017 [Online] Available at: <https://www.legislation.gov.uk/uksi/2017/571/contents/made> (Accessed 23/07/21)

be subject to further EIA screening by ERYC during the determination of this Application to comply fully with the EIA regulations. It is intended that this PDAS and the accompanying documents is sufficient to allow ERYC to screen the Application without the need for a standalone Screening Request.

2 SITE AND SURROUNDINGS

2.1 The Site

The Site comprises approximately 149 ha of land located immediately to the west of Melbourne Road, to the east of Common Lane and immediately to the north and west of the existing Thornton National Grid Substation, between the villages of Allerthorpe and Thornton, as shown on the Site Location Plan (Figure 1).

At its nearest points, the Site lies approximately 800 meters (m) north of Thornton, 1.2 kilometres (km) west of Allerthorpe and 2.7 km west of Pocklington. The closest residential properties to the Site are at Warren Farm Cottages, located adjacent to the Site boundary to the west. There are also nine further isolated farmsteads and residential properties within 500 m of the Site, scattered to the east, south and west.

The Site is primarily located on arable land, consisting of 18 field parcels which are delineated with hedgerows and field drains, often with farm tracks alongside. The Site is crossed by 66kV and 400 kV overhead lines with pylons.

A designated PRoW, known as Allerthorpe Footpath No. 2, runs through the Site from roughly the centre of the eastern boundary to the north-western corner. In addition, Allerthorpe Bridleway No. 1 runs east-west immediately to the north of the northern boundary of the Site. Pedestrian movement within the Site is limited to PRoW users along Allerthorpe Footpath No. 2. Vehicular movement within the Site is currently limited to that associated with agricultural practices as well as along the private access route to Warren Farm Cottages.

The Site is located directly adjacent to Allerthorpe Common and Allerthorpe Woods, which wrap around the northern extent of the Site and provide dense visual screening. In addition, several pockets of mixed plantation woodland are located both within and directly adjacent to the Site, including Blanch Plantation, Brickpit Plantation, Warren Wood and Spruce Plantation as well as woodland surrounding Waplinton Hall, just east of the Site. These small pockets of woodland combined with a network of hedgerows and hedgerow trees, provide layers of vegetative screening which enclose views to the east, in contrast to the more open aspects to the west.

The topography of the Site is relatively flat and the land falls gradually from north-east to south-west approximately 5 m across a distance of over 1 km. All agricultural land within the Site is 'Class 3b – Moderate Quality Agricultural Land' which is capable of producing moderate yields of a narrow range of crops or narrow yields of a wider range of crops. This is detailed further in the ALC Report (Appendix 14). Other land within the Site is classified as 'Non-Agricultural Land'. The Site therefore does not incorporate any Best and Most Versatile (BMV) land, which is defined as land with an ALC grade of 3a or above.

The Site is located in a designated Mineral Safeguarding Area¹⁵ and lies within Flood Zone 1¹⁶. It is not subject to any on-site ecological or heritage designations.

¹⁵ East Riding of Yorkshire Council (2016) East Riding of Yorkshire Local Plan 2012-2019 [Online] Available at: <https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/policies-map/> (Accessed 18/03/21)

¹⁶ UK Government (2021) Flood Map for Planning [Online] Available at: <https://flood-map-for-planning.service.gov.uk/confirmlocation?easting=476500&northing=446400&nationalGridReference=SE765464> (Accessed 18/03/21)

2.2 Surrounding Land Use

To the south, east and west of the Site are extensive areas of arable farmland. The surrounding area mainly comprises open countryside, a scattering of tree coppices and a number of isolated farms with associated commercial and residential buildings in all directions.

The existing Thornton National Grid Substation immediately to the east of the Site is used for power distribution and is industrial in appearance. The metal pylons and overhead cables associated with the existing Thornton National Grid Substation, which are typically around 40 m in height, extend into the surrounding area.

Immediately to the north of the Site is Allerthorpe Common and Allerthorpe Wood, which includes a nature reserve managed by YWT, Local Wildlife Site and Site of Special Scientific Interest (SSSI).

Allerthorpe Lakeland Park, which incorporates a campsite and caravan park and a lake used for recreation, lies 490 m north-east of the Site across Melbourne Road.

In addition, Pocklington Airfield lies between Allerthorpe and Pocklington, approximately 2.3 km to the north-east of the Site, and Pocklington Canal SSSI, Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar Site runs approximately 800 m to the east of the Site at its nearest point.

2.3 Planning Context

According to available public records, there are no notable planning applications within the current redline boundary of the Site.

Planning applications in the immediate surrounding area generally consist of erection or alteration to agricultural buildings or minor applications for amendments or extensions to existing dwellings. Larger scale applications within the vicinity of the Site consist of change of use applications for camping and caravan pitches to the east and north-west of the Site and are summarised in Table 2.1.

Table 2.1: Planning Applications in the context area

Year	Reference number	Description	Location	Outcome
2021	20/01348/PLF	Siting of 15 additional touring caravan pitches to existing caravan site	Allerthorpe Lakeland Park Melbourne Road, YO42 4RL	Refused
2016	15/03678/STPLF	Change of use land for the siting of 150 lodges and static caravans (for holiday use only) with associated access, hard and soft landscaping, drainage and engineering works (Re-submission of 14/03238/STPLF).	Allerthorpe Park Golf Club, Waplington Lane, Allerthorpe YO42 4RL	Approved on Appeal
2021	21/00107/PLF	Change of use of land to allow the siting of 75 additional static caravans and the formalisation of the existing access road and gas tank compound (retrospective permission), with associated landscape and infrastructure works	Allerthorpe Park Golf Club, Waplington Lane, Allerthorpe YO42 4RL	Approved

There are no known operational large-scale ground mounted solar developments or battery storage facilities within 2 km of the Site.

In the past three years, there have been two solar farm planning applications approved by ERYC. These are both located sufficiently distant for there to be no cumulative effects, approximately 26 - 31 km north-east of the Site at Hutton Cranswick (ERYC Reference: 19/04321/STPLF) and Skerne (ERYC Reference: 20/01962/STPLF). In addition, an application for a solar farm in Cottingham, approximately 30 km from the Site, was submitted in June 2021 and is currently pending consideration (ERYC Reference: 21/02126/STPLF).

As such there are no extant planning applications or permissions within close proximity with potential for significant combined impacts with the Development. Any completed developments are now part of the baseline environment and have been considered as potential receptors where necessary.

3 THE DEVELOPMENT

3.1 Overview

The Applicant seeks planning permission for the construction and operation of a solar farm and Greener Grid Park comprising an array of ground-mounted solar PV panels with synchronous compensators and a BESS with associated infrastructure, landscaping, drainage and access. The solar farm will occupy an area of approximately 135 ha and the Greener Grid Park will occupy approximately 14 ha.

The proposed solar farm would have an electrical export capacity not exceeding 49.9 MW and an operational period of 37 years, after which it will be decommissioned fully.

The Greener Grid Park is designed to support the flexible operation of the electricity grid and the decarbonisation of the electricity supply. It will store, import, and export electricity in order to improve the capacity and stability of the network and the reliability of the regional electricity supply. The Greener Grid Park is intended to remain operational for 37 years, after which it would be decommissioned.

3.2 Development Infrastructure

3.2.1 *Solar Farm*

The solar farm would consist of rows of solar PV panels known as strings. The panels or modules are composed of photovoltaic cells and are designed to maximise the absorbency of the sun's rays and minimise solar glare. As a consequence, the panels are dark in hue and recessive in the landscape. Each string of panels would be mounted on a metal frame, with metal supports, pile driven into the ground to a depth of approximately 1 to 2 m, depending on ground conditions. Alternatively, the frames could sit on concrete footings in the eventuality that pre-construction surveys reveal certain areas to have archaeological potential and would ensure that there is no impact on potential archaeological features.

Between each frame there would be a distance of between 3.5 - 6.25 m to avoid inter-panel shading and provide suitable access. The panels would be tilted at typically 20 degrees from the horizontal and would be orientated to face south towards the sun, as shown in Figure 6.

Due to the rapid advancement of solar PV technologies, it possible that the design of the solar panels may differ slightly from those shown in Figure 6. Any design changes are unlikely to alter the key parameters of the Development such as the footprint of the Development and the height of the panels.

The solar farm would incorporate the following components:

- Solar panels mounted into the ground on metal frames and arranged in rows. The panels would be approximately 0.8 - 1.35 m above the ground at the lowest point and approximately 3 m above the ground at the highest point;
- String inverters (typically mounted on the side or on the back of the metallic frames supporting the solar modules);
- Approximately 32 field transformers distributed throughout the solar array;
- Temporary construction compound including approximately 10 car parking spaces, diesel generator and tank, toilets, mess, welfare, stores and office, as well as a materials storage area. The compound will be located in the south of Field G and removed upon completion of construction;
- Control building and spares container, located on the temporary construction compound to the south of Field G once removed;
- Post and wire/deer fencing and gate;

- Security columns containing CCTV, approximately 5 m in height; and
- Underground cabling connecting the solar panels to the string inverters and further cabling connecting the string inverters to the field transformers and Greener Grid Park and/or the existing Thornton National Grid Substation.
- Access tracks with a typical width of 3.5-4m

Elevations, including indicative dimensions, of these components are shown on Figures 6 - 10.

3.2.2 Greener Grid Park

The Greener Grid Park is located in the south-east portion of the Site to the west and north-west of the existing Thornton National Grid Substation and consists of the following components, as shown on the Indicative Greener Grid Park Layout (Figure 3):

- 2no energy management buildings containing synchronous condensers to balance the grid and associated infrastructure;
- 2no banks of coolers located adjacent to the energy management systems;
- 9no 400 kV transformers adjacent to the energy management systems;
- 12no blocks of containerised batteries, containing approximately 238 batteries in total, with 238 inverters between the battery rows;
- 18no switchgear containers located within the containerised battery blocks and near the high voltage infrastructure;
- High voltage infrastructure (approximately 11.5 m in height) connecting the Development to the existing substation;
- 2no emergency back-up generators;
- 12no auxilliary transformers;
- 18no containers for various uses including control and protection, AC/DC distribution centre, synchronous condensers, battery containers, inverters, switchgear, welfare, communications, national grid relay, and static frequency converter and excitation unit;
- Electric/palisade security fencing (approximately 3.4 m high) and gates; and
- 2no surface water attenuation ponds.

Indicative elevations of the Greener Grid Park infrastructure are shown on Figures 11 to 19. Most components of the Development will be housed in steel container-style units, while the energy management buildings will be constructed with pre-galvanised powder coated steel.

In addition, the following elements are proposed for the Development:

- Access tracks, made of aggregate and therefore permeable, with a typical width of 5.5 – 6 m and drainage ditches on cut slopes;
- Motion sensor security/lighting columns of (up to 5 m in height for the solar and up to 6 m in height for the Greener Grid Park) located around the perimeter of the Development; and
- Approximately 6no drain crossings (crossing design will be finalised at detailed design and the crossings will not have any impact on the watercourse).

3.3 Access

Construction and operational access to the Development would utilise an existing agricultural field entrance to the south of the existing Thornton National Grid Substation off Melbourne Road, which has a 60-mph speed limit. The proposed access track is shown on the Site Layout Plans (Figures 2 and 3).

The location of the access junction has been selected to ensure sufficient visibility to 215 m in both directions, in accordance with CD 123¹⁷ and CD109¹⁸ highways standards.

On-site access would be via existing access tracks minimising the requirement for new tracks and would use existing field entrances, as far as possible. Where new access tracks are required, they would be approximately 3.5 – 6 m wide and constructed with aggregate, with drainage ditches. Further information on access is provided in the Transport Statement in Appendix 10 and Section 7.6 of this Statement.

3.4 Landscape Design

The landscape proposals for the Site have been designed to preserve and enhance the existing landscape features, to screen views of the Development from outwith the Site and to enhance the biodiversity and habitat value of the Site.

The layout of infrastructure and access tracks has been designed to minimise impacts on the existing trees and hedgerows which will be retained and protected wherever possible. As noted in the AIA (Appendix 6), some trees and hedgerows require removal.

The Development includes extensive planting proposals and enhancements to create a net biodiversity gain which are detailed in the LVA (Appendix 5) and the Landscape and Biodiversity Mitigation Plan (Figure 4).

The key features of the Landscape and Biodiversity Mitigation Plan are as follows:

- Retention and protection of the vast majority of existing trees and hedgerows (with the exception to those detailed in the AIA (Appendix 6));
- Retention of grass verges as far as possible;
- Native species grass and meadow mix located around and under the solar panels;
- Native species grass and wildflower meadow mix along field margins and throughout undeveloped fields;
- Tussock grassland to the east of the Greener Grid Park, along the access track and along several field margins;
- Bird crop cover strips to increase biodiversity and provide enhanced habitat in several locations throughout the Site;
- Native hedgerows along field boundaries throughout the Site;
- Native species trees within gaps in the existing field margins throughout the Site to strengthen screening and provide enhanced habitat links;
- Mixed native scrub planting within tussock grassland mix surrounding existing woodland adjacent to Warren Farm Cottages, adjacent to Allerthorpe Common and to the east of the Greener Grid Park; and
- Native species woodland mix to the east of Warren Farm Cottages, to the east of the temporary construction compound, along the northern boundary of Field A and to the east of the Greener Grid Park to provide visual screening and biodiversity enhancements.

Landscape enhancements are proposed along the PRoW within the Site. This includes proposed hedges and trees along the entire length on both sides, where not already present. Wildflower meadow and a 20 m buffer from the solar fence line will be implemented. The fence line will be screened by existing and proposed planting.

¹⁷ Highways England (2020) CD 123 Geometric Design of At-grade Priority and Signal-controlled Junctions [Online] Available at: <https://standardsforhighways.co.uk/dmr/search/5770900b-eadc-4adf-b4e0-a80ceb08b839> (Accessed 26/07/21)

¹⁸ Highways England (2020) CD 109 Highway Link Design [Online] Available at: <https://standardsforhighways.co.uk/dmr/search/c27c55b7-2dfc-4597-923a-4d1b4bd6c9fa> (Accessed 26/07/21)

3.5 Community Benefits

While not a material consideration for the Application, the Applicant has committed to provide community benefits associated with the Development, including a project fund for local projects and initiatives, potentially including education, energy efficiency, environmental improvements and improved community facilities.

These benefits are provided as an investment in the local community and are not intended to mitigate any specific impacts of the Development.

A commitment to this community benefit is set out in the Community Benefit Statement (Appendix 2).

3.6 Wider Environmental Benefits of the Development

The wider aim of the Development is to promote biodiversity and ecological land management practices at Soay Solar Farm and Greener Grid Park.

As members of the Bumblebee Conservation Trust (BCT), the Applicant is working closely with personnel to ensure our habitat management practices provide lots of opportunities for enhancement, creation and restoration of bumblebee habitats which are currently very limited on-site due to intensive agriculture.

The BCT has provided feedback on habitat, plant species, seed mixes and ground preparation techniques that are beneficial for bumblebees,.

The Applicant's corporate support of the Rare Breeds Survival Trust recognises the importance of farming traditions, demonstrating how old and new can work together for the benefit of a healthier, more diverse natural environment.

3.7 Construction

The construction and installation of the Development will take approximately 14 months, with the peak month of construction estimated as Month 6. During the peak period of construction, it is anticipated that there will be approximately 84 Heavy Good Vehicles (HGV) movements and 16 car/light goods vehicle movements per day.

3.7.1 Construction Control Mechanisms

3.7.1.1 Traffic Management

The Transport Statement (Appendix 10) recommends traffic management measures which the Contractor will implement during the construction phase which include ensuring construction vehicles follow approved routes, temporary warning signage, enforcement and wheel washing. A Traffic Management Plan (TMP) will be prepared prior to the commencement of construction works. Further information on traffic and transport during construction are provided at Section 7.8 below.

3.7.1.2 Environmental Management

The Outline Construction Environmental Management Plan (CEMP) (Appendix 4) sets out measures to protect environmental resources during construction. The measures relate to noise and vibration, residential amenity, lighting, ecology and protected species, as well as the management of sediment, surface waters, foul drainage and fresh concrete and general pollution prevention measures.

3.7.1.3 PRow Management

The Applicant is committed to minimising effects on users of PRowS during construction of the Development. While footpaths ALLEF02 and THORF02, shown on Figure 5, will be subject to short-term temporary closures, closures will be minimised and avoided where possible via effective management measures. The PRow management regime, including mitigation measures during construction and operation, is set out in Section 7.3 below.

3.8 Operational Phase Overview

The Development will not be permanently staffed. The Development will be operated remotely 24/7, with occasional inspection and maintenance visits overseen by suitably qualified contractors, which will occur on average once per month. Activities would be restricted principally to vegetation management, equipment/infrastructure maintenance and servicing including replacement of any components that fail and monitoring to ensure the continued effective operation of the Development.

The proposed welfare facility for visiting staff will contain a WC with a sealed septic tank so that no foul drainage connection is required.

3.9 Safety

Safety is a key consideration in the design and layout of infrastructure at the Site as set out in the Fire Safety Statement at Appendix 15. If required, the following documents will be produced at the detailed design stage prior to construction of the Greener Grid Park:

- Fire Strategy Report;
- Fire Safety Manual;
- Fire Risk Assessment;
- Evacuation Strategy; and
- Fire Safety Drawings.

A Fire Safety Manual will be created containing design information and operational records. In addition, it will provide a full description of the fire safety design, in regards to the management of the buildings, housekeeping and other functions. Thus, providing a continuously updated record of all aspects of the buildings and the buildings users that affect its fire safety.

The following general safety measures will be implemented to ensure the safe operation of the Development:

- 24/7 remote monitoring;
- Local maintenance operators;
- Technology to be discussed at regular safety committees for the respective technologies;
- Regular maintenance and testing of the equipment;
- Direct consultation with fire department prior to construction;
- Automatic fire, gas and smoke detection (beam based);
- Automatic fire suppression (e.g., sprinklers – water and/or gas based);
- Use of fire-resistant non-combustible materials/enclosures;
- Air ventilation and temperature control in synchronous compensator building and battery containers to prevent overheating;
- Pre-construction/ design safety measures such as transformers to be separated from adjacent structures and from each other by firewalls if necessary, spatial separation and enclosures;
- Spatial separation between the transformer and the synchronous condenser building or the facing elevation wall of the building;

These and other safety features will be incorporated in the detailed design prior to construction and operation once the specific equipment to be used at the Site is confirmed.

3.10 Decommissioning Overview

When the operational phase of 37 years ends, the Development will require decommissioning.

All infrastructure including modules, mounting structures, cabling, inverters and transformers, buildings, containerised batteries, synchronous condensers and associated infrastructure would be removed from the Site and recycled or disposed of in accordance with good practice and market conditions at that time.

The effects of decommissioning are similar to, or often of a lesser magnitude than, construction effects and have been considered where possible in the relevant technical assessments. As engineering approaches and technologies are likely to change over the operational life of the Development, planning for decommissioning will be undertaken towards the end of the operational life of the Development.

Notice will be given to ERYC in advance of commencement of the decommissioning works, with all necessary licenses or permits being acquired. Decommissioning will be timed to minimise its environmental impact.

The Applicant will develop a decommissioning plan prior to decommissioning, and the works will be undertaken in accordance with a statement of operations, covering safety and environmental issues during decommissioning.

4 DESIGN CONSIDERATIONS

4.1 Design Rationale

The layout and design process of the Development was iterative, informed by consideration of a variety of environmental and technical assessments, professional advice from consultants and pre-application and EIA Screening response received from ERYC.

Indicative layouts were developed on the basis of initial site visits, desk-based information and assumptions based on known constraining factors. More detailed site assessment and investigation was then undertaken by obtaining baseline information relating to environmental effects including landscape, ecology, and flood risk amongst others.

Following the collation of this baseline information, key determining factors included ensuring that residential amenity and ecological assets would be protected through the minimisation of adverse impacts. The layout and location of the solar PV array and other infrastructure was influenced by technical and environmental constraints.

The final design of the Development is therefore a careful balance between addressing site constraints, minimising environmental impact and addressing feedback from consultees including the local community. This approach to design helps minimise unnecessary environmental impacts at an early stage. Where this is not feasible, such effects can be reduced through identification of mitigation measures that can be integrated early on in the development process.

The Landscape and Biodiversity Mitigation Plan has been designed to ensure the Development is as visually unobtrusive as possible and to avoid incursions into more environmentally sensitive areas of the Site. The Landscape and Biodiversity Mitigation Plan provides visual screening and general landscape improvements using native species which will integrate the Development with the wider landscape, enhance the existing landscape character and provide a substantial biodiversity net gain.

The Application design has also taken account of the following:

- The existing patterns of hedgerow and trees to field boundaries seeking to preserve and enhance their function through additional planting where appropriate;
- The existing network of ditches including the Development would be located with a 9 m buffer from the IDB ditches, and 6 m from other drainage ditches at field edges to mitigate any potential impacts where possible;
- The existing road network and the need to provide safe access to the Site and to prevent any significant impacts on the highways network;
- Sensitivity to Allerthorpe Common SSSI and Local Wildlife Site to the north of the Site including providing an environmental buffer and natural screening with habitat and biodiversity enhancements made to the Site areas within closest proximity, setting development back from this boundary;
- Breeding birds and other species associated with local, national and international ecological/ornithological designated sites within the area. Areas of high-quality bird habitat have been incorporated in the Landscape and Biodiversity Mitigation Plan;
- Providing a buffer of at least 100 m from nearby residential properties, as well as enhanced visual screening to minimise the impact on residential amenity;
- Mitigation of visual effects on PRoW including footpaths and the bridleway which runs through the Site by setting the Development back from the existing bridleway and planting of native species hedgerows, trees and wildflower meadow to provide visual interest and screening; and
- Planning requirements for the existing Thornton National Grid Substation (Section 3.5).

4.2 Specific Design Evolution

The Development has been subject to an iterative design process with several amendments made to the scheme to avoid or mitigate potential ecological or landscape impacts. The main amendments which have been made to the scheme are summarised as follows:

- The area to be covered with solar infrastructure has been reduced substantially to reduce built development in the vicinity of Warren Farm Cottages;
- Two Habitat Enhancement Areas (HEAs) have been added to the Site to provide biodiversity enhancements and to mitigate any potential impacts on breeding birds or Great Crested Newts (GCN);
- The Greener Grid Park has been enlarged to occupy part of Field Q to maximise the energy efficiency and grid stabilisation benefits of the scheme; and
- The size of high voltage equipment has been reduced and the location has been amended to reduce the impact on existing trees.

4.3 National Design Guide (2012)

The National Design Guide¹⁹ (the NDG) forms part of the Government's planning practice guidance and supports National Planning Policy Framework (NPPF)²⁰ Paragraph 130 which requires developments to take opportunities for improving the character and quality of an area and the way it functions.

Whilst some aspects of the NDG are particularly relevant to residential and commercial proposals, many of the ten characteristics of well-designed places are also applicable to renewable energy development, especially context, movement, nature and resources.

The Development incorporates these relevant characteristics as follows:

- Context – The Development has been designed using comprehensive baseline studies to inform the location of infrastructure and landscape proposals;
- Movement – The Development has been designed to enhance the existing bridleway which runs through the Site through landscape enhancements, resurfacing and making it more accessible to a variety of users as agreed through consultation with ERYC PRoW Officer;
- Nature - The Development has been designed to maximise connectivity, provide habitat enhancements, avoid impacts on protected species and deliver a significant net biodiversity gain; and
- Resources – The purpose of the Development is to provide an alternative to the use of non-renewable energy resources and to contribute to the UK Government's target of net zero by 2050 and National Grid's zero carbon operation target by 2025. The Greener Grid Park will ensure that the solar energy generated at the Site is used efficiently.

¹⁹ Ministry of Housing, Communities & Local Government (2021) *National Design Guide: Planning practice guidance for beautiful, enduring and successful places* [Online] Available at: <https://www.gov.uk/government/publications/national-design-guide> (Accessed 19/07/2021).

²⁰ MHCLG (2021) NPPF [Online] Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> (Accessed 21/07/21)

5 PLANNING POLICY CONTEXT

5.1 Overview

This section of the Statement reviews the key national and local planning policies which relate specifically to the Development. The aim of this section is to establish the land use implications of the Development, consider its compliance with the East Riding of Yorkshire Local Plan (the ERYLP) (2012-2029)²¹, and identify other material considerations to be taken into account during the determination process.

5.2 Legislative Background

The Town and Country Planning Act 1990²² Section 70(2) states that:

"In dealing with such an application the authority shall have regard to the provisions of the Development Plan, so far as material to the application, and to any other material considerations."

The Planning and Compulsory Purchase Act 2004²³ forms an amendment to the Town and Country Planning Act 1990. Section 38(6) of the Planning and Compulsory Purchase Act 2004 states that:

"If regard is to be had to the Development Plan for the purpose of any determination to be made under the Planning Acts the determination must be made in accordance with the plan unless material considerations indicate otherwise."

The process for determining a planning application can be defined as:

- Identification and consideration of the key provisions within the Development Plan;
- Clarification of whether the Development is in accordance with the Development Plan;
- Identification and consideration of relevant material considerations; and
- Conclusions on whether planning permission is justified.

5.3 NPPF (July 2021)

The NPPF sets out Central Government's planning policies for England and how these are to be applied. The NPPF reiterates that applications for planning permission must be determined in accordance with the Development Plan unless material considerations indicate otherwise. The NPPF also identifies that national planning policy is a material consideration when making decisions on planning applications. The most relevant aspects of national planning policy contained within the NPPF are set out below.

5.3.1 *Presumption in Favour of Sustainable Development*

The NPPF sets out the economic, environmental and social planning policies for England. Central to these main themes is a presumption in favour of sustainable development, and that development should be planned positively. The objective of sustainable development is summarised at Paragraph 7 as *'meeting the needs of the present without compromising the ability of future generations to meet their own needs'*. The NPPF refers to the United

²¹ East Riding of Yorkshire Council (2016) East Riding of Yorkshire Local Plan 2012-2019 [Online]

Available at: <https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/east-riding-local-plan/> (Accessed 18/03/21)

²² UK Government (1990) Town and Country Planning Act 1990 [Online] Available at: <https://www.legislation.gov.uk/ukpga/1990/8/contents> (Accessed 18/07/21)

²³ UK Government (2004) Planning and Compulsory Purchase Act 2004 [Online] Available at: <https://www.legislation.gov.uk/ukpga/2004/5/contents> (Accessed 18/07/21)

Nations 17 Global Goals for Sustainable Development²⁴ in the period to 2030, which the UK has agreed to pursue. The Sustainable Development Goals include ensuring access to affordable, reliable, sustainable and modern energy for all and taking urgent action to combat climate change and its impacts.

In achieving sustainable development, three overarching objectives are identified for the planning system; economic, social and environmental (Paragraph 8). The environmental objective includes *'mitigating and adapting to climate change including moving to a low carbon economy'*.

5.3.2 Renewable Energy

The NPPF is clear that planning has a key role in supporting renewable energy and associated infrastructure. Paragraph 152 proposes that the planning system should *'support the transition to a low carbon future in a changing climate'* and *'support renewable and low carbon energy and associated infrastructure'*.

In order to increase the supply of renewable and low carbon energy and heat, Paragraph 155 states that plans should provide a positive strategy for renewable and low carbon energy development.

The NPPF is also clear that Local Planning Authorities (LPAs) should not require applicants *'to demonstrate the overall need for renewable or low carbon energy and recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions'* (Paragraph 158). Applications for renewable and low carbon development should be approved if the impacts are (or can be made) acceptable.

5.3.3 Guidance on Environmental Considerations and Minerals

The NPPF contains policies on a number of environmental issues in achieving sustainable development and is a material consideration in planning decisions. Meeting the challenge of climate change is at the core of the NPPF and it sets out how planning plays an intrinsic role in supporting the delivery of renewable and low carbon energy developments.

The approach to encouraging sustainable transport and managing impacts on transport networks is set out in Paragraphs 104 to 113. Paragraphs 174 to 208 emphasise the importance of preservation and enhancement of the built and natural environment. They set out detailed requirements for the assessment of the impact on the landscape value, agricultural land, ground conditions, biodiversity and habitats, and the historic environment. A requirement for development to provide measurable net gains for biodiversity is set out in Paragraphs 174 and 180.

Paragraphs 209-214 sets out the approach to facilitating the sustainable use of minerals. Long-term conservation of mineral resources is encouraged and planning authorities are to safeguard existing, planned and potential sites for minerals, both through policies and the determination of planning applications.

5.4 Development Plan

The relevant Development Plan for the Site is the ERYLP (2012-2029), which consists of a Strategy Document, an Allocations Document and Bridlington Town Centre Area Action Plan and is supported by a Policies Map.

²⁴ UN (2015) The 2030 Agenda for Sustainable Development [Online] Available at: <https://sdgs.un.org/goals> (Accessed 21/07/21)

The ERYLP also includes East Riding of Yorkshire and Kingston upon Hull Joint Minerals Local Plan 2016-2033²⁵ and Joint Waste Local Plan (2004)²⁶; and Allertorpe Neighbourhood Plan (ANP) (2019-2034)²⁷ as well as a number of Supplementary Planning Documents (SPDs)²⁸.

4.4.1 ERYLP (2012-2029)

The ERYLP recognises that changes to the climate over the plan period are likely to increase and states that *'this is particularly important for the East Riding as the consequences are potentially severe'* due to the proportion of settlements located within high-risk flood zones.

In order to help address this issue and contribute to further objectives ERYLP's Vision Statement states their ambition that by the year 2029 *'new development will have minimised the risk from climate change'* and *'the opportunities presented by the renewable and low carbon energy sector will have been embraced and maximised, creating employment opportunities, helping to reduce carbon emissions and increasing fuel security'*.

The Site is identified on the Local Plan Policies Map as lying within a Mineral Safeguarding Area.

The following policies detailed in the ERYLP are considered to be of relevance to the Development:

Policy S1 - Presumption in favour of sustainable development: Affirms the Council's commitment to take a positive approach to development proposals that *'reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework'* (NPPF). Planning applications that accord with the policies in the Local Plan and are supported by the NPPF when taken as a whole will be approved without delay, unless specific policies within the Framework indicate that development should be restricted.

Policy S2 - Addressing climate change: States that *'development decisions will support a reduction in greenhouse gas emissions and adaptation to the expected impacts of climate change.'* A number of methods to achieve Policy S2 are indicated in an associated table including to *'8) Promote renewable and decentralised energy generation in appropriate locations'* and to *'9) Promote proposals that protect, enhance and link habitat networks to allow biodiversity to adapt to climate change'*.

Policy S4 - Supporting development in Villages and the Countryside: Indicates that energy development and associated infrastructure will be supported within the countryside where the proposal *'respects the intrinsic character of [its] surroundings.'*

²⁵ East Riding of Yorkshire Council and Kingston upon Hull Council Joint Strategic Planning Advisory Committee (2019) East Riding of Yorkshire and Kingston upon Hull Joint Minerals Local Plan 2016-2033 [Online]

Available at: <https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/joint-minerals-plan/> (Accessed 18/03/21)

²⁶ East Riding of Yorkshire Council and Kingston upon Hull Council Joint Strategic Planning Advisory Committee (2019) East Riding of Yorkshire and Kingston upon Hull Joint Waste Local Plan (2004) [Online]

Available at: <https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/joint-waste-plan/> (Accessed 18/03/21)

²⁷ Allertorpe Parish Council (2019) Allertorpe Neighbourhood Plan 2019-2034 [Online]

Available at: <https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/neighbourhood-planning/allertorpe-neighbourhood-plan/> (Accessed 18/03/21)

²⁸ ERYC (2021) Supplementary Guidance [Online] Available at: <https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/supplementary-planning-documents/> (Accessed 18/03/21)

Policy S8 - Connecting People and Places: Seeks to ensure that people and places are well connected and requires routes including existing Public Rights of Way are to be enhanced and/or protected.

Policy EC1 - Supporting the growth and diversification of the East Riding economy: Indicates that development proposals will be encouraged where they develop and strengthen key employment sectors including renewable energy.

Policy EC5 - Supporting the energy sector: Lists appropriate considerations for energy development proposals and states that proposals will be supported where the wider benefits outweigh any residual harms. Where appropriate, proposals should include provision for decommissioning.

Policy EC6 - Protecting mineral resources: Designates Mineral Safeguarding Areas (MSA) via the Policy Map. The policy states that non-mineral development which would adversely affect the viability of exploiting the deposits in the future will only be supported within the MSA subject to a number of conditions, including, where it can take place without preventing the mineral resource from being extracted in the future, where it is temporary in nature and where the need for the development can outweigh the need to safeguard the mineral deposit. Supporting text at 7.79 states that within a MSA a Mineral Assessment will normally be required.

Policy ENV1 - Integrating high quality design: Lists design considerations and aims which contribute to achieving sustainability and should be incorporated into all developments as far as possible. These considerations include scale, layout, material, context, energy efficiency, access, crime and security, green infrastructure, flood risk, nature conservation and biodiversity enhancement and landscape. The policy emphasizes the importance of renewable and very low carbon technologies.

Policy ENV2 - Promoting a high-quality landscape: Aims to protect landscape character and features. Developments should achieve this through a number of aims including to retain existing hedgerows and trees and water features where possible and protect and enhance views across any valued landscape features.

Policy ENV3 - Valuing our heritage: Seeks to conserve the significance, views, setting, character, appearance and context of heritage assets including for conservation areas, listed buildings and archaeological deposits. Development will be permitted where the public benefits outweigh any harm to heritage assets.

Policy ENV4 - Conserving and enhancing biodiversity and geodiversity: Aims to protect sites of International, National, and Local designation and those habitats or species supported by them. Development affecting National or Local sites are to be permitted where the benefits of the development outweigh the harms to the site or its wider network. Any loss or harm should be mitigated if possible or compensated for. Development proposals should further the aims of the East Riding of Yorkshire Biodiversity Action Plan and other landscape biodiversity initiatives and seek to achieve a net gain in biodiversity where possible.

Policy ENV5 - Strengthening green infrastructure: Requires development proposals to incorporate existing and/or new green infrastructure features within their design and capitalise opportunities to enhance or create links. Green Infrastructure features listed include nature conservation sites, water bodies, trees, hedgerows and ditches, and public rights of way.

Policy ENV6 - Managing environmental hazards: Steers development towards Flood Zone 1 where possible. New developments should limit surface run-off to existing run off rates on greenfield sites and not increase flood risk within or beyond the site. In addition, development that would increase the risk of groundwater pollution should be avoided.

Policy C1 - Providing infrastructure and facilities: States that proposals for new infrastructure and facilities will be supported where they enhance the quality and range of services and facilities.

4.4.2 East Riding of Yorkshire and Kingston upon Hull Joint Minerals Local Plan (2016-2033)

The East Riding of Yorkshire and Kingston upon Hull Joint Minerals Local Plan (the JPLP) provides details on the context and requirements for mineral allocations including preferred areas of search and safeguarding within the Plan area. The Site lies within a Minerals Safeguarding Area as shown on the JMPLP Policies Map.

Policy AGG1 – Supply of sand and gravel: Seeks to secure and maintain a supply of locally extracted sand and gravel of 0.81 million tonnes per annum. Progress on meeting the sand and gravel supply is to be monitored through the Yorkshire and Humber Aggregates Working Party annual monitoring reports.

4.4.3 Allerthorpe Neighbourhood Plan (2019-2034)

Allerthorpe Neighbourhood Plan was produced by Allerthorpe Parish Council and adopted in December 2019. It sets out the vision for the parish over a 15-year period, to the year 2034.

While much of the Allerthorpe Neighbourhood Plan pertains mainly to new residential development, Policy ANP04 is of relevance to the Development and states that:

'Development proposals which safeguard and, where possible, enhance biodiversity, wildlife habitats and opportunities, the character and appearance of the rural landscape and footpath / bridleway accessibility, will be supported.'

The relevant Development Plan policies, as detailed in Section 4.4.1 and summarised in Table 4.1, are addressed within the following sections of this Statement.

Table 4.1: Relevant Development Plan Policies

Policy	Addressed within Statement Section
ERYLP	
Policy S1 – Presumption in favour of sustainable development	7.1
Policy S2 – Addressing climate change	7.1, 7.3, 7.4 7.7
Policy S4 – Supporting development in villages and the countryside	7.1, 7.2
Policy S8 – Connecting people and places	7.2, 7.3, 7.7
Policy EC1 – Supporting the growth and diversification of the East Riding economy	7.1
Policy EC5 – Supporting the energy sector	7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, 7.8, 7.9, 7.10
Policy EC6 – Protecting Mineral Resources	6
Policy ENV1 – Integrating high quality design	7.1, 7.2, 7.3, 7.4, 7.5, 7.7, 7.8
Policy ENV2 – Promoting a high-quality landscape	7.2
Policy ENV3 – Valuing our heritage	7.6
Policy ENV4 - Conserving and enhancing biodiversity and geodiversity	7.5

Policy ENV5 – Strengthening green infrastructure	7.2, 7.3, 7.5
Policy ENV6 – Managing environmental hazards	7.8, 7.9, 7.10
Policy C1 - Providing infrastructure and facilities	7.1
Allerthorpe Neighbourhood Plan	
Policy ANP04	7.2, 7.3 7.5
East Riding of Yorkshire and Kingston upon Hull Joint Minerals Local Plan	
Policy AGG1 – Supply of sand and gravel	6

6 MINERALS SAFEGUARDING STATEMENT

6.1 Overview

The Site lies within a Minerals Safeguarding Area with reference to Policy EC6 of the ERYLP and Policy AGG2 of the JMLP. This designation is due to the presence of sand and gravel deposits of potential economic interest in the area throughout large areas to the west and east of the Yorkshire Wolds, including the Site. The JMLP notes that sand and gravel deposits are of variable quality.

6.2 Sand and Gravel Potential

The Phase 1 Land Contamination Desk Study (Appendix 13) indicates that the entire Site is underlain by Bielby Sand Member. Historical mapping has identified a small area 160 m south-east of the Site which was recorded as 'Sand Pit' in 1892 mapping before reverting back to agricultural land by 1911 mapping.

There is no evidence that sand or gravel quarrying has ever taken place within the Site itself and intrusive investigation for sand and gravel extraction has not been done. Furthermore, no Mineral Occurrences are recorded at the Site within the Mineral Occurrences Database²⁹ and no planning permissions for the extraction of minerals have been recorded at the Site. The landowners have not received any expressions of interest regarding potential sand and gravel extraction at the Site. The commercial viability of sand and gravel resources at the Site is therefore unproven.

6.3 Supply of Sand and Gravel

In 2016, there were six sites extracting sand and gravel within the JMLP area. The JMLP indicates that sales of sand and gravel have been consistently around 800,000 tonnes between 2013 and 2016 and Policy AGG1 sets a target to maintain a landbank of permitted sand and gravel reserves of at least 7 year's supply over the period to 2033 at 0.81 million tonnes per annum. The amount of sand and gravel required to maintain production throughout the JMLP Plan Period is 13.12 megatonnes (mt).

The Humber Local Aggregate Assessment³⁰ (2019) (the LAA) reports minerals data in the Humber Area including East Riding of Yorkshire, Kingston upon Hull, North East Lincolnshire & North Lincolnshire. The LAA indicates that there are 10 active sites within the Humber that produce sand or gravel, including seven within East Riding of Yorkshire. The LAA indicates that sand and gravel reserves within Humber were 7.32 million tonnes in 31st December 2018 which is an increase of 1.59 million tonnes compared with 2017 levels. Significantly, the landbank as of 2018 was 8.82 years based on the most recent ten-year rolling period, or 7.87 based on an indicative annual Humber sand and gravel apportionment figure. This is in excess of the 7 years' supply required by Policy AGG1 of the JMLP.

6.4 Potential Impact on Mineral Supply

ERYLP Policy EC6 – Protecting Mineral Resources, Part B sets out ERYC's approach to non-mineral development within Minerals Safeguarding Areas as follows:

²⁹ UK Government (2021) Mineral Occurrences Database [Online] Available at: <https://data.gov.uk/dataset/f61b2449-d934-4d6e-8ce4-c5c1f6dab6bf/mineral-occurrences-database> (Accessed 20/07/21)

³⁰ East Riding of Yorkshire Council, Hull City Council, North Lincolnshire Council and Northeast Lincolnshire Council (2019) Humber Area Local Aggregate Assessment [Online] Available at: <https://www.eastriding.gov.uk/EasySiteWeb/GatewayLink.aspx?alId=753379> (Accessed 20/07/21)

Within or adjacent to Mineral Safeguarding Areas, non-mineral development, which would adversely affect the viability of exploiting the underlying or adjacent deposit in the future, will only be supported where it can be demonstrated that the:

- 1. Underlying or adjacent mineral is of limited economic value;*
- 2. Need for the development outweighs the need to safeguard the mineral deposit;*
- 3. Non-mineral development can take place without preventing the mineral resource from being extracted in the future;*
- 4. Non-mineral development is temporary in nature; or*
- 5. Underlying or adjacent mineral deposit can be extracted prior to the non-mineral development proceeding, or prior extraction of the deposit is not possible.*

With regard to the first paragraph of Part B, the Site is currently in agricultural use and there are no previous records of sand or gravel extraction or known commercial interest or investigations into potential mineral extraction at the Site. The viability of exploiting the underlying deposit is therefore unproven and it is far from certain that the Development would adversely affect the viability of exploiting the deposit.

In any case, four of the five criteria listed within the policy are applicable to the Development, as follows:

1. Underlying or adjacent mineral is of limited economic value

The economic value of any underlying sand is not known but is likely to be limited given the lack of history or commercial expressions of interest in minerals extraction at the Site.

2. Need for the development outweighs the need to safeguard the mineral deposit

The Development will provide renewable energy, energy storage and grid balancing services, in order to provide a reliable and steady supply of electricity while reducing carbon emissions. The need for renewable energy, energy storage and support for the grid is widely recognised in national and local policies and legislation, including the Net Zero 2050 target and the other material considerations set out in Section 8 of this Statement.

The existing Thornton National Grid Substation is itself situated in the Minerals Safeguarding area and the location of the Development has been driven by proximity to this substation. It would not be economically viable to locate the Development outside of the Mineral Safeguarding due to the lengthy underground cabling which would be required and would likely exacerbate environmental impacts.

Whilst there is a need for sand and gravel extraction to match consumption in the East Riding, the Site is only a small portion of the overall Mineral Safeguarding area and there is no evidence that any sand within the Site is required to meet the need identified in the JMLP. The LAA indicates that the existing landbank in the Humber Area which is sufficient to meet the need for sand and gravel in the area.

3. Non-mineral development can take place without preventing the mineral resource from being extracted in the future; and

Considered under requirement 4.

4. Non-mineral development is temporary in nature.

The Development will be temporary and planning consent is sought for a period of 37 years. In addition, the Development is reversible and will be fully decommissioned at the end of the operational period, which will enable minerals to be extracted in the future.

The Development, by its nature, would not lead to the permanent sterilisation of mineral resources unlike other forms of development such as residential or commercial. Therefore, the requirements 3 and 4 are satisfied.

Overall, while the Site lies within the Minerals Safeguarding Area, the commercial viability and economic value of the deposits are unproven and the Development is unlikely to prevent mineral extraction in the future. The Development therefore complies with ERYLP Policy EC6 in accordance with the aims of JMLP Policy AGG1.

7 ASSESSMENT OF THE DEVELOPMENT

7.1 The Principle of the Development

As a renewable energy scheme providing low carbon, clean energy, the Development will make a valuable contribution towards the reduction of carbon emissions and increase renewable energy capacity. The Development also includes essential infrastructure to stabilise the grid via the existing Thornton National Grid Substation.

The Development will reduce the reliance of the grid on coal and gas to provide inertia, voltage control and fault infeed current. It will also enable the grid to support a greater proportion of renewable energy by providing stability and storage so that the energy is available to the market when it is most needed. The Development is therefore directly supported by ERYLP Policy S2 with regard to climate change and renewable energy.

The principle of the Development is also supported by ERYLP Policy EC1, which encourages proposals which strengthen key employment sectors including in the renewable energy sector; Policy EC5 which supports energy development proposals; and Policy C1 which encourages the provision of infrastructure.

The Development will help to reduce the carbon emissions footprint in the East Riding of Yorkshire and contribute to meeting the 'Net Zero' carbon emissions target for the UK, as detailed in Section 7 of this Statement. The Development is therefore supported by NPPF Paragraph 152, which supports the transition to a low carbon economy.

With reference to ERYLP Policy S4, solar farms are well established as an acceptable form of development within the countryside as they require space which is not available within existing settlements and tend to be visually unobtrusive within the landscape. The impact of the Development on the landscape and surrounding countryside is assessed through a LVA which is summarised in Section 7.2 below.

Whilst the NPPG for renewable energy encourages the location of large-scale solar farms on previously developed and non-agricultural land, a large amount of land is required to accommodate the Development (approximately 149 ha) and as such, there are no available previously developed or non-agricultural sites of a scale required for the Development in the vicinity of Thornton National Grid Substation. The Site consists of Grade 3b arable land, and the Development will therefore not have any impact on 'Best and Most Versatile Land' as confirmed in the ALC Report (Appendix 14). The solar farm will be for a temporary period of 37 years. The Development as a whole is reversible, and the resumption of agricultural use will be possible upon decommissioning thus, the Development will not result in loss of high-quality agricultural land with reference to NPPF Paragraph 174.

With reference to ERYLP Policy ENV1, the effects of the Development on the character, appearance or general amenity of the area have been assessed throughout the various environmental and technical assessments which accompany this planning application. The assessments undertaken have not identified any potential significant adverse effects on flood risk, amenity, biodiversity, green infrastructure, heritage, valued landscape features or minerals.

The proposed solar farm and Greener Grid Park comprises sustainable development and is therefore supported by ERYLP Policy S1 and NPPF Paragraph 11. There are no local or national planning policies which weigh against the principle of the Development in this location.

7.2 Landscape and Visual Appraisal

An LVA has been undertaken and is submitted with this Application as Appendix 5. The LVA comprises a description of existing baseline conditions, an assessment of potential landscape and visual effects and recommendations for mitigation measures. The Appraisal incorporates the results of a desk study, a field study and further evaluations including a viewpoint appraisal, zone of theoretical visibility and photomontages.

With regard to landscape sensitivity, the Site is undesignated and lies within Landscape Character Area 1C, featuring flat open arable farmland with scattered farmsteads, pocket of woodland and a generally rural and tranquil quality. The Development would retain pockets of woodland and field margins and as such, the Development would not result in the loss of tranquillity and rural character.

The retention of the majority of existing landscape features, including the existing field patterns and vegetative boundaries, would screen low level solar panels and maintain a rural quality within the landscape as a whole. As such it is considered the receiving landscape would be able to accommodate the proposed change while retaining a rural character and landscape features of value.

Where taller infrastructure and vegetative removal is proposed within the Greener Grid Park, this would be in the context of man-made infrastructure associated with the National Grid Substation and it is considered that the receiving landscape would have the capacity to accommodate this specific type of infrastructure in this location due to the similar baseline landscape quality. The Development would have a negligible effect on landscape designations such as the River Derwent Corridor and Lower Derwent Valley Important Landscape Area.

Given the contained nature of the Site and retention of screening vegetation within the application boundary, it is considered that the Development would not adversely affect key landscape features or aesthetic qualities within wider study area. Proposed landscape mitigation and enhancements, which are shown in Figure 4 and detailed in Section 3.4 of this Statement, would reinforce existing positive landscape features and qualities identified within the Newton Upon Derwent, Wilberfoss, Allerthorpe and Hayton Farmland LCA and River Derwent Corridor and Lower Derwent Valley Important Landscape Area. The mitigation and landscape enhancements would be viewed from the wider study area in the form of additional vegetative layers in the landscape such as woodland band and trees hedgerows. Proposed planting would not only provide additional screening and build upon key landscape features and green network, but increase biodiversity and provide ecological enhancements.

In terms of view and visual amenity, it is anticipated the Development would give rise to limited cumulative effects on views/visual amenity in conjunction with the substation due to existing vegetative screening surrounding the substation and proposed Greener Grid Park. The LVA assesses that the Site has the capacity to absorb the visual effects of the Development due to the primarily low-level nature of the proposed infrastructure, existing screening and on-site mitigation proposed.

The LVA indicates that landscape and visual effects would mainly be limited to the immediate context of the Site, given the limited height of the majority of the Development visual containment afforded by Allerthorpe Woods to the north as well as existing trees and hedgerows along field boundaries. Views from the Development from longer distances are assessed as negligible overall, based on the Zone of Theoretical Visibility.

Overall, the Development would not give rise to unacceptable effects on the landscape character, landscape designations or visual receptors. The Development therefore meets the requirements of NPPF Paragraph 130, ERYLP Policies S4, S8, EC5, ENV1, ENV2 and ENV5 and ANP Policy ANP04 with regard to landscape and visual effects.

7.3 Public Rights of Way

The Development has been designed to minimise impacts on the Public Right of Way (PRoW) onsite, both during the construction and operational phases of the Development.

A PRoW known as footpath ALLEF02 runs through the Site from the centre of the eastern boundary to the north-western corner. There is also a public bridleway (ALLEB01) to the north of the Site and a public footpath that adjoins the Site's southern boundary (THORF02), as shown in Figure 5.

7.3.1 Consultation

Following the pre-application consultation with ERYC for the solar component of the Development in January 2021, the Applicant has consulted directly with the Countryside Access Officer at ERYC. The officer highlighted that the current footpath would make a suitable Bridleway with appropriate upgrades to surface and gates, which would increase PRoW connectivity in the area. The officer also noted the presence of the existing hedgerow on the northern border of footpath ALLEF02 which provides a 'green lane feel' and creates a positive user experience and could act as a screen to the view of the solar panels.

During the public consultation held in March-April 2021, a resident expressed concern that upgrades to the footpath during construction could result in use by unauthorised vehicles.

In light of the consultation responses from the Countryside Access Officer and local residents, the Applicant has developed an outline PRoW Management Regime which will minimise effects on users of the existing PRoW. This regime is set out below, and would be finalised prior to construction in consultation with the Countryside Access Officer.

7.3.2 Public Rights of Way Management Regime

7.3.2.1 Mitigation Aims during Construction

The Applicant is committed to minimising effects on users of PRoWs during construction of the Development. Footpaths ALLEF02 and THORF02, shown on Figure 5, will be subject to short-term temporary closures however closures will be minimised and avoided where possible via effective management measures.

All areas where a PRoW will be impacted by the construction phase of the Development would have suitable signage which would provide details of closures including dates and hours affected, as well as signage notifying users of proposed diversions. Signs would also be erected to inform PRoW users of the potential presence of construction activities.

The location and detail of signage would be agreed with Countryside Access Officer as part of the final PRoW Management Regime, prior to installation. As it is off-site, Bridleway ALLEB01 will remain open throughout construction.

7.3.2.2 Footpath ALLEF02 and Construction Access Track

Footpath ALLEF02 follows an existing public road/lane; the Common Lane to Allerthorpe Road, through the Site. Part of this route is currently suitable for accommodating construction traffic, and part of this road is a narrow agricultural track that is not suitable for construction traffic. ALLEF02 follows this through the site from north-west to east.

The most easterly section of ALLEF02 within the Site (between Warren Farm Cottages and the eastern boundary) follows part of the Common Lane to Allerthorpe Road which is suitable for construction traffic. This part of the road/ALLEF02 within the site will remain open during construction, with signage erected detailing health & safety warnings related to construction traffic.

The section of the Common Lane to Allerthorpe Road/ALLEF02 north of Warren Farm Cottages is not suitable for construction traffic, and the Countryside Access Officer has indicated that upgrades to this section of ALLEF02 would be received positively as they would improve the PRoW to bridleway standards. To facilitate construction and improve the PRoW, the surface of footpath ALLEF02 north of Warren Farm Cottages, as shown on Figure 5, would be upgraded with aggregate and widened to a standard width of 3.5 m during the construction phase. This would remain in situ during the operation of the Development. During construction, this part of ALLEF02 would be subject to temporary closures during construction, with diversions and signage erected.

In the north-western part of the Site, ALLEF02/Common Lane to Allerthorpe Road is not suitable for construction vehicles. To keep this part of the PRoW open throughout construction and avoid any impact to the trees and hedges which line the PRoW, an access track would be installed alongside the section of footpath ALLEF02 which passes through the north-west of the Site, as shown on Figure 2.

Following construction and the upgrading of ALLEF02, in order to ensure safety for PRoW users during any periods of maintenance, gates would be installed on ALLEF02 within the Site. This would restrict vehicle access but the final gates installed would still allow pedestrians to use the route.

The details of the upgrades (extent of the route upgrades, type of gates, location of gates) and siting of any signage would be agreed with the Countryside Access Officer in the final PRoW Management Regime.

7.3.2.3 Mitigation During Operation - Signage

Once the Development is operational, there will be infrequent access needed by maintenance vehicles to the Site. There should be no closures of PRoW during operation, however signage will be erected to notify users that there may be maintenance vehicles working in the vicinity. These signs would replace those erected during construction, with locations and detail of the signage agreed with the Countryside Access Officer prior to construction.

7.3.2.4 Mitigation During Operation - Visual Impact

To minimise visual impacts from the Development on users of the ALLEF02 footpath, approximately 3.9 km of mixed native species rich hedgerows will be planted along the border of footpath ALLEF02, as shown on Figure 5. Full details of the proposed species list can be found in the Biodiversity Enhancement Management Plan (Appendix 9e).

An existing hedgerow runs along the northern edge of the ALLEF02 footpath. To account for gaps within the existing hedgerow, a secondary hedgerow would be planted at an offset of between 3-6 m from the footpath. A hedgerow would also be planted along the southern border of the footpath at an offset of 15 m from the edge of the footpath. On either side of the footpath the total distance from the footpath edge to the fencing and closest infrastructure (solar panels), behind the hedgerow, would be approximately 20 and 25 m respectively. Details of both the existing and proposed hedgerows are shown on the Landscape and Ecology Mitigation and Enhancement Plan at Figure 4.

These hedgerows will screen the Development from views along the ALLEF02 footpath to minimise visual effects, increase local biodiversity and ensure that user experience remains positive.

Overall, the Development has been designed to protect and enhance Public Rights of Way, and therefore complies with NPPF Paragraph 100, ERYLP Policies S8 and ENV1 and ENV5 and ANP Policy ANP04.

7.4 Tree Survey and Arboricultural Impacts

An AIA has been undertaken to assess the impact of the Development on the existing tree stock and outline mitigation actions, where appropriate, to minimise potential damage to retained trees (Appendix 6).

240 items of vegetation including trees, tree groups, hedges and woodlands were identified on Site and assessed in the course of the tree survey. The species identified were mainly deciduous, including Oak, Alder, Ash, Hawthorn, Sycamore and Horse Chestnut.

There is a section of non-operational National Grid Land at the existing Thornton National Grid Substation with woodland which requires felling to accommodate the connection between the Greener Grid Park. In addition, this block of trees (identified in the AIA as W238, Appendix 6) is located adjacent to the 400 kV transformers and these trees therefore require felling in the interests of health and safety and minimising fire risk. As detailed in the AIA, this block of trees is Category B.

In addition, one individual tree (T13, Category B Sycamore) in the middle of the Site and a small woodland are along the proposed access track (W228, Category B) near the existing substation will require full removal. One tree group (Category C) and seven hedges (Category B) will require partial removal and several retained trees will be pruned to facilitate access.

The Development has been designed to avoid high value trees. Whilst the Development will require the removal of some Category B trees within the Site, it should be noted that areas for habitat improvement, including significant new tree and hedge planting is proposed. This will act to mitigate tree losses, improve the visual quality of the Site and the surrounding area, contribute to biodiversity enhancements and improve the local tree stock.

In order to protect the retained trees during the construction phase, protective fencing needs to be installed. Protective fencing specifications and on-site positioning, along with details of any necessary specialist construction methods should be provided in an Arboricultural Method Statement (AMS) if required.

The Development will therefore not result in any unacceptable effects on the tree coverage of the site and its value as Green Infrastructure. The Development therefore meets the requirements of NPPF Paragraphs 131 and 174 and ERYLP Policies ENV2 and ENV5.

7.5 Glint and Glare

Glint and Glare Studies (Appendices 8a and 8b) have been undertaken to assess the potential impact of the Development on surrounding road users and dwellings and a separate study on aviation.

'Glint' is defined as a momentary flash of bright light, while 'Glare' is defined as a continuous source of bright light.

Previous studies have measured the intensity of reflections from solar panels with respect to other naturally occurring and manmade surfaces. The results show that the reflections produced are of intensity similar to, or less than, those produced from still water and significantly less than reflections from glass and steel.

Glint and glare effects can only occur when the weather is clear and sunny. When a solar reflection towards a road user or resident is possible, the individual will also be looking in the direction of the Sun. This means the Sun and solar reflection will be visible simultaneously. The Sun is a significantly brighter source of light than a reflection from a solar panel. Furthermore, at any one location, only a particular area of solar panels will

produce a solar reflection towards it. In all cases, a clear view of the reflecting solar panels at the particular time of day when a solar reflection was geometrically possible would be required.

Regarding residential amenity (Appendix 7a), 38 dwellings were identified within a 1 km Study Area of the Site. Solar reflections would be geometrically possible towards 26 of the dwellings in the Study Area. For 24 of these dwellings, reflections could theoretically occur for more than three months per year but less than 1 hour per day. However, existing screening from vegetation or buildings will screen solar reflection for 23 out of 24 dwellings.

Only one dwelling at Warren Farm Cottages has the potential to experience solar reflection for more than three months per year. However, this would only be at certain parts of the day for less than one hour per day. The level of impact on the dwelling is expected to be low due to the presence of an existing hedgerow and no further mitigation is necessary in practice. Although not required, a small number of additional tree planting is proposed, as shown on the Landscape and Ecology Mitigation and Enhancement Plan.

In terms of road users (Appendix 7a), reflections are geometrically possible towards nine out of sixteen identified road receptors, which are located along Melbourne Road. However, existing dense vegetation along the road will screen solar reflections for all receptors assessed and no impact on road users is expected.

Regarding aviation, Pocklington Airfield (the Airfield), which is home to the Wolds Gliding Club, has two operational runways with two associated approach paths. The Assessment of the Impact of the Soay Solar Farm on Aircraft and Glider Operations at Pocklington Airfield undertaken by Wind Power Aviation Consultants Ltd (WPAC) (Appendix 7b) indicates that the level of impact on the Airfield would be low.

Overall, the Development will not have any significant impacts on dwellings, road users or aviation in terms of Glint and Glare and any potential minor impacts will be mitigated appropriately. The Development is therefore in accordance with ERYLP Policies ENV1, EC5 and S2 with regard to glint and glare.

7.6 Ecology, Ornithology and Biodiversity

7.6.1 Overview

An EcIA (Appendix 8a) has been undertaken which incorporates the results of a desk study, Extended Phase 1 Habitat Survey, GCN and badger surveys, ornithological and water vole walkovers and a bat roost assessment. Potential impacts on birds are assessed separately in the OIA (Appendix 8b).

7.6.2 Designated Sites

There are no statutory or non-statutory designated sites within the Site. In terms of nearby designations, Allerthorpe Common SSSI and Local Wildlife Site is adjacent to the northern boundary of the Site.

Two National Site Network sites are located within 5 km of the Site - the Lower Derwent Valley SAC, SPA and National Nature Reserve (NNR) (approximately 1 km south-west of the Site) and the River Derwent SAC and SSSI (approximately 4.7 km from the Site). There are 21 non-statutory designated sites within 2 km of the Site, the closest of which is Allerthorpe Common Local Wildlife Site, which is a Yorkshire Wildlife Trust Reserve, adjacent to the northern boundary.

Given the proximity of the Development to the Low Derwent Valley SAC, SPA, Ramsar site and to the River Derwent SAC, the Development is to be assessed under the

provisions of the Conservation of Habitats and Species Regulations 2017 (as amended)³¹. A HRA Screening Report is submitted with this Application as Appendix 8c. The HRA Screening Report identifies the types of effects that the Development may have on the qualifying interests of the National Site Network.

The River Derwent SAC is scoped out of the HRA Screening Report as the Development has no clear or direct hydrological connectivity with this SAC. The HRA Screening Report assesses the potential likely significant effects of the Development on the Lower Derwent Valley SAC, SPA and Ramsar site are assessed with regard to habitat loss, change and fragmentation; noise and visual disturbance; air and surface water pollution. The HRA Screening Report concludes that the Development will not give rise to any likely significant effects on the qualifying features of these sites, either alone or in combination with other projects or plans, and consequently, suggests that there is no requirement for an HRA Appropriate Assessment (AA).

7.6.3 Habitats and Species

The habitats identified on-site during the Extended Phase 1 Habitat Survey include arable land and poor semi-improved grassland with existing trees, hedgerows, broadleaved woodland along the field boundaries and three ponds.

7.6.3.1 GCN

In terms of protected species, a small population of GCN was found in ponds P1, P4 and P5a in, and adjacent to, the Site. The Development will not directly damage or lead to the functional loss of any of the on-site ponds as these are to be retained with suitable buffers applied. The Development will have low impact on habitat for GCN, which will be offset by the long-term positive impacts of habitat creation and enhancements. Large areas of arable land will be replaced with grassland, providing suitable foraging and commuting habitat for GCN.

The long-term operational effects of the Development on GCN are therefore considered to be positive at a local scale. The proposed terrestrial habitat creation and enhancements will increase the availability of suitable GCN habitat and improve the habitat connectivity for GCN within the local environment. Furthermore, the HEAs will link existing GCN habitats to off-site habitats including the Allerthorpe Common SSSI. The proposed grassland habitat beneath and between the solar panels will be a significant enhancement to GCN and hibernacula situated across the Site will also improve sheltering and hibernating opportunities.

7.6.3.2 Bats

With regard to bats, the Site has moderate suitability for commuting and roosting bats. All trees identified with 'high' or 'moderate' roosting potential will be retained and not directly impacted by the Development. The proposed HEAs will provide additional foraging and commuting habitats for bats and improve connectivity to habitats in the wider landscape. The long-term effect of the Development on bats is likely to be positive. Any lighting required at the Site will be designed to minimise impacts on bats.

7.6.3.3 Birds

A range of bird surveys for breeding birds, wintering birds and nightjar were undertaken between October 2019 and July 2020, as detailed in the OIA (Appendix 8b). Mixed flocks of finches and buntings were present on most survey visits, foraging in the hedgerow

³¹ UK Government (2017) the Conservation of Habitats and Species Regulations 2017 [Online] Available at: <https://www.legislation.gov.uk/uksi/2017/1012/contents/made> (Accessed 26/07/21)

and arable habitats. 25 species of conservation concern including yellowhammer, corn bunting, reed bunting and linnets were recorded during the winter bird survey, while 32 species of conservation concern were recorded during the breeding bird survey, including skylark, woodlark, willow warbler and yellowhammer. No nightjar were recorded during the nightjar surveys. Very few species of conservation concern were recorded in the Greener Grid Park area of the Site.

Adverse impacts to birds of conservation concern are expected to be low and not significant. Standard mitigation and best practice measures are proposed to minimise any potential effects, and implementation of habitat compensation and enhancements such as the retention and strengthening of hedgerow habitats and the provision of nest boxes are expected to offer long-term benefits to farmland birds, including species of conservation concern.

7.6.3.4 *Water Vole*

Water voles have been confirmed to be present in some ditches within the Site during surveys conducted in April and July 2021. The Development has been designed with a minimum buffer of 5 m between infrastructure and ditches, with the exception of six new watercourse crossings. The crossings will likely incorporate bank to bank slabs (i.e., no interaction within the watercourse) to allow water voles to continue to navigate along the ditch so that the Development will not result in habitat fragmentation. Where required, a Natural England Displacement Class Licence will be sought prior to construction of the crossings.

7.6.3.5 *Otter and Reptiles*

While no evidence of otters or reptiles was found during the Phase 1 Walkover, the Site has the potential to support these species. As such, appropriate mitigation and enhancements will be implemented, including the retention of key habitats and the provision of hibernacula for reptiles. The Development is unlikely to impact habitats of high value to invertebrates and the proposed grassland, shrubs and trees are likely to have a positive impact on invertebrates.

7.6.4 ***Biodiversity Enhancements and Mitigation***

The accompanying Landscape and Ecology Mitigation and Enhancement Plan (Figure 4) sets out the proposed planting scheme providing landscape benefits as well as biodiversity improvements. Details of the implementation, management and monitoring of the biodiversity and landscape proposals are provided in the BEMP (Appendix 8d).

A BMA (Appendix 8e) based on the Defra Biodiversity Metric 2.0³² has been undertaken to compare biodiversity units produced post-construction with the baseline biodiversity units prior to construction, and ascertain whether the Development will result in net gain or net loss for biodiversity.

The Development has been designed to retain existing high-value habitats wherever possible, including the ponds and vast majority of on-site hedgerows and trees. The landscape and biodiversity proposals associated with the Development include³³:

- 3.9 km of mixed native species hedgerow;
- Approximately 560 proposed native species hedgerow trees;
- 1 ha of native deciduous woodland;

³² Natural England (2019) the Biodiversity Metric 2.0 [Online] Available at: <http://publications.naturalengland.org.uk/publication/5850908674228224> (Accessed 26/07/21)

³³ All numbers are approximate and would be subject to final detailed design.

- 5.8 ha of native shrub mix;
- 4.2 ha of mixed native scrub and grassland planting;
- 109.7 ha of grassland beneath the solar panels and along verges within the Site (native species grassland planted in areas beneath and between solar panels and wildflower meadow planting outside of these areas);
- 4.8 ha of Tussock Grassland mix;
- Four strips planted with Bird Cover Crop, to provide year-round foraging for birds and insects, covering an area of 0.7 ha;
- Two HEAs, composed of native grass and meadow mix, scrub and tree planting, totalling 12 ha;
- 16 bat boxes including a mix of cavity and crevice boxes suitable to support a range of species such as pipistrelle, brown long-eared, noctule and myotis;
- 39 bird boxes including:
 - Two tree-mounted barn owl boxes;
 - Two kestrel boxes;
 - 20 tree sparrow boxes;
 - Five starling boxes;
 - 10 further boxes for hole nesting species; and
- 30 Mammal Gates.

These proposals will actively enhance the quality and quantity of habitats of biodiversity on the Site, relative to the arable baseline. A greater diversity of plants will be supported as well as providing greatly improved resources for reptiles, mammals, ground nesting birds, and invertebrates including pollinators.

Overall, there is a considerable amount of planting proposed across the Site and the mitigation and enhancement measures proposed have contributed to a biodiversity net gain of +114.73% in Biodiversity Habitat Units and +66.18% Hedgerow Units as reported in the Biodiversity Metric Assessment Report.

The Development will not result in harm to protected species, designated sites, watercourses or habitats and will result in a significant net gain for biodiversity. The Development therefore meets the requirements of NPPF Paragraphs 179 and 180 and ERYLP Policies EC5, ENV 1, ENV4 and ENV5.

7.7 Heritage and Archaeology

A HIA (Appendix 9a) has been undertaken to establish the archaeological and heritage baseline, assess the potential direct effects on archaeology and assess nearby designated heritage assets for changes to setting that affect cultural significance as a result of the Development. There are no designated archaeological or cultural heritage assets within the Core Study Area (CSA), which includes the Site. However, there is a non-designated late medieval rabbit warren and extensive areas of cropmarks recorded within the CSA.

Within the 3 km Study Area, there are 35 heritage assets which include a scheduled monument, two conservation areas, 31 listed buildings and one locally listed building. The nearest heritage assets to the Site are:

- The Pocklington Canal group of Grade II-listed structures (1 - 3 km from CSA);
- Barmby Moor Conservation Area and Grade II and II* listed buildings therein (1.5 km north-east of the CSA);
- The rectilinear enclosures scheduled monument (approximately 1.6 km north of the CSA); and
- Allerthorpe Conservation Area and the Grade II listed buildings therein.

No changes to setting were identified for any of the 35 assets assessed. The implementation of a landscape management plan which enhances hedgerows and tree planting around the field boundaries of the CSA would provide additional screening of the Development from the heritage assets.

Based upon the baseline results and a geophysical survey undertaken within the CSA, the CSA has a moderate/high potential for subsurface archaeology to be encountered. This potential primarily relates to Iron Age/Romano-British settlement and enclosure, as well as evidence for agricultural practices from the medieval periods onwards. A programme of archaeological work consisting of a trenching evaluation is recommended post-consent to determine the character and extent of potential features to inform the need for further investigation or the implementation of mitigation prior to the construction of the Development.

As recommended during pre-application consultation with ERYC, an Outline WSI (Appendix 9b) and an Outline Archaeological Mitigation Strategy Brief (Appendix 9c) have been submitted with this Application to inform the archaeological investigation which will be carried out prior to construction and mitigation measures to be implemented prior to and during construction.

The Development will not result in harm to any archaeological features or heritage assets and therefore meets the requirements of NPPF Paragraphs 199-208 and ERYLP Policies ENV3 and EC5 in relation to heritage and conservation.

7.8 Transport and Highways

The Site would be accessed via the existing agricultural access point and track off Melbourne Road to the south of the existing Thornton National Grid Substation, to the south-east of the Development, as shown Figure 2. Melbourne Road is the access used for the existing Thornton National Grid Substation and runs between Melbourne and Allerthorpe. A Transport Statement is provided in Appendix 10.

Visibility splay and swept path assessments have been undertaken and demonstrate that 215 m of visibility is achievable in both directions and that the Site can be accessed in forward gear.

Construction is anticipated to occur over approximately 14 months and the peak month is anticipated to be month 6. The Transport Statement indicates that the increase in vehicle movements associated with construction will be less than 10% over the baseline and the impact of this on the highways network is therefore expected to be negligible.

During the operational period, the Development will have no discernible impact on traffic levels as it will be remotely operated, with occasional visits for inspection and maintenance.

The Transport Statement incorporates traffic management measures for construction including a clearly defined route to site, temporary warning signage, wheel washing, public rights of way management and a construction traffic management plan to be produced prior to commencement of development.

The proposed access junction to the Site meets highways standards, and the Development will not have an adverse impact on the highways network. The Development therefore meets the requirements of NPPF Paragraph 104 and 110 and ERYLP Policies ENV1, EC5 and S8 with regard to transport and highways.

7.9 Flood Risk and Drainage

The FRA (Appendix 11a) confirms that the Site is located entirely within Flood Zone 1 and is at low or negligible risk of flooding from all sources. Allerthorpe Lake is located approximately 500 m east of the Site and Pocklington Canal is approximately 1.2 km east and south of the Site. A land drain managed by the Foss IDB flows south from the Site.

A DIA (Appendix 11b) has been prepared to outline how surface water will be managed during the operation of the Development. Installation of the solar PV arrays does not involve the introduction of hardstanding at ground level, meaning that the superficial cover for the solar farm will remain the same as the baseline. Additionally, the PV array tables will have regular rainwater gaps to prevent water being concentrated along a single drip line.

The elements within the solar farm which make up the impermeable footprint are therefore only the field transformer units. The total 32 field transformer units throughout the solar farm equate to approximately 544 m² in area; approximately 0.04 % of the total area of the Site. With regard to the Greener Grid Park, much of the infrastructure will be raised from the ground on supports to minimise the increase in impermeable areas. In addition, all access tracks will be constructed with permeable materials.

The drainage proposals for the Development were developed in consultation with ERYC and Foss IDB from January to July 2021. It was agreed with ERYC that infiltration is unlikely to be feasible due to ground conditions and that attenuated discharge to on-site watercourses is the most feasible outlet. A discharge rate of 1.4l/s per impermeable hectare, limited to 0.5l/s up to the 1:100-year (+40% climate change) event was agreed with the IDB.

Surface water from the Greener Grid Park will be attenuated within Sustainable Urban Drainage System (SuDS) to the south of each field of the Greener Grid Park and discharged at the agreed rate. Surface water from the solar PV arrays will be managed through interception and absorption via natural mechanisms in order to drain the Site. The existing scrapes along field boundaries will be utilised and extended to provide additional surface water storage.

The Development will be safe from flood risk and will not increase the risk of flooding elsewhere. The Development therefore meets the requirements of NPPF Paragraphs 163 and 168 and ERYLP Policies S2, EC5 and ENV6 of with regard to Flood Risk and Drainage.

7.10 Noise and Vibration

A Noise Impact Assessment (Appendix 12) has been undertaken to assess the potential impact of the Development in comparison with existing background levels and propose suitable mitigation.

The Noise Impact Assessment was undertaken in consultation with the Environmental Health Department of ERYC, which provided confirmation that the assessment methodology is reasonable and appropriate. A design criterion mitigating any adverse impacts to no more than 5 dB above background was agreed with ERYC.

Background noise surveys were undertaken between 11th and 17th June 2021 at four locations near residential receptors in the vicinity of the Site. The observed sound environment followed a typical diurnal pattern typical of a rural area with a reduction in sound levels during the night-time period. Noise levels at the nearest receptors ranged from 32 dB to 38 dB in the daytime and between 27 dB and 33 dB at night-time.

An assessment of the likely impact has been made based on the difference between the predicted rating levels of the equipment and background levels for daytime and night-time periods. The rating levels are below the design criterion of 5 dB above the background sound levels at the nearest, and therefore all noise-sensitive receptors. The Development is located adjacent to an existing substation and is therefore not out of context for the area.

An assessment of noise impact has been undertaken in accordance with BS 4142:2014. It has been found that Rating levels would be less than 5 dB above background levels at the nearest receptor, and therefore all noise-sensitive receptors. As such, the Development would meet the assessment criteria agreed with ERYC.

The Development is therefore in accordance with NPPF Paragraph 185 and ERYLP Policies EC5, ENV6 with regard to noise.

7.11 Ground Conditions and Land Contamination

A Phase 1 Land Contamination Desk Study has been undertaken (Appendix 13). The Desk Study considers existing and historical land uses at the Site and surrounding area, geological and hydrological conditions, Environment Agency and British Geological Survey (BGS) records and potential contamination and geotechnical development constraints. A site visit was carried out in March 2021 to gather further information on ground conditions at the Site.

The Desk Study indicates that the Site is entirely underlain by Bielby Sand Member and no made ground has been identified across the Site. Historical mapping indicates that the Site has been used for agricultural use from 1854 to the present day, although small pockets of woodland were present in the northern portion of the Site until the 1970s. The existing Thornton National Grid Substation to the south-east of the Site appears to have been constructed in the 1990s.

There have not been any potentially contaminative land uses or discharge consents within the 250 m buffer. However, the Site is in close proximity of existing farms and there could be risks associated with the storage of fertiliser, pesticides and chemicals and the burial of livestock, asbestos, fuel, lubricants, etc. associated with everyday farming activities.

The overall risk from the presence of contamination on the Site is low without mitigation.

The Development itself has been designed to prevent any impacts on water, soil or air quality as all equipment is self-contained, with no discharge of materials or chemicals into the surrounding environment.

The Development therefore complies with NPPF Paragraph 183 and 185, and ERYLP Policies EC5 and ENV1.

8 RELEVANT MATERIAL CONSIDERATIONS

8.1 Planning Practice Guidance – Renewable and Low Carbon Economy

The National Planning Policy Guidance³⁴ (the NPPG) provides web-based advice across a variety of planning matters which is continuously updated. The NPPG section 'Renewable and Low Carbon Economy' identifies the important role that the planning system has in increasing renewable energy, whilst also setting out that need does not automatically override environmental protection. The NPPG also advises LPAs not to rule out renewable and low carbon energy through inflexible rules on buffer zones and separation distances.

The NPPG, whilst providing useful advice, does not change national planning policy, which remains the NPPF.

8.2 East Riding of Yorkshire Climate Emergency and Climate Change Review (2021)

The Council's Climate Change Review³⁵ (the Review), published in January 2021, recommends that ERYC should declare a Climate Emergency due to the scale and impact of climate change and to increase the pace of reductions in carbon emissions across the East Riding. Following the publication of the Review, ERYC declared a Climate Emergency in February 2021. Defining the issue as an emergency is a reflection of both the seriousness of climate change and its potential effects and the need for urgent action to cut carbon dioxide and other greenhouse gas emissions. Upon declaring a Climate Emergency, ERYC also committed to developing a climate change strategy within 12 months.

The Review emphasises the importance of solar and renewable energy to reducing emissions in the East Riding and highlights the employment and income-generating opportunities associated with renewable energy generation. One of the key recommendations is that ERYC considers buying only renewable energy. The Review also states that ERYC takes a sympathetic stance on planning for schemes incorporating wind turbines and solar power.

8.3 Humber Local Enterprise Partnership

ERYC became a member of the Humber Local Enterprise Partnership (the LEP) in April 2021. The Humber Local Energy Strategy (2020)³⁶ (the LES) sets out the LEP's 'Energy Vision' as follows:

'We will become the leading region in driving sustainable growth through clean energy in an affordable, accessible and inclusive way, protecting and enhancing the environment for future generations.'

The LES points out that there is significant potential for renewable energy generation in the Humber due to ample natural resources including levels of solar irradiation for solar

³⁴ Ministry of Housing, Communities & Local Government (2016) Planning Practice Guidance [Online] Available at: <http://planningguidance.communities.gov.uk/blog/guidance/> (Accessed 13/07/21)

³⁵ East Riding of Yorkshire (2021) Climate Change Review Panel Report [Online] Available at: <https://www.eastriding.gov.uk/council/committees/overview-and-scrutiny-committees/review-panels/#view-a-review-panel-report> (Accessed 19/07/21)

³⁶ Humber Local Enterprise Partnership (2020) Humber Local Energy Strategy [Online] Available at: <https://www.humberlep.org/wp-content/uploads/2020/02/Humber-LEP-Energy-Strategy..pdf> (Accessed 19/07/21)

energy production. Whilst the LES encourages solar development on brownfield and industrial sites, it explains that in some cases '*land currently used for farming and agricultural may be better utilised for renewable energy generation.*'

The Humber Clean Growth Local White Paper (2019)³⁷ sets out an aim for the Humber to be at the forefront of the UK's carbon transition and to become a net zero industrial economy by 2040, despite currently being one of the highest CO₂ emitting regions in the UK due to the energy-intensive industries located there. The Humber Clean Growth Local White Paper further states that the Humber will become a '*trailblazer for clean energy generation*' in order to decarbonise the Humber.

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

The overarching National Policy Statement for Energy (EN-1)³⁸ was adopted in July 2011 and sets out the overall national energy policy. EN-1 reflects the Government's commitment to carbon emission reduction, energy security and affordability. As such, EN-1 calls for reducing the dependency on high carbon fossil fuels, and transitioning to low carbon energy mix. Part 4 of EN-1 recognises the urgency of the need for renewable energy infrastructure and advises that there is a presumption in favour of granting consent, unless other policies indicate refusal.

The 2021 Draft NPS EN-1³⁹, which is currently in consultation, reiterates the need for large-scale energy infrastructure to support the aims of the Energy White Paper and achieve Net Zero by 2050. The draft NPS calls for sustained growth in the capacity of onshore solar energy generation in the next decade.

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

The National Policy Statement on Renewable Energy Infrastructure (EN-3)⁴⁰ was formally adopted in July 2011 and provides national planning policy in respect of renewable energy infrastructure.

Whilst EN-3 provides assessment and technology-specific information on certain renewable energy technologies it does not include solar PV development. Paragraph 1.8.2. explains the reasoning for this, i.e. at the time of drafting EN-3 which was published in 2011, the Government did not consider other forms of renewable energy generation to be viable over the relevant NSIP threshold, e.g. solar PV over 50 MW.

The Government published a revised Draft National Planning Statement for Renewable Energy Infrastructure (EN-3)⁴¹ in September 2021. In contrast to the adopted 2011 NPS

³⁷ Humber Local Enterprise Partnership (2019) Humber Clean Growth Local White Paper [Online] Available at: <https://www.humberlep.org/strategies-and-deals/industrial-strategy/humber-clean-growth-local-white-paper/> (Accessed 19/07/21)

³⁸ Department for Business, Energy & Industrial Strategy (2011) *Overarching National Policy Statement for Energy (EN-1)* [online]. Available at: <https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure> (Accessed 20/10/2021).

³⁹ Department for Business, Energy & Industrial Strategy (2021) *Draft Overarching National Policy Statement for Energy (EN-1)* [Online] Available at: <https://www.gov.uk/government/consultations/planning-for-new-energy-infrastructure-review-of-energy-national-policy-statements> (Accessed 20/10/2021).

⁴⁰ Department for Business, Energy & Industrial Strategy (2011) *National Policy Statement for Renewable Energy Infrastructure (EN-3)* [Online] Available at: <https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure> (Accessed 20/10/2021).

⁴¹ Department for Business, Energy & Industrial Strategy (2021) *Draft National Policy Statement for Renewable Energy Infrastructure (EN-3)* [Online] Available at: <https://www.gov.uk/government/consultations/planning-for-new-energy-infrastructure-review-of-energy-national-policy-statements> (Accessed 20/10/2021).

EN-3, the 2021 Draft NPS EN-3 contains technology-specific information for solar photovoltaic generation. The 2021 Draft NPS emphasises that solar farms are the cheapest form of energy generation worldwide and that solar is a key part of the government's strategy for low-cost decarbonisation of the energy sector.

The Draft NPS contains specific advice on environmental considerations for solar developments. Some of the key points of relevance to the determination of solar energy applications within the draft NPS are summarised as follows:

- ALC is relevant but should not be 'a predominating factor in determining the suitability of the site location'. Solar development is 'not prohibited on agricultural land classified 1, 2 and 3a'. (2.48.13 and 2.48.15);
- The draft NPS acknowledges that exact specifications are not likely to be known at the time of application. Accordingly, applicants should submit applications based on the worst-case scenario (2.49);
- It advises that Glint and Glare studies should focus on potential impacts on homes and motorists, rather than potential aviation impacts (2.52.5);
- With regard to archaeology, solar panels on concrete footings may in fact increase protection of below-ground archaeology as they would prevent regular ploughing. (2.53.2); and
- Micro-siting with specific tolerances is recommended as a way of mitigating archaeological impact during construction (2.53.6).

8.6 UK Renewable Energy Roadmap

The UK Renewable Energy Roadmap (2011)⁴² (the Roadmap) sets out the UK Government's commitment to increasing the use of renewable energy. The Roadmap identifies the National Policy Statements as a potential means of improving the delivery of renewable energy development through their advice on need, mitigation and delivery in a sustainable manner.

The UK Renewable Energy Roadmap Update (2013)⁴³ (the Roadmap Update) reports on the progress that has been made in the renewable energy sector since the publication of the Roadmap. The Roadmap Update re-iterates Central Government's commitment to renewable energy (Paragraph 1):

The Government strongly supports renewable energy as part of a diverse, low carbon and secure energy mix. Alongside gas, low-carbon transport fuels, nuclear power and carbon capture and storage, renewable energy offers the UK a wide range of benefits from economic growth, energy security and climate change perspective.

The Roadmap Update indicates that tools to help balance the supply and demand of electricity, including energy storage and management, are required to remove constraints on the level of renewable energy which the grid can support. Furthermore, it identifies that solar PV has the potential to form a significant part of the renewable energy generation mix and that solar received the highest public approval rating of all renewable energy technologies, at 82% in 2012 and 85% in 2013.

⁴² Department of Energy and Climate Change (2011) The UK Renewable Energy Roadmap [Online] Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48128/2167-uk-renewable-energy-roadmap.pdf (Accessed 14/05/21)

⁴³ Department for Energy and Climate Change (2013) UK Renewable Energy Roadmap Update 2013 [Online] Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/255182/UK_Renewable_Energy_Roadmap_-_5_November_-_FINAL_DOCUMENT_FOR_PUBLICATIO_.pdf (Accessed 14/05/21)

The Roadmap Update also recognises that a number of barriers continue to present challenges to delivery, including pre-consent delays.

8.7 UK Solar PV Strategy

8.7.1 UK Solar PV Strategy Part 1: Road Map to a Brighter Future

Part 1 of the UK Solar PV Strategy was published in October 2013⁴⁴ and sets out four guiding principles which form the basis of the Government's strategy for solar PV. These principles are:

- Support for solar PV should allow cost-effective projects to process and to make a cost-effective contribution to UK carbon emission objectives in the context of overall energy goals;
- Support for solar PV should deliver genuine carbon reductions that help meet the UK's target of 15% renewable energy from final consumption by 2020;
- Support for solar PV should ensure proposals are appropriately sited, give proper weight to environmental considerations such as landscape and visual impact, heritage and local amenity, and provide opportunities for local communities to influence decisions that affect them; and
- Support for solar PV should assess and respond to the impacts of deployment on: grid systems balancing; grid connectivity; and financial incentives.

Part 1 establishes the principles for solar PV deployment in the UK and states that solar PV can be deployed in a variety of locations, including on the ground on greenfield sites.

8.7.2 UK Solar PV Strategy Part 2: Delivering a Brighter Future (2014)

Part 2 of the UK Solar PV Strategy was published in April 2014⁴⁵ and focuses on the Government's ambition for the key market segments, how they will be realised through innovation and partnership and the benefits that this will bring for jobs and investment in the UK, in addition to vitally important emissions reduction.

Part 2 of the Strategy recognises, in respect of ground mounted solar PV installations, the opportunities for greater clean energy generation and how solar farms can be beneficial for wildlife. Part 2 of the UK Solar PV Strategy also recognises there is a need for ground mounted solar schemes to be well planned and screened and to avoid harm to biodiversity. It emphasises that innovation and clean energy are at the centre of the Government's economic plan. One of the key topics is the delivery of commercial and industrial onsite generation. With the falling costs due to technology innovation, there is an ambition for continuous growth in the solar PV capacity in line with the 2020 target for renewables.

⁴⁴ UK Government (2013) UK Solar PV Strategy Part 1: Roadmap to a Brighter Future [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/249277/UK_Solar_PV_Strategy_Part_1_Roadmap_to_a_Brighter_Future_08.10.pdf (Accessed 14/05/21)

⁴⁵ UK Government (2014) UK Solar PV Strategy Part 2: Delivering a Brighter Future [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/302049/uk_solar_pv_strategy_part_2.pdf (Accessed 14/05/21)

8.8 Net Zero – The UK’s Contribution to Stopping Global Warming

In May 2019, the Committee on Climate Change published Net Zero – The UK’s Contribution to Stopping Global Warming⁴⁶. The report recommends a new emissions target for the UK: net zero greenhouse gas emissions by 2050.

The report highlights the falling cost of key renewable technologies including solar, which is now generally comparable or lower cost than power from fossil fuels, and battery storage, advising that flexibility in the energy supply (e.g., demand response, storage and interconnection) should be encouraged by policy and regulatory frameworks.

On 27th June 2019, the Climate Change Act 2008 was amended to introduce a target for at least a 100% reduction in greenhouse gas emissions (compared to 1990 levels) in the UK⁴⁷ by 2050. This ‘net zero’ target is likely to affect and increase future Government renewable and low carbon energy targets and create a more positive policy environment for solar and energy storage/management development.

8.9 Reducing UK Emissions – 2020 Committee on Climate Change Progress Report to Parliament

The 2020 Committee on Climate Change Progress Report to Parliament⁴⁸ (the Progress Report) was published in May 2020 and provides a review of Government efforts over the previous 12 months with regards to Climate Change. This Progress Report highlights that the UK has not made sufficient progress towards meeting the 2050 Net Zero commitment over the past year. The power sector accounted for 12% of UK carbon emissions in 2019 and as such, the CCC recommends the decarbonisation of the power system, including the increased use of large-scale solar farms. In 2019, solar power made up only 3% of the UK energy supply. However, the cost of solar PV panels has decreased by 82% since 2010 and the proportion of energy derived from solar sources is expected to rise significantly as a result.

In addition, the Progress Report recommends significant UK investment in low-carbon and climate-resilient infrastructure, grid flexibility and energy supply security. To achieve this, the report states that *‘electricity networks must be strengthened across the UK to accommodate electrification of heat and transport’* and recommends that the Government should implement the actions within the Smart Systems and Flexibility Plan.

8.10 Progress in Reducing Emissions – 2021 Committee on Climate Change Progress Report to Parliament

The 2021 Committee on Climate Change (CCC) Progress Report⁴⁹ to Parliament was published in June 2021 and provides a review of Government efforts over the previous 12 months with regards to Climate Change. While UK emissions fell by 13% in 2020, much of this decline was likely a result of the Covid-19 pandemic and as such, lasting changes are far from certain. The CCC Progress Report recommends taking action to

⁴⁶ Committee on Climate Change (2019) Net Zero – the UK’s Contribution to Stopping Global Warming [Online] Available at: <https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/> (Accessed 14/07/21)

⁴⁷ UK Government (2019) The Climate Change Act 2008 (2050 Target Amendment) Order 2019 (2019 No. 1056) [Online] Available at: <http://www.legislation.gov.uk/ukSI/2019/1056/made> (Accessed 19/07/21)

⁴⁸ Committee on Climate Change (2020) Reducing UK Emissions – 2020 Progress Report to Parliament [Online] Available at: <https://www.theccc.org.uk/publication/reducing-uk-emissions-2020-progress-report-to-parliament/> (Accessed 26/06/21)

⁴⁹ Climate Change Committee (2021) 2021 Progress Report to Parliament [Online] Available at: <https://www.theccc.org.uk/publication/2021-progress-report-to-parliament/> (Accessed 20/07/21)

transition to a fully decarbonised electricity system and enhance system flexibility. Furthermore, it sets a target to phase out gas-fired electricity generation in the UK by 2035, subject to ensuring security of supply.

There has been significant progress in the transition to renewables, with emissions from electricity having decreased by 65% from 2009 to 2019. However, the CCC Progress Report notes that electricity systems will need to be adapted to increase generation shares from renewable resources and ensure that the system can support the transition to electric vehicles.

8.11 UK Sixth Carbon Budget

On 20th April 2021, the Department for Business, Energy and Industrial Strategy (BEIS) and Prime Minister's Office jointly announced that the Sixth Carbon Budget will further limit the volume of greenhouse gases emitted over the 5-year period from 2033 to 2037⁵⁰. The UK Government is already working towards a reduction of 68% by 2030, and states that the goal of achieving 78% by 2035 compared with 1990 levels constitutes the world's most ambitious climate change target.

For the first time, the Carbon Budget will incorporate the UK's share of international aviation and shipping emissions. The statement also notes that the UK continues to break records in renewable energy generation, which has more than quadrupled since 2010, with low carbon electricity accounting for other 50% of total generation.

The new target was given statutory force in June 2021 through the Carbon Budget Order 2021⁵¹.

8.12 UK Clean Growth Strategy: Leading the Way to a Low Carbon Future

The UK Clean Growth Strategy (2017)⁵² (the Strategy) builds on the UK's carbon emissions reduction progress. The Strategy conveys the Government's objective of achieving clean growth, whilst ensuring an affordable energy supply for businesses and consumers. The Strategy is in-line with the 2015 Paris Agreement where 195 countries agreed to stretch national targets to keep the global temperature rise below 2C degrees. Therefore, further actions and investment will be needed to ensure the shift to clean growth in the coming years, where the clean growth plays a central role in the UK's Industrial Strategy.

To meet the fourth and fifth carbon budgets (2023-2027, and 2028-2032), there will be a need for a significant acceleration in the pace of decarbonisation, while ensuring energy security supply at minimum cost to both industry and domestic consumers. One of the 'Clean Growth Innovation Challenges' identified within the Strategy is to develop smart energy systems so that clean technologies can integrate smoothly in the energy supply network.

⁵⁰ UK Government (2021) UK enshrines new target in law to slash emissions by 78% by 2035 [Online] Available at: <https://www.gov.uk/government/news/uk-enshrines-new-target-in-law-to-slash-emissions-by-78-by-2035> (Accessed 11/0/2021)

⁵¹ UK Government (2021) Guidance: Carbon Budgets [Online] Available at: <https://www.gov.uk/guidance/carbon-budgets#setting-of-the-sixth-carbon-budget-2033-2037> (Accessed 14/05/21)

⁵² UK Government (2017) Government reaffirms commitment to lead the world in cost-effective clean growth [Online] Available at: <https://www.gov.uk/government/news/government-reaffirms-commitment-to-lead-the-world-in-cost-effective-clean-growth> (Accessed 14/05/21)

8.13 The UK's Draft Integrated National Energy and Climate Plan (NECP)

The UK NECP⁵³ was produced in January 2019 and sets out the UK Government's climate and energy objectives, targets, policies and measures. The NECP highlights the role of advanced solar PV technologies in the delivery of cost efficient, clean and secure supplies of electricity. In addition, it makes clear that in order to meet the UK's 2050 climate change target, improvements in energy efficiency and energy management are required. This includes smart technologies such as energy storage and system balancing.

8.14 Upgrading Our Energy System – Smart Systems and Flexibility Plan (SSFP)

In July 2017, BEIS and Ofgem published Upgrading our Energy System: Smart Systems and Flexibility Plan⁵⁴, which sets out 29 actions that the UK Government, Ofgem, and industry will undertake to remove barriers to smart technologies, including storage; enable smart homes and businesses; and make electricity markets work towards flexibility. The SSFP states that:

By harnessing the potential of energy storage, demand-side response and smarter business models, we have an opportunity to upgrade to one of the most efficient, productive energy systems in the world. This is central to how we deliver secure, affordable and clean energy now and in the future.

The Government aims to implement the actions in the Plan by 2022, enabling the electricity system to work more flexibly and efficiently, potentially unlocking £17-40 billion in savings across the electricity system by 2050. Other benefits of improving energy systems include a reduction in the amount of additional energy generation required and improvements to the functioning of the grid.

8.15 Energy White Paper – Powering our Net Zero Future

The UK Government published its Energy White Paper⁵⁵ (the Paper) in December 2020. The Paper builds on the Prime Minister's Ten Point Plan to set the energy-related measures consistent with net zero emissions by 2050. One of the key aspects of achieving net zero identified in the paper is the modernisation of the energy system.

The Paper indicates that electricity demand in the UK could double by 2050 due to the electrification of transport and heating, which will 'require a four-fold increase in clean electricity generation with the decarbonisation of electricity increasingly underpinning the delivery of our net zero target'. It sets out that 'electricity is a key enabler for the transition away from fossil fuels and decarbonising the economy cost-effectively by 2050'. A key objective is to 'accelerate the deployment of clean electricity generation through the 2020s'

A low-cost net-zero system is likely to be composed predominantly of wind and solar. Onshore solar is identified as one of the key building blocks of the future generation mix,

⁵³ Department for Business, Energy and Industrial Strategy (2019) The UK's Draft Integrated National Energy and Climate Plan [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/774235/national_energy_and_climate_plan.pdf (Accessed 14/05/21)

⁵⁴ Department for Business, Energy and Industrial Strategy and Office of Gas and Electricity Markets (2017) Upgrading Our Energy System – Smart Systems and Flexibility Plan [online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/633442/upgrading-our-energy-system-july-2017.pdf (Accessed 24/03/21)

⁵⁵ HM Government (2020) Energy White Paper – Powering our Net Zero Future [online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/943807/201214_BEIS_EWP_Command_Paper_LR.pdf (Accessed 15/06/21)

along with onshore and offshore wind. The sustained growth of wind and solar is therefore needed to meet net zero emissions in all demand scenarios.

The energy system and power grid will need to adapt accordingly to support the deployment of clean energy technologized and more decentralised energy generation. The cost savings of a more flexible energy system are estimated as £12 billion per year by 2050 compared with a low flexibility system, which would result in lower costs for consumers. Greater flexibility would also mean that the amount of power generation development required to meet demand would be lower.

The Paper acknowledges that flexibility services have traditionally been provided by gas-fired power stations but that there is an opportunity for flexibility to be provided by cleaner sources such as batteries. Additional physical infrastructure is required to maintain the resilience and reliability of the grid.

8.16 Net Zero Strategy – Build Back Greener

The Government's Net Zero Strategy⁵⁶ (the Strategy'), published in advance of COP26, is the Government's long-term plan for the transition to a low carbon economy. The Strategy highlights the significant progress made since 1990 in reducing greenhouse gas emissions from the power sector and introduces an ambitious commitment to ensure that all electricity comes from low carbon sources by 2035, subject to security of supply.

The Strategy calls for the accelerated deployment of low-cost renewable generation and states that a low-cost net zero electricity system is likely to be composed predominantly of wind and solar generation. The Strategy recognises the centrality of solar to delivering net zero at the lowest cost to consumers and emphasises that the planning system will play an important role in supporting the deployment of renewable energy.

The role of storage technologies including BESS is highlighted within the Strategy, which states that increased investment in the grid network, electricity storage solutions and flexible grid management are required to ensure decarbonisation without risking security of supply.

8.17 Energy Storage and Management Drivers

There is a focus at International, European and national level on how the UK can deliver secure, clean and affordable electricity to consumers. Energy management facilities will play an important role in achieving this. A report by the National Infrastructure Commission (2016) estimates that smart power systems in the UK, which include energy storage and management '*could save consumers up to £8 billion a year by 2030, help the UK meet its 2050 carbon targets and secure the UK's energy supply for generations.*'

The Development is designed to support the flexible operation of the National Grid and decarbonisation of electricity supply. The Development will import and export electricity however, will not generate any additional electricity nor have any on-site emissions of CO₂. As such, the Development will contribute to the legal obligations of the Climate Change Act 2008, as amended in 2019 to incorporate the 2050 Net Zero target.

⁵⁶ UK Government (2021) *Net Zero Strategy – Build Back Greener* [Online] Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1026655/net-zero-strategy.pdf (Accessed 19/10/2021)

9 CONCLUSION

The Development is an opportunity to export up to 49.9 Megawatts of low carbon renewable electricity per year in an appropriate location which benefits from high levels of solar irradiance. Furthermore, the Greener Grid Park will support a higher proportion of renewables and increase the efficiency and stability of existing renewable energy developments by addressing intermittency and fluctuations in stability.

Together, the solar farm and Greener Grid Park will make a significant contribution to the decarbonisation of the electricity supply in the East Riding and the solar farm will provide enough renewable electricity to meet the needs of approximately 18,500 homes. The principle of development is supported by the ERYLP and the NPPF, which supports the development of renewable energy and transition to a low carbon economy. Furthermore, the Development will contribute to the Net Zero 2050 emissions target and other national energy and climate policies, including the Energy White Paper and Net Zero Strategy.

Considerable care has been taken in the design of the Development to avoid unacceptable environmental and amenity effects, whilst ensuring that the Development can make a significant contribution to the UK's requirement for renewable energy generation.

The Development incorporates an extensive scheme of landscape enhancements as set out in the Landscape and Biodiversity Management Plan, including the creation of new grassland, wildflower meadow, hedges, trees and shrubs. This will deliver a substantial net biodiversity gain of 114.73% and net gain in hedgerow units of 66.18%, screen views of the Development, and ultimately improve the landscape character and habitat value of the Site.

The Development is acceptable with regards to ecology and ornithology; the historic environment; agricultural land use; hydrology and flood risk; glint and glare; noise; contamination; glint and glare; landscape and trees; access, transport and traffic; and impacts on PRow.

It is integral to planning decision-making that a balancing exercise has to occur in respect of considering the benefits of development against the impacts. In this case, there are clear benefits which arise from the renewable energy credentials of the Development and the enhancements proposed in respect of biodiversity and landscape, which clearly outweigh the minimal adverse impacts.

The Development complies with all relevant policies in the Development Plan, namely S1, S2, S4, S8, EC1, EC5, EC6, ENV1, ENV2, ENV3, ENV4, ENV5, ENV6, C1 and AN4. Furthermore, the Development directly addresses national policies and material considerations related to net zero objectives, climate change and renewable energy. The Development is therefore acceptable in planning terms and it is therefore respectfully requested planning permission is granted.