Great Harmeston Solar Farm

Environmental Statement

Chapter 10 Summary and Conclusions

Development of National Significance
Pre-Application Consultation

March 2026

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10. Summary

10.1. Introduction

10.1.1. This draft Environmental Statement ("ES") has been prepared on behalf of ASUK HoldCo 4 Ltd ("the Applicant"), a subsidiary of Arise Renewable Energy UK Ltd and forms part of a suite of documents supporting the statutory pre-application consultation for a Development of National Significance (DNS) application, under Section 62 (D) of the of the Planning (Wales) Act 2015[1] ("the Wales Act"). The Applicant is seeking to obtain planning permission for the construction, operation and decommissioning of Great Harmeston Solar Farm, a ground mounted solar photovoltaic (PV) farm with capacity of up to 65 Mega Watts (MWac) together with all associated works, equipment, infrastructure and onsite point of connection via underground cable (the "Proposed Development") on land at near Great Harmeston Buildings, Pembrokeshire, SA62 3HM (the "Application Site"). The Application Site extends to approximately 128 hectares (ha) and is located entirely within the administrative area of Pembrokeshire County Council ("PCC").

10.2. EIA Regulations and Procedures

10.2.1. By virtue of its potential generating capacity of between 10MW-350MW, the Proposed Development constitutes a Development of National Significance (DNS) under section 4 of the Developments of National Significance (Specified Criteria and Prescribed Secondary Consents) (Wales) Regulations 2016, for the purposes of Section 62 (D) of the Wales Act.

10.2.2. The process for applying for a Development of National Significance is set out by the Development of National Significance (Procedure) (Wales) Order 2016 and subsequent Regulations. Planning applications are made directly to the Welsh Ministers under the Developments of National Significance (DNS) process and considered under policies in Future Wales. The DNS application process is managed by Planning and Environment Decisions Wales (PEDW) on behalf of the Welsh Ministers.

10.2.3. An Environmental Statement (ES) is a document that sets out the findings of an Environmental Impact Assessment (EIA). An EIA is a process for identifying the likely significance of environmental effects (beneficial or adverse) arising from a Proposed Development, by comparing the existing environmental conditions prior to development (the baseline) with the environmental conditions during/following the construction, operational and decommissioning phases of a development should it proceed. The EIA is carried out prior to the submission of the DNS application.

10.2.4. The statutory requirements for carrying out an EIA, the contents of the ES and the procedures for determining planning applications for 'EIA Development' are set out within

[1] Town and Country Planning Act 1990, Section 62D, amended by the Planning (Wales) Act 2015 Section 19

The Town and Country Planning (Environmental Impact Assessment) (Wales) Regulations 2017 (hereafter referred to as the" EIA Regulations").

Screening Direction

10.2.5. In order to determine if it is necessary to undertake an EIA to accompany a planning application, Regulation 7 of the EIA Regulations makes provision for an applicant to request Planning and Environment Decision Wales (PEDW) (on behalf of the Welsh Ministers) for a 'Screening Direction' to ascertain whether the development is considered likely to have significant effects on the environment and if so, be considered EIA Development.

10.2.6. The Applicant submitted a request for an EIA Screening Direction which was issued to PEDW on the 27th August 2025 (reference: DNS CAS-04538-H9C9V8). A Screening Direction was adopted by PEDW, on behalf of the Welsh Ministers, on 3rd October 2025 confirming the application was EIA development.

Scoping Direction

10.2.7. In order to determine the scope of an EIA, the EIA Regulations make provision for, but do not statutorily require, an applicant to request that PEDW provide a written Scoping Direction as to the information to be provided within the ES.

10.2.8. A request for an EIA Scoping Direction was issued to PEDW (on behalf of the Welsh Government) on 12th December 2025 to seek agreement on the scope and methodology of the EIA. An EIA Scoping Direction is to be adopted by the Welsh Government and will be included in the final ES when the formal DNS planning application is submitted to the Welsh Government. In due course all issues raised in the Scoping Direction will be considered as part of refining the EIA process for the final ES and further detail discussed in the ES Chapters where relevant.

10.3. EIA Process

10.3.1. An EIA is a process for identifying the likely significance of environmental effects (beneficial or adverse) arising from the Proposed Development, by comparing the existing environmental conditions prior to development (the baseline) with the environmental conditions during/following the construction, operational and decommissioning phases of a development, should it proceed. An ES is a document that sets out the findings of an EIA.

10.3.2. The baseline for the EIA assessment has been derived from surveys and studies within and around the planning application boundary. The ES includes a range of embedded mitigation (design measures incorporated into the Proposed Development) and has also considered measures to avoid, reduce, or additionally mitigate any significant adverse effects on the environment and, where possible, enhance the environment. An assessment of the likely significant environmental effects is made assuming embedded mitigation is delivered. It has then identified 'residual' effects, which are defined as the effects that remain on receptors following the implementation of additional mitigation measures.

10.3.3. The potential for cumulative effects from the Proposed Development and other developments are also considered, as well as in-combination effects (multiple environmental effects from the Proposed Development combined to affect the same receptor or resource). The EIA is carried out prior to the submission of the DNS application.

10.4. The EIA Consultant Team

10.4.1. The EIA Regulations set out the requirements for EIA applications to be accompanied by confirmation that the Environmental Statement has been prepared by competent experts.

10.4.2. The ES has been coordinated and managed by Pegasus Group. Pegasus is accredited under the Institute of Sustainability and Environmental Professionals (ISEP) ' Quality Mark' scheme , formerly known as the Institute of Environmental Management and Assessment (IEMA) before changing its name in July 2025. The ISEP 'Quality Mark' scheme is a mark of excellence in EIA co-ordination and management. Pegasus Group have extensive experience of undertaking EIA work across a range of projects and development types including renewable energy developments.

10.4.3. The consultants who have contributed to the preparation of this ES are referenced in the Statement of Competence at the beginning of the ES, along with information demonstrating their expertise to ensure the completeness and quality of the ES in accordance with the EIA Regulations.

10.5. Site Context

10.5.1. The Site is located on land near Great Harmeston Buildings, Pembrokeshire. The land within the site boundary has an area of approximately 128 hectares ("ha"), incorporating cable routes.

10.5.2. The Site is located entirely within the administrative boundary of Pembrokeshire County Council (PCC), on land near Great Harmeston Buildings, Pembrokeshire, SA62 3HM. The village of Johnston lies immediately north, village of Steynton (1.1km) south and Milford Haven (2.9km) south of the Site. The Site comprises of fields predominantly for arable use, bound by a mixture of mature woodland, trees, hedgerows, fencing, tracks, road and a railway line.

10.5.3. The Site is segregated by two 'A' roads and a railway line, a number of land parcels are located to the west of the A4076 Milford Road, with further land located between the A4076 and A477 (which is bisected by the Transport for Wales (TfW) railway line), and additional fields located on land to the west of the A477 (also bisected by the TfW railway line).

10.5.4. The A4076 Milford Road routes between Haverfordwest and the A40 in the north and Milford Haven in the south. It is a trunk road maintained by Welsh Government / Traffic Wales. In the vicinity of the site, it forms the northern and southern arm of the 'Sunnycroft' roundabout at the site's northern boundary. The A447 routes between the A40 at St Clears

to the west and the 'Sunnycroft' Roundabout to the west. It forms the eastern arm of the 'Sunnycroft' roundabout and bisects the eastern parcel of the site.

10.5.5. The Site will be served from the A4076 Milford Road to the north via Haverfordwest for construction, operation and decommissioning purposes which has onward connections to the A40/A48 and M4. There are a number of separate access points into the Site owing to the land parcels being segregated by the A4076 and A477.

10.5.6. The surrounding landscape is a mixed rural and urbanising setting, within the immediate area agricultural fields are interspersed with pockets of urban features. This includes the village of Johnston to the north of the Site and the local road network (A4076 Milford Road and A477). A Solar Farm is located south of Tiers Cross, 0.5km west of the Site. The adjoining area to the Site primarily consists of non-built-up land and agricultural land. The Site is surrounded by multiple unused artificial landscapes and industrial/manufacturing units located to the southeast and east. Residential buildings are located to the southeast, east, south, and northeast. Nearby, the Johnston Community Primary School is 0.94 km to the east, and Milford Haven School is 1.72 km to the south.

10.5.7. The Site is not in or adjacent to an environmentally sensitive area, as defined by Regulation 2(1) of the EIA Regulations (i.e., sites designated as Sites of Special Scientific Interest (SSSI), National Parks, World Heritage Sites, Scheduled Monuments, Area of Outstanding Natural Beauty (Now National Landscapes), and sites covered by international conservation designations). The majority of the Site is located within Flood Zone 1 (the zone with the lowest probability of flooding), small areas of Flood Zone 2 and 3 are limited to the Site boundary and one section within the southwest of the Site associated with an unnamed stream in this area.

10.5.8. The Site predominantly comprises a mix of arable land, improved grassland (cattle grazed) and sileage production bounded by species poor (blackthorn and hawthorn dominated) hedgerows and trees. There are a number of ponds, ditches and waterways primarily around the site boundary as well as some woodland blocks. The Site is considered to be of low ecological value as it is subject to frequent agricultural and grazing management techniques. Field boundaries, hedgerows and boundary trees offer greater ecological value, and these features have been retained and safeguarded through the Proposed Development.

10.5.9. There are no statutory or non-statutory sites designated for nature conservation located within the Site or adjacent to it. The closest statutory nature conservation designation is Scoveston Fort SSSI approximately 2.3km south east. There are no areas of Ancient Woodland within the Site, but discrete pockets of Ancient Woodland are dispersed in the wider area.

10.5.10. The Site does not fall within any statutory landscape designations and is not within the Green Belt. The Site forms part of the undulating landform and largely slopes from the north / north east around Johnston at c. 75 m AOD descending into a narrow and wooded valley near Great Harmeston and Hayston Bridge / Lower Hayston reaching c. 30 m – 40

m along its southern edge. The eastern part of the Site slopes east descending to c. 60 m AOD along its eastern edge.

10.5.11. There are no public rights of Way (PRoWs) within the Site. Public Rights of Way (PRoW) footpath PP81 1/1 and bridleway PP81 2/2 route west to east to the south of the Eastern Parcel. The development proposals will not impact the PRoWs.

10.5.12. The Site is not located within any statutory and / or non-statutory designated sites for cultural heritage or archaeology. The Site is not within or adjacent to a Conservation Area. A Scheduled Monument of a prehistoric burnt mound lies adjacent to the northern boundary of the site – Heneb ref. 3347. There are 10 Listed Buildings within a 1km radius of the site.

10.5.13. The Site is not known to have any contaminated land although there is a historic landfill named Hayston covering a small proportion of the southeast area of the Site. The majority of the geology at the Site is underlain by the Rosemarket Formation of the Silurian period, consisting of interbedded sandstone and argillaceous rocks. The hydrogeology consists of solid geology beneath the Site designated as a Secondary B Aquifer (Rosemarket Formation) and a Secondary A Aquifer (Milford Haven Group). The Site is not within a Source Protection Zone, however, is within an area identified as 'high' for groundwater vulnerability.

10.5.14. An Agricultural Land Classification survey (ALC) verified by Land Quality Assessment Service[2] (LQAS) confirms the Site consists of a mix of Grades 2, 3a, 3b, 4 and non-agricultural land although the Site is predominantly low grade (Grade 3b, 4z) agricultural land. The ALC calculations confirm the majority of the development footprint within the Site consists of Grade 3b and Grade 4 (non Best and Most Versatile (BMV) Land) land which constitutes almost 80% of the Site.

10.5.15. The Site does not lie within an Air Quality Management Area (AQMA) and is not adjacent or within close proximity to any other AQMA.

10.6. Proposed Development

10.6.1. The main element of the Proposed Development is the construction, operation, maintenance and decommissioning of a ground mounted solar farm with an intended design generation capacity of up to 65 mega-watts alternating current (MWac). The electricity generated would be enough to power the equivalent of up to 34,444 typical family homes per year, helping to cut carbon emissions and support the transitions away

[2] LQAS is the specialist service within the Welsh Government that validates Agricultural Land Classification (ALC) surveys

from fossil fuels. The Proposed Development would also result in the reduction of carbon dioxide emissions of over 11,532 tonnes of CO_2 per year.[3]

10.6.2. The design of the Proposed Development has been refined throughout the EIA process. It is recognised that parts of the Proposed Development design and construction methodology, as presented, may be subject to further refinement and optimisation prior to and during construction. This is very pertinent to solar development due to the rapid pace of change in technology. For example, as technology advances, it is possible that solar PV panels could become more efficient, which could result in a potential reduction in total panel area required to deliver the same amount of generation. This in turn could require the micro-siting of panels and the associated equipment and infrastructure to reflect such changes, i.e., the final alignments of cabling and the number and location of panels, substation, inverters and transformers.

10.6.3. This EIA has employed a maximum (or minimum where appropriate) design scenario. A 'worst case' scenario approach to the environmental impact of a Proposed Development and allows for a broad definition of the project to be framed within a number of set parameters. The submitted site layout is therefore indicative as the detailed layout and phasing of construction will be agreed with the Local Planning Authority (LPA) by way of planning condition following grant of planning permission. The final detailed layout will demonstrate how the final 'as-build' design remains within the parameters of the design principles considered by this ES.

10.6.4. Key components of the Proposed Development include:

- Solar photovoltaic ("PV") fixed panels mounted on a simple metal framework;
- Associated infrastructure including access tracks, parking, CCTV, gates and fencing, lighting drainage infrastructure, storage containers, earthworks, culverts, surface water management, maintenance and welfare facilities, security cabins and any other works identified as necessary to enable the development
- On-site 132kV Substation compound;
- Underground cabling to connect and transmit electricity from the solar PV modules to the on-site 132kV substation.
- Underground cabling connecting the 132kV on-site substation to the existing overhead 132kV powerline located to the south of the main development site.
- A number of central inverters (inverters and transformers housed together in prefabricated containers) at various locations around the arrays;

[3] [1]Source: Homes: 65MWac / 2700kWh (average UK home) = 34,444. CO2: 65MWac solar scheme based on a reasonable expected yield of 1,000 kWh/kWp/year and a carbon intensity of 0.124 kg CO2/kWh per the 2023 BEIS dataset = 11,532

- Boundary fencing (e.g. deer fencing) around the edge of the solar farm at a maximum height of 2.4m above original ground level;
- A CCTV system, either pole or fence-mounted, located at strategic points around the site perimeter for security and maintenance reasons, maximum height of 4m;
- Associated internal service tracks;
- Relevant communications (potential communications mast up to 15m) and monitoring equipment in substation area;
- Landscaping and biodiversity enhancements;
- Temporary development during the construction phase including construction compounds, parking, and temporary internal access tracks; and
- A number of separate access points into the Site for construction, operation and decommissioning purposes, predominantly utilising existing farm access points.

Solar PV panels and framework

10.6.5. The Proposed Development will use fixed solar photovoltaic (PV) panels mounted on metal frameworks, with panels reaching a maximum height of 3 m above ground level and a minimum clearance of 0.8 m. Panels will be oriented due south at a tilt of 10–25°, with approximately 3.5 m spacing between rows to follow the natural topography. The mounting structure will be supported by double-mounted posts driven about 1.5 m into the ground, though ballast slabs or non-intrusive concrete pad foundations may be used where ground conditions or archaeology require it. Panels will be pre-constructed to reduce on-site works.

String Inverters and Inverter Transformer Stations

10.6.6. String inverters take direct current (DC), as generated by the solar PV panels, and convert it into alternating current (AC) to enable the on-site generated electricity to be transferred to the on-site substation and in turn to the local electricity distribution network. The design of string inverters varies between manufactures, but they are typically approximately 1.1 m wide × 1 m high × 0.5 m deep and attach to the end of panel rows. An approximate 200 string inverters and 90 inverter / transformer stations are anticipated to be spread across the solar PV panelled areas. Due to the continuing advances in solar technology, it is not possible to specify the precise type of inverter at this time, as this will depend on the detailed electrical design and competitive procurement process. However, final details could be controlled through suitably worded planning conditions requiring the final details to be submitted for approval.

Electrical Cabling and Point of Connection

10.6.7. Electrical cabling will connect the solar panels in strings using insulated cables fixed beneath the mounting frames before entering shallow underground trenches, typically up

to 1 m deep and 0.5 m wide, which will also contain earthing and communications cables and be backfilled to original ground levels. The 33 kV cabling will link the arrays to inverter/transformer stations and then to the on-site 132 kV substation, with two options for crossing the railway: directional drilling beneath it (Option A) or an open-cut trench via the A477 and its bridge or service duct (Option B). The final connection from the on-site substation to the existing 132 kV overhead line will also be made via open-cut trench, with potential upgrades required to the existing pylon. Construction will follow an Outline Soil Management Plan to protect soil quality, and while underground cabling will be routed through existing hedgerow gaps wherever possible, some hedgerow loss is assumed as a worst case. Cabling deeper than 1 m will be left in place at decommissioning to avoid unnecessary disturbance.

Substation Compound

10.6.8. The on-site 132 kV substation compound will step up the electricity generated by the solar arrays from 33 kV to 132 kV for export to the National Grid. It will have a footprint of around 15–25 m², a maximum eaves height of 3 m, and will be enclosed by 2.4 m-high palisade security fencing with gated access. Aside from concrete equipment foundations, the compound will remain permeable to surface water, and external lighting will be limited to downward-facing emergency lighting rather than continuous illumination. Final substation design details will be agreed with the Distribution Network Operator (DNO).

Access Tracks

10.6.9. Access tracks will provide routes for maintenance vehicles during operation, making use of existing farm tracks wherever possible and adding new 4.5 m-wide tracks only where required. These routes have been aligned to use existing field gates to minimise hedgerow loss. The tracks will consist of permeable crushed stone, created by excavating 150 mm of soil, laying clean Type 1 aggregate, and placing it on a compacted 350 mm soil base. Inverter stations will be positioned off several of these internal access tracks.

Fencing and Security

10.6.10. Fencing around the site will consist of 2.4 m-high deer/stock wire fencing on wooden posts, designed to allow small mammals to pass through and fitted with gates for site access. A 5 m gap will be maintained between the fencing and the nearest solar panels. Security will be provided by inward-facing CCTV cameras mounted on poles up to 4 m high along the site perimeter, using motion detection and oriented to avoid views beyond the site boundary. While the site will not be continuously lit, targeted security lighting will be installed around key electrical infrastructure, such as the 132 kV substation compound.

Temporary Construction Compounds

10.6.11. Temporary construction compounds will be set up in various locations across the site and will be installed and removed as each land parcel is constructed. Each compound will typically measure around 60 m × 45 m and include hard-surfaced areas, secure storage with timber hoarding, office and welfare facilities enclosed by Heras fencing, and parking

for around nine vehicles, including minibuses. Compounds will also provide space for articulated vehicles to enter and turn safely, and wheel-washing facilities may be added if ground conditions require it. The compounds will be used for storage, welfare, and deliveries during construction, and once construction is complete, they will be fully decommissioned and the areas reinstated for grassland or use within the solar farm layout.

Drainage

10.6.12. A Flood Consequence Assessment and Surface Water Drainage Strategy outline how the development will manage runoff and avoid increasing flood risk. Rainfall will infiltrate the ground beneath and between solar panels, which remain permeable due to being raised on frames. Internal access tracks will be built from permeable crushed aggregate, preventing additional surface water runoff. Sustainable drainage systems (SuDS) will address changes to existing land drainage, with detailed designs to be finalised before construction. Overall, the strategy demonstrates the site will remain safe for its 40-year lifetime without increasing flood risk elsewhere.

Biodiversity and Landscaping

10.6.13. The Proposed Development includes significant opportunities for biodiversity enhancement and landscape improvement, guided by the Outline Construction Biodiversity Management Plan (CBMP). Measures include planting new hedgerows, strengthening existing field boundaries, and improving habitat connectivity across the site. Land beneath and between the panels will be managed for biodiversity through wildflower and grassland enhancement, possibly seasonal sheep grazing, and dedicated skylark mitigation enhancement areas, which follow meadow-style management to protect nesting periods. Mechanical cutting may also be deployed to manage the grass outside of ecological mitigation enhancement areas

10.6.14. Long-term habitat protection, creation and management measures will be secured through the detailed CBMP, to be agreed with the Local Planning Authority. This will ensure ongoing maintenance, species protection, and establishment of new habitats throughout the operational life of the solar farm.

10.7. Construction Access

10.7.1. The site is served by ten existing access points, (A to J) which provide access to agricultural fields or buildings and are therefore associated with existing large agricultural vehicle movements, however, where necessary modifications will be made as outlined within Construction Traffic Management Plan submitted as part of this DNS Application.

10.7.2. There is only one access (Access K) in the southern part of the Site next to the cable route corridor that will form a new access which is proposed to be located approximately 380 metres south of Access J.

10.8. Operational Access

10.8.1. Once operational, the site will continue to be accessed from the A4076 Milford Road and the A477 via the access points A to J. Security gates, hung to open inwards, will be installed to secure the site.

10.9. The solar farm will be associated with approximately two maintenance visits to the site per month, likely by a 4x4 type vehicle or a small van. These types of vehicles are already using the A4076 Milford Road and the A477.

10.10. Whilst the construction compounds will have been removed, space will remain within the site for vehicles to turn around to ensure that reversing onto the adjacent highways will not occur.

10.11. Construction Activities

Construction Phase

10.11.1. The construction activities for the Proposed Development are expected to occur over approximately 9 months and will include several overlapping phases. Early works will focus on establishing access points, installing temporary construction compounds, erecting security and deer fencing, protecting tree root zones, clearing ground, constructing internal access roads, and bringing essential machinery and materials to site. This will be followed by installation of the solar PV panels, mounting structures, inverters, cabling, fencing around operational areas, the 132 kV substation, and completing the grid connection, before moving into testing, commissioning and any necessary reinstatement.

10.11.2. The construction methodology sets out broad working hours, the types of equipment likely to be used, and environmental control measures that will be carried through a detailed Construction Environmental Management Plan (CEMP). Standard working hours will apply, with night-time working limited to exceptional cases, and around 52 jobs are expected on-site during construction. The CEMP will define responsibilities, monitoring, prohibited activities, storage protocols, and response procedures for unexpected events. Additional plans including traffic management, waste management and tree protection will guide measures to minimise environmental effects, manage contractors, prevent complaints, and ensure safe and compliant construction practices throughout the programme.

10.11.3. Construction traffic will be managed through a detailed Construction Traffic Management Plan (CTMP), which sets out routing, access arrangements, peak-time restrictions, and controls for large or abnormal loads. During typical construction periods, the site is expected to receive between 14 and 21 deliveries per day, with up to 100 construction workers at peak times, most of whom will arrive by minibus to reduce single-occupancy trips. Worker travel will be scheduled to avoid highway peak hours where possible. The CTMP concludes that this level of traffic is not considered material and will not adversely affect the safety or operation of the local or strategic road network.

10.11.4. Waste generated during construction will include demolition spoil, packaging, material off-cuts, and contaminated runoff such as silted water. Contractors will be required to

minimise waste at source and maximise reuse and recycling wherever possible, with most recycling undertaken off-site to reduce noise and dust. All waste leaving the site must go to authorised facilities, following strict legislation including the Environmental Protection Act, Duty of Care Regulations, Landfill Regulations, and Hazardous Waste Regulations. A Waste Transfer Note system and Waste Acceptance Criteria testing will ensure all materials are properly tracked and disposed of. No waste burning will be permitted on-site. A Site Waste Management Plan will guide sorting, reuse, recycling, legal compliance, and cost control throughout the construction phase.

10.11.5. During construction, all trees to be retained will be protected in accordance with BS5837:2012, ensuring they are safeguarded from damage. Temporary material storage will be kept at safe distances from vegetation, and additional ground protection may be used where vehicle movements could compact tree roots. These measures will prevent physical harm to trees and surrounding vegetation throughout the construction period.

Operational Phase

10.11.6. During the 40-year operational phase, activity on-site will be minimal and limited mainly to maintenance, ecological management, equipment servicing and occasional component replacement. The site will be accessed via the established entrances, with no permanent staff required, maintenance visits will typically be made by van. Perimeter fencing and pole-mounted CCTV will secure the operational areas. Land beneath and around the panels will continue to be managed for biodiversity, including skylark mitigation areas and possibly seasonal sheep grazing, alongside general grassland maintenance. Any equipment needing replacement will follow the waste hierarchy, with electrical components handled in accordance with WEEE Regulations to maximise reuse and recycling.

Decommissioning Phase

10.11.7. At the end of the 40-year operational life, the solar farm will be decommissioned over an estimated 9 month period, potentially in phases. All above-ground infrastructure including panels, frames, inverters, cabling less than 1 m deep, fencing, and hardstanding will be removed, while deeper cabling may remain in situ to avoid unnecessary ground disturbance. The on-site 132 kV substation and its security infrastructure will be retained permanently as part of the National Grid network.

10.11.8. Once infrastructure is removed, the land will be returned to agricultural use or other landowner-determined purposes, with habitat areas such as hedgerow and tree planting generally retained. Decommissioned equipment will be recycled or disposed of following the waste hierarchy, with electrical components managed under WEEE Regulations to maximise material recovery. A decommissioning plan and ecological survey will be prepared prior to works, with the process controlled through planning conditions.

10.12. Consideration of Alternatives

10.12.1. Regulation 17 (3)(d) of the EIA Regulations requires that the ES contain:

'a description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment'.

10.12.2. Additionally, paragraph 2 of Schedule 4 of the EIA Regulations requires that the ES contain:

'A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.'

10.12.3. The Alternatives assessment considers the 'No Development' option, alternative locations, alternative designs and alternative technologies. The 'No Development' scenario was discounted because it would forgo the opportunity to contribute to national renewable energy targets and carbon reduction commitments, with the site remaining in agricultural use and delivering none of the identified environmental benefits. Alternative locations were explored through a site-selection process focused on grid connection availability, land availability, environmental constraints, and national policy, with Great Harmeston emerging as the only viable, deliverable option due to its proximity to an existing 132 kV overhead line, landowner willingness, and ability to accommodate a 65 MW solar farm while avoiding major environmental designations.

10.12.4. Design alternatives included reducing use of Best and Most Versatile agricultural land and refining the layout in response to constraints, resulting in an iterative design that incorporates mitigation by design. Technology alternatives considered fixed versus tracking solar panels and string versus central inverters. Fixed panels and string inverters were selected due to lower visual and noise impacts, reduced maintenance requirements, and better reliability. Overall, the chosen scheme represents the most environmentally suitable and technically feasible option identified.

10.13. Cumulative Considerations

10.13.1. The cumulative effects section explains how the ES considers the combined environmental impacts of the Proposed Development alongside other existing or proposed developments in the area.

10.13.2. In accordance with Schedule 4, 5(e) of the 2017 EIA Regulations, cumulative effect interactions should be considered and information included within the ES where:

"the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resource"

10.13.3. Within EIA, cumulative effects are generally considered to arise from the combination of effects from the Proposed Development and from other proposed or permitted schemes

in the vicinity, acting together to generate elevated levels of effects. Examples of these kinds of effects could include traffic generated from developments affecting the surrounding road network; air quality effects from developments; and discharges to the water environment.

10.13.4. There is no statutory method for cumulative assessment, so the approach is based on recognised good practice and professional judgement.

10.13.5. Assessment of cumulative effects with other developments which are either operational, under construction / consented or the subject of a full planning application as set out within the ES Scoping Report in consultation with Pembrokeshire County Council and has been considered within the relevant technical chapters of this ES.

In-Combination Effects

10.13.6. In-combination effects occur when different environmental effects from the Proposed Development such as noise, traffic, dust, or landscape change act together on the same receptor at the same time. Where relevant technical chapters of this ES considers whether these overlapping effects could collectively increase the overall impact beyond what each would cause individually. Only effects of minor, moderate, or major scale are included, and a structured approach is used to identify receptors experiencing more than one effect and to judge whether this results in any change to significance. This process ensures that all realistic combined effects have been fully considered within the ES.

10.14. General Assumptions and Limitations

10.14.1. The principal assumptions that have been made and any limitations that have been identified in preparing this ES are set out below

10.14.2. The core assumptions and limitations that underpin the ES assume the Proposed Development is delivered as described in **Chapter 4 Proposed Development and Alternatives**, representing a realistic worst-case scenario. It is assumed that surrounding land uses remain as existing unless planning permission has already been granted for change. All third-party information is treated as complete and up-to-date, and the design, construction and operation will comply with all relevant legislation. Mitigation measures are expected to be secured through planning conditions or obligations where necessary. The ES acknowledges that some technical limitations and uncertainties are unavoidable, and where these arise, they are clearly identified within the specialist chapters. Overall, the assessments have been undertaken objectively using available data, accepted standards, and professional judgement, with assumptions and any limitations transparently reported.

10.15. Landscape and Visual

Introduction

10.15.1. The Landscape and Visual chapter has sought to determine the effects upon the identified landscape character and visual receptors, and determine whether such effects would be significant. In line with best practice it considers the effects during the construction, operation, and decommissioning stages.

10.15.2. The chapter has considered the Proposed Development in terms of its maximum parameters: the extent and height of the solar modules, substation elements, and fencing, as described within the description of the Proposed Development (**Chapter 4 of this ES**). The chapter also sets out the main policies and guidance relevant to landscape and visual matters based on the published guidance and relevant planning policies. The provided assessment is based on established best practice methodologies.

Baseline Conditions

10.15.3. The Proposed Development is not located within any national statutory protected landscape designations. It does not lie within any regional or local non-statutory landscape designations, either. It is not considered to be of high value in the context of the NPPF.

10.15.4. The landscape associated with the Site falls entirely within National Character Landscape Area 48 Milford Haven.

10.15.5. The Pembrokeshire County Landscape Character Assessment has been reviewed. The Site is located entirely within LCA 9 Johnston Lowlands, located in central Pembrokeshire, south of Haverfordwest, north of Milford Haven and west of the Western Cleddau and Daugleddau where it extends to the National Park boundary.

10.15.6. The LANDMAP Aspect Areas for the five datasets relevant to the Site have been reviewed. For Aspect Areas beyond the boundary of the Site, a filtering process was undertaken in line with the Natural Resources Wales guidance note which used SZTV to ascertain if there would be intervisibility with the Proposed Development; these findings were then verified during the Site visits.

10.15.7. A preliminary visual appraisal was conducted in early June 2025 to determine the relationship of the Site with its surroundings and the approximate extent of its visibility within the wider landscape from publicly accessible locations. Additional single day site visit was then carried out in February 2026 to verify the updated SZTV and help identify any additional receptors that may gain views towards the Site in winter months when the level of vegetative screening is the lowest.

Likely Significant Effects

Construction Phase

10.15.8. The construction phase has been judged to result in some highly localised visual effects upon receptors present at Viewpoint 2, Viewpoint 3, Viewpoint 6, Viewpoint 13, and Viewpoint 15.

10.15.9. No significant effects to landscape elements or the landscape character, including LANDMAP, have been identified for the construction phase.

Operational Phase

10.15.10. The operational phase has been judged to result in some highly localised visual effects upon receptors present at Viewpoint 2, Viewpoint 3, Viewpoint 6, Viewpoint 13, Viewpoint 14, Viewpoint 15, and Viewpoint 17.

10.15.11. With regards to landscape elements, the operational phase is judged to result in significant, beneficial effects with regard to the hedgerow and tree resource.

10.15.12. With regards to landscape character, the Site and its immediate environs are judged to experience significant effects during the early years of the Proposed Development, prior to the establishment of the landscape proposals.

Cumulative and In-Combination Effects

10.15.13. The Proposed Development has been judged against the proposed and at scoping cumulative schemes. No potential significant effects have been identified.

Mitigation and Enhancement

10.15.14. The Proposed Development has incorporated a number of built-in mitigation measures developed through the iterative design process and additional mitigation measure addressing the assessment of potential significant effects carried out in this Chapter 5. From an LVIA point of view the following mitigation measures are considered to be the most relevant:

10.15.15. Embedded mitigation measures:

- Offsets from internal and boundary watercourses and vegetation are proposed to safeguard these features and to ensure continued maintenance access.
- Increased offset from residential properties on the south eastern edge of Johnston: No. 44 and Fairviews.
- Perimeter and internal hedgerows to be managed to improve their condition and increase height.
- Hedgerow trees and perimeter planting to control views from Johnston and the adjacent highways.

Conclusion

10.15.16. It is important to acknowledge that significant effects on landscape character and visual amenity are an inherent consequence of a new development of this type and scale. However, in this case, any potential for adverse effects has been judged to be considerably limited by the landform and existing vegetation that characterises the core study area and indeed the wider landscape. The proposed mitigation planting has the potential to reduce such significant effects, which would be geographically highly limited, both in character and visual terms. Whilst certain elements of the Proposed Development would, inevitably, be more visible, for a scheme of its scale the residual landscape and visual effects arising are considered to be highly limited. Those effects which have been identified as being significant should therefore be balanced against the benefits of the Proposed Development.

10.16. Cultural Heritage

Introduction

10.16.1. The Cultural Heritage chapter of the ES has assessed the likely significant effects of the Proposed Development on the archaeological resource, built heritage and the historic landscape. The assessment considers the potential for any direct physical effects, indirect physical effects and effects due to setting change.

10.16.2. The assessment has been carried out with relevant sector guidance including the Chartered Institute for Archaeologists (CIfA) (2020) Standard and guidance for historic environment desk-based assessment; IEMA, Institute of Historic Building Conservation (IHBC) and CIfA (2021) Principles of Cultural Heritage Impact Assessment in the UK (PCHIA); Cadw (2011) Conservation Principles for the sustainable management of the historic environment in Wales; and Cadw (2017) Setting of Historic Assets in Wales.

10.16.3. A 1km Study Area was used for baseline data gathering and the identification of assets susceptible to effects due to setting change.

Baseline Conditions

10.16.4. The Study Area has evidence for activity from at least the Bronze Age to the present day. Geophysical survey of the Site in 2025 found anomalies which appear characteristic of Bronze Age to Roman period activity across much of the Site. Most anomalies appear to be related to settlement, such as enclosures, and field systems, mainly linear anomalies. There are some curvilinear anomalies in the northwest tip of the Site and south of Hayston Mountain which may derive from burial mounds. The Site also contains anomalies corresponding to the sites of post medieval farmsteads, plus contemporary field boundaries and tracks.

10.16.5. Within the Study Area, several designated historic assets have been identified. These include one Scheduled Monument, the Burnt Mound 170m south of Jubilee Cottages (SM ref. PE476), a later prehistoric mound positioned immediately adjacent to the northern Site boundary. There are also ten Listed Buildings within a 1 km radius of the Site. To the north, approximately 410 m away, lies the Church of St Peter at Johnston (Grade II*, LB ref.

11996), a medieval parish church that forms an important historic focal point. The Study Area also encompasses part of the Milford Haven Waterway Landscape of Outstanding Historic Interest (RHL ref. HLW (D) 3).

10.16.6. Adjacent to the junction of the A477 and A4076 is Upper Harmeston (Grade II, LB ref. 82698), a mid-19th century cottage contributing to the rural historic character. South of the Site lies the Hayston Hall group, comprising three Grade II listed buildings: Hayston Hall (LB ref. 83215), an early 19th century gentry house situated around 210 m from the Site; the Lofted Outbuilding at Hayston Hall (LB ref. 83216), located approximately 230 m away; and the Courtyard of Outbuildings at Hayston Hall (LB ref. 83217), around 260 m from the Site. Further east are two Grade II listed buildings associated with Great Harmeston: the 16th-century Great Harmeston house (LB ref. 13052), positioned roughly 350 m from the western half of the Site, and the Long Agricultural Range to its west (LB ref. 13053), comprising 19th-century cartsheds and a food processing store located around 300 m east of the same area.

10.16.7. Additionally, Hayston Bridge (Grade II, LB refs. 82524 & 83218), a late 18th-century bridge formerly carrying the historic route between Johnston and Waterston, sits adjacent to the Site. Nearby, the Grade II Milepost near Redstock Bridge (LB ref. 82696) lies on the Site boundary at Redstock, marking historic transport routes within the local landscape.

Likely Significant Effects

10.16.8. During the construction phase, the Proposed Development has the potential to give rise to direct physical effects on archaeological remains associated with Bronze Age to Roman settlement, agricultural activity and, potentially, funerary practices. These remains are considered to be of at least low value and any resulting harm is assessed as being of a very low level. Consequently, no significant effects are predicted in EIA terms. Post-medieval farming features, which are also of low value, may experience up to a medium level of harm; however, this too would remain not significant within the context of the EIA.

10.16.9. During the operational phase, anticipated effects are limited to changes in setting. The Burnt Mound Scheduled Monument may experience a low level of harm associated with altered views or the changed character of its surroundings, though this would not materially affect its significance in EIA terms. Upper Harmeston, a high-value listed building, may similarly experience a low level of harm due to changes in its wider setting; however, this effect is also assessed as not significant.

10.16.10. In the decommissioning phase, direct physical effects may arise from ground disturbance associated with the removal of infrastructure. Archaeological remains of Bronze Age to Roman date are likely to experience a very low level of harm, consistent with their low value, and such effects would not be significant in EIA terms. Post-medieval farming features would experience a similarly very low level of harm, which again would fall below the threshold of significance for EIA purposes.

10.16.11. No cumulative developments were identified which would give rise to effects to any historic assets affected by the scheme. As such, there are no cumulative effects to heritage assets.

Mitigation and Enhancement

Direct physical effects on archaeological assets would be managed through an appropriate programme of archaeological works, the scope of which would be developed in agreement with Heneb, acting as archaeological advisors to Pembrokeshire County Council. Such a programme is likely to include measures such as trial trench evaluation, targeted excavation in advance of construction, and monitoring of groundworks through a construction-phase watching brief.

Conclusion

10.16.12. The assessment has found limited effects to designated and non-designated historic assets and non which would be considered as significant in the context of the EIA.

10.17. Ecology

Introduction

10.17.1. The Ecology chapter assessed the likely effects of the Proposed Development on ecology and biodiversity, using desk-based data, detailed field surveys undertaken between 2024 and 2026, and best practice ecological assessment guidance. It considered habitats, designated sites and protected species within the Site and surrounding area, and evaluated effects during construction, operation and decommissioning. Measures to avoid, reduce and mitigate impacts have been incorporated into the scheme design, alongside opportunities to enhance biodiversity.

Baseline Conditions

10.17.2. The Site is predominantly agricultural land, comprising arable fields and modified grassland, with the principal ecological value associated with boundary features including native hedgerows (with trees), woodland edges and blocks, areas of Purple moor-grass and rush pasture, two veteran ash trees ponds and an on-site watercourse forming a riparian corridor.

10.17.3. Statutory designated sites of relevance within the wider area include Pembrokeshire Marine SAC, Scoveston Fort SSSI and Milford Haven Waterway SSSI, which were assessed due to potential ecological or hydrological connectivity.

10.17.4. Ecological surveys confirmed use of the Site by a range of species, including bats commuting and foraging along boundary habitats and the riparian corridor, with several trees identified as supporting Potential Roost Features of moderate bat roost potential; breeding skylark within arable fields; wintering farmland birds; badger, with three active setts recorded within or adjacent to the Site; with one sett located within 30 m of the current development footprint; and otter using the watercourse corridor. It should be

noted that the section of watercourse to the east of the proposed substation, where a drainage outfall is now proposed, was not included within the original otter survey coverage and further surveys will therefore be undertaken to confirm the presence or absence of holts within this area. Common amphibians, dormice, reptiles and hedgehog are also likely to be present within suitable boundary habitats

Likely Significant Effects

10.17.5. Without mitigation, the principal ecological effect identified was the permanent loss of arable habitat supporting 13 confirmed skylark breeding territories, representing a Moderate adverse and Significant effect.

10.17.6. Other potential effects included temporary disturbance to protected species such as bats, dormouse and otter during construction, including localised works associated with the installation of the proposed drainage outfall, localised modification of woodland associated with widening of existing tracks and cable routing, localised impacts on hedgerows and small sections of woodland associated with access widening and cable routing, and risks of pollution or sediment run-off affecting aquatic habitats in the absence of appropriate controls. There is also potential for temporary disturbance to badger associated with works occurring within the precautionary 30 m buffer of one sett under the current scheme layout. There is also potential legal risk associated with trees supporting bat roost features if removal were to occur without further survey and licensing where required.

10.17.7. Effects on lower value arable land and modified grassland were assessed as Negligible due to their limited ecological importance. Purple moor-grass and rush pasture and veteran trees are retained within the scheme design and therefore only subject to limited temporary disturbance risk during construction.

10.17.8. A review of nearby developments identified White House Farm Solar Farm as the only scheme with potential to interact ecologically with the Proposed Development.

10.17.9. Both developments retain key habitats, incorporate buffers and include habitat management measures. As a result, no significant cumulative ecological effects are predicted for habitats or protected species including birds, bats, badger and otter.

Mitigation and Enhancement

10.17.10. A stepwise approach has informed the layout, retaining the majority of higher value habitats across the Site, including hedgerows, woodland blocks and edges, ponds, Purple moor-grass and rush pasture, veteran trees and the riparian corridor. Buffers have been incorporated to protect these features and maintain ecological connectivity.

10.17.11. Further mitigation will be secured through a Construction Environmental Management Plan (CEMP), Landscape and Ecological Management Plan (LEMP) and Green Infrastructure Statement. Measures include pollution prevention and surface water controls, protection of retained habitats, application of 30 m buffers around badger setts where practicable and use of a Precautionary Working Method Statement where works occur within this

buffer, pre-construction checks, retention of bat commuting routes, avoidance where practicable of trees with bat roost potential or further survey and licensing where required, daylight-only working near the watercourse, otter survey of the outfall watercourse and precautionary working methods for reptiles, amphibians and other small mammals..

10.17.12. A Skylark Mitigation Strategy will address the loss of breeding habitat through grassland management and enhancement measures designed to maintain suitable nesting and foraging conditions within the Site.

10.17.13. In addition, biodiversity enhancements will be delivered through new tree and vegetation planting, strengthened hedgerow networks and species-diverse grassland establishment as set out within the Green Infrastructure proposals.

10.17.14. With these measures in place, all ecological effects are predicted to be reduced to Minor to Minor–Moderate adverse or Negligible and therefore Not Significant in EIA terms. Some minor beneficial effects are anticipated during operation as newly created habitats establish and habitat connectivity is strengthened

Conclusion

10.17.15. The ecological assessment has demonstrated that, although the Proposed Development will result in the loss of some agricultural habitat, the principal ecological features of the Site, including Purple moor-grass and rush pasture, veteran trees, hedgerows, woodland blocks and the riparian corridor, will be retained and protected.

10.17.16. Following avoidance of key bat roost features where practicable implementation of a Precautionary Working Method Statement where works occur within the 30 m buffer of the affected badger sett, and delivery of habitat mitigation and enhancement measures, no significant adverse ecological effects are predicted during construction, operation or decommissioning.

10.17.17. Following implementation of embedded design measures, further survey and licensing where required for bat roost features, appropriate protection measures for badger setts, and delivery of habitat mitigation and enhancement measures, no significant adverse ecological effects are predicted during construction, operation or decommissioning.

10.17.18. The scheme will deliver long-term improvements in habitat structure and connectivity through habitat creation and management measures, contributing to strengthened ecological networks in line with national and local policy objectives.

10.18. Glint and Glare

Introduction

10.18.1. The glint and glare chapter considers the predicted glint and glare effects of the Proposed Development, the mitigation measures implemented, and the resulting residual impacts.

Baseline Conditions

10.18.2. The study areas include a range of receptors, comprising several sections of Major, National and Regional roads (2.5km of the A4076, 300m of the Bulford Road Bypass, and 2.9km of the A477), approximately 2.6km of railway line with two associated signals, a total of 51 residential dwellings, and Rosemarket Airfield.

Likely Significant Effects

10.18.3. A medium magnitude of impact is predicted upon road users due to reflections occurring within the primary field-of-view without existing screening to obstruct views. Considering a receptor sensitivity of Medium, the significance of the effect is Moderate, which is significant.

10.18.4. A negligible magnitude of impact is predicted upon residential amenity due to the presence of existing screening. Considering a receptor sensitivity of Medium, the significance of the effect is negligible, which is not significant.

10.18.5. A negligible magnitude of impact is predicted upon railway operations and infrastructure due to the presence of existing screening. Considering a receptor sensitivity of Medium, the significance of the effect is negligible, which is not significant.

10.18.6. A low magnitude of impact is predicted upon aviation activity as solar reflections are predicted to be within acceptable limits and accommodatable. Considering a receptor sensitivity of Medium, the significance of the effect is minor, which is not significant.

10.18.7. No cumulative effects are predicted.

Mitigation and Enhancement

10.18.8. Screening is recommended to be implemented to reduce the residual effect to road receptors to Minor or negligible.

10.18.9. Residual effects upon residential amenity, railway operations and infrastructure, and aviation activity are at worst minor adverse, which is not significant

Conclusion

10.18.10. No significant adverse residual effects are predicted.

10.19. Socio Economics

Introduction

10.19.1. The Socio-Economics chapter summarises the socio-economic effects of the Proposed Development, considering how it may influence employment, economic activity and local accommodation across the construction, operational and decommissioning phases.

Baseline Conditions

10.19.2. A review of baseline socio-economic conditions indicates that Pembrokeshire has experienced comparatively modest population growth between 2014 and 2024, increasing at a slower rate than Wales and Great Britain overall. Growth has been driven exclusively by an expanding 65+ population, highlighting an ageing demographic profile that is expected to continue into the future.

10.19.3. Labour market indicators show that employment in Pembrokeshire fell by 2.0% between 2015 and 2024, in contrast to the growth recorded in both Wales and Great Britain. As of January 2026, claimant count rates remain below the national average but marginally above the Welsh average, suggesting a labour market performing between regional and national benchmarks.

10.19.4. Business growth over the last decade has been constrained, with the number of enterprises increasing at a slower pace than in Wales or Great Britain. Economic output has risen more slowly than the national average, although it has outperformed the Welsh average between 2013 and 2023, indicating a moderately resilient economic base.

10.19.5. Pembrokeshire's visitor economy includes an estimated 4,844 serviced and self-catered bedspaces, representing a significant level of accommodation capacity that contributes to the economic profile of the county.

Likely Significant Effects

10.19.6. With the exception of increased pressure on accommodation demand, likely significant effects are expected to be beneficial in respect of socio-economics. Significant beneficial effects are expected in relation to employment and economic contribution during the construction phase. Significant beneficial effects are expected in relation to economic contribution during the decommissioning phase. While there are positive effects during the operational phase, they are not considered to be significant in EIA terms.

10.19.7. The cumulative effects are expected to be moderate beneficial for employment and economic output during construction and moderate beneficial for employment during decommissioning and major beneficial for economic output. Cumulative effects during both construction and decommissioning for accommodation demand is expected to be minor adverse. Cumulative effects during operation are assessed as minor to moderate beneficial for economic output.

Mitigation and Enhancement

10.19.8. Most effects of the Proposed Development are beneficial, and therefore no mitigation is required.

Conclusion

10.19.9. Overall, the Proposed Development is considered to provide significant beneficial effects in terms of Socio Economics in Pembrokeshire during the construction phase in relation to employment and economic contribution. Significant beneficial effects are expected to be provided during the decommissioning phase in relation to economic contribution.

Negligible beneficial effects are predicted in respect of employment, economic contribution and business rates revenue once operational

10.20. Overall Conclusion

10.20.1. The findings of this ES demonstrate that there are no overriding environmental constraints or planning policies which would preclude the development of the application site for a proposed solar farm. The Planning Statement which forms a separate part of the DNS application demonstrates significant weight for both Planning Policy and Energy Policy which demonstrates the need for and benefits of the scheme. It has been demonstrated within this ES there will be no significant impacts as a result of the proposal.

10.20.2. All aspects of the design have taken full account of the environmental opportunities and constraints present. Retention of agricultural land and, where necessary, mitigation measures and enhancements form an integral part of the proposals to ensure that the environment is suitably protected.

10.20.3. This ES demonstrates how the proposed scheme would bring about significant benefits to the local environment, whilst providing renewable energy generation in a sustainable location.