



THE DROVES
SOLAR FARM

The Drovers Solar Farm

Preliminary Environmental Information Report

Volume I, Chapter 15: Other Environmental Matters

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15 Other Environmental Matters

15.1 Introduction

15.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) presents the findings of the Environmental Impact Assessment (EIA) work undertaken to date concerning the potential effects of the Scheme on Other Environmental Matters during the Construction, Operational, and Decommissioning Phases of the Scheme. The purpose of this chapter is to collate the other environmental topics that do not warrant individual chapters, either due to the brevity of the assessment, or lack of likely significant effects that they have been scoped out of the ES but not the Environmental Impact Assessment (EIA) associated with the Scheme.

15.1.2 This chapter addresses:

- Air Quality
- Glint and Glare
- Electromagnetic Fields (EMF)
- Telecommunications, Utilities and Television Receptors; and
- Waste.

15.1.3 The information presented within this chapter has been informed by the design information of the Scheme provided in **Volume I, Chapter 5: Scheme Description**.

Consultation

15.1.4 The content of this Other Environmental Matters chapter has been informed by the Scoping Opinion from the Planning Inspectorate (PINS) dated 18 December 2024 (**Volume III, Appendix 2.2**). Consultation feedback received throughout the pre-application phase of the Scheme has been considered in preparing this PEIR chapter. Further detail on consultation undertaken is included at **Volume III, Appendix 15.1**.

Legislation, Planning Policy, Guidance

15.1.5 A review of the Legislation, Planning Policy and Guidance that is relevant to EMF, Glint and Glare, Telecommunications, Utilities and Television Receptors and Waste is included at **Volume III, Appendix 15.1**. Legislation, Planning Policy and Guidance relevant to Air Quality is included in standalone technical reports which will be submitted with the ES in support of the Development Consent Order (DCO) Application. The review demonstrates that the Scheme has been developed in accordance with the requirements identified in the **Volume III, Appendix 15.1**.



15.2 Air Quality

Introduction

15.2.1 As set out in the Scoping Opinion Request (**Volume III, Appendix 2.1**), it was proposed to scope out effects on air quality receptors due to the lack of potential for likely significant effects. In Section 3.5 of the Scoping Opinion (**Volume III, Appendix 2.2**), PINS confirmed that air quality effects are not likely to be significant and aspects proposed to be scoped out (as per the Scoping Opinion) of the EIA on the basis that the following information is provided in the ES:

- A statement, supported by information on expected vehicle movements and the locations of the nearest sensitive receptors, as to why effects during construction and decommissioning would not be significant
- Demonstration that the traffic flows during construction will be beneath the Environmental Protection United Kingdom (EPUK) and Institute for Air Quality Management (IAQM) thresholds for further assessment
- Confirmation of the type, quantity, use and duration of the Non-Road Mobile Machinery (NRMM) used during the Construction and Decommissioning Phases
- Provide justification for the Study Area with reference to guidance for ecological receptors
- Include a plan showing the extent of the final Study Area, including proposed construction routes and the location of receptors
- Take into account any strategic mitigation for air pollution; and
- Strategic mitigation for air pollution is taken into account throughout the design.

Study Area

15.2.2 Justification for the Study Area, including a Study Area extent figure showing proposed construction routes, receptor locations (human and ecological) will be provided in the Construction Dust Assessment which will be provided as an appendix to the Other Environmental Matters of the ES, with reference to the IAQM guidance for ecological receptors.

Construction and Decommissioning Phase Dust Assessment

15.2.3 Dust emissions associated with construction and decommissioning activities will be controlled through mitigation measures outlined in the outline Construction Environmental Management Plan (oCEMP) and Decommissioning Statement. An assessment of Construction and Decommissioning Phase Dust Risk is presented in **Volume III, Appendix 15.2**. Based on the assessed risk, suitable mitigation measures have been proposed based on the IAQM 'Assessment of dust from demolition and construction 2024 V2.2' [Ref 15-1] guidance, which will be included within the oCEMP and outline Decommissioning Environmental Management Plan (oDEMP), submitted in support of the DCO Application. The CEMP and DEMP will be secured through requirement of the DCO Application.



- 15.2.4 With the inclusion of the mitigation outlined in the oCEMP and oDEMP, potential dust emissions associated with on-site activities during Construction and Decommissioning Phases are not anticipated to be significant.

Construction and Decommissioning Vehicle Movements

- 15.2.5 Vehicle traffic emissions produced during the Construction Phase will be controlled through mitigation measures outlined in the outline Construction Traffic Management Plan (oCTMP). The oCTMP will include details on construction logistics and construction worker travel, alongside providing information to guide the delivery of material, plant, equipment, and staff during the Construction Phase. In addition, measures to minimise dust emissions arising from vehicles entering/exiting the Site during the Construction Phase and Decommissioning Phase will be put in place, such as wheel washing facilities at entrance locations, which will be committed to and controlled through mitigation measures outlined in the outline Construction Environmental Management Plan (oCEMP), and Decommissioning Environmental Management Plan (oDEMP), submitted in support of the DCO Application, secured in full by the DCO Application.
- 15.2.6 The ES will provide detail of construction vehicle traffic flows and locations of the nearest sensitive receptors associated with the Construction and Decommissioning Phases which are not anticipated to exceed EPUK and IAQM screening criterion [Ref 15-2] for either sensitive human or ecological receptors. For the purposes of assessment of vehicle movement impacts in this PEIR, the maximum construction vehicle movements on any single road link are predicted to be 368 two-way LDV AADT movements and 86 two-way HGV AADT movements. As can be seen, the construction traffic vehicle movements do not exceed the screening criteria for detailed assessment on any road link in the local network, as set out in the EPUK and IAQM guidance, which states a threshold of 500 LDVs and/or more than 100 HDVs [Ref 15-1]. The presented construction traffic vehicle movements are representative of peak construction and are expected to be lower for most of the Construction Phase.
- 15.2.7 The closest ecological sites to the Site are Castle Acre Common and River Nar Site of Special Scientific Interest (SSSI), Breckland Special Protection Area (SPA) and Breckland Forest SSSI alongside Narborough Railway Embankment SSSI. The IAQM guidance for the assessment of air quality impacts on designated nature conservation sites [Ref 15-3] requires further assessment of ecological receptors not located within approximately 50m of the Site or within approximately 200m of any roads currently considered for construction traffic. The ES, following receipt of detailed information of construction traffic routing and the number of vehicle movements (screened against the 1000 total AADT and/or 200 HDV AADT criteria outlined in the IAQM Guidance [Ref 15-1]), further assessment of internationally or nationally designated ecological receptors identified to be located within 200m of proposed construction routes will be screened in the Other Environmental Matters chapter of the ES.
- 15.2.8 It is not expected that vehicle movements associated with the Decommissioning Phase will exceed the vehicle movements calculated for the Construction Phase. As a result, the conclusions drawn about Construction Phase traffic related effects represent a worst-case scenario that will not be exceeded by the Decommissioning Phase.
- 15.2.9 Construction traffic vehicle movements will be reviewed as the details of the design of the Scheme is progressed up to the submission of the DCO Application. The ES will provide an updated statement, supported by information on expected vehicle movements and the locations of the nearest sensitive receptors, as to why effects during construction and decommissioning would not be significant. If the updated construction traffic vehicle movements for the ES do exceed the threshold criteria for detailed assessment, detailed



dispersion modelling of traffic impacts to nearby sensitive receptors will be assessed quantitatively and presented in the ES. Given the low number of vehicle movements, as well as the dust control measures, the release of dust and particulate matter as a result of Construction Phase and Decommissioning Phase are not anticipated to be significant.

Non-Road Mobile Machinery (NRMM)

- 15.2.10 The ES will confirm the type, quantity, use and duration of the NRMM used during the Construction and Decommissioning Phases. All NRMM used will be required to adhere to the latest emissions standards, which will be detailed and controlled through the oCEMP and outline Decommissioning Statement, submitted in support of the DCO Application. With these measures in place, significant effects as a result of NRMM emissions are not likely.

15.3 Glint and Glare

Introduction

- 15.3.1 As set out in the Scoping Opinion Request (**Volume III, Appendix 2.1**) and agreed by PINS in the Scoping Opinion (**Volume III, Appendix 2.3**) an individual Glint and Glare chapter is not required in the ES. However, glint and glare effects in respect of those matters that are scoped in are covered in this Other Environmental Matters chapter of the PEIR, as appropriate, and will be covered in the ES, for receptors identified below:
- Dwellings within the 1km Study Area (42 dwelling receptors)
 - Non-Local Road Infrastructure within the 1km Study Area (Sections of the A47 and A1065 within the Study Area)
 - Licensed Aviation Infrastructure within the 10km Study Area (RAF Marham)
 - Licensed Aviation Infrastructure within the 5km Study Area (Great Friars Thornes Farm Airfield); and
 - Cumulative Assessment.
- 15.3.2 This section of the Other Environmental Matters chapter regarding glint and glare is supported by the Solar Photovoltaic Glint and Glare Assessment (**Volume III, Appendix 15.3**), which contains evidence regarding the closest railway asset demonstrating that no significant adverse effects on railway receptors and infrastructure could occur.

Study Area

- 15.3.3 The Study Areas for each relevant receptor (as listed in paragraph 15.3.115.3.0) are based on the potential for significant impacts to occur based on past project experience and Pager Power's Glint and Glare Guidance, which establishes best practice for assessing glint and glare. In response to the Scoping Opinion (**Volume III, Appendix 2.2**), as part of the pre-application process agreement will be sought with the relevant consultation bodies to agree sensitive receptors and the Study Areas for each relevant receptor. Locations of those relevant agreed upon receptors will be shown on an accompanying plan with Chapter 15: Other Environmental Matters of the ES. The Study Areas are based on the potential for significant effects and will be explained upon further in the ES, responding to the Scoping Opinion (**Volume III, Appendix 2.2**), in the worst-case and any reflections towards receptors outside of the Study Areas would be considered a low impact and not significant in EIA terms in the worst-case. Whilst there is no geometric limit for solar reflections, beyond these limits



reflections would be of lesser intensity and are more likely to be screened by obstructions or intervening terrain.

Impact Assessment Methodology

15.3.4 The Glint and Glare Assessment methodology is based on Pager Power’s Glint and Glare Guidance (Fourth Edition), which was developed in line with information provided to Pager Power through consultation with stakeholders and by reviewing the available studies. This methodology has been used for other solar DCOs such as Cottam Solar Project and West Burton Solar Project, both of which have been granted consent. The methodology for a glint and glare assessment is as follows:

- Identification of relevant receptors based on their type and range from the Photovoltaic (PV) panels
- Technical modelling of the sun path throughout the year to calculate the times and duration of predicted glare for the proposed panel configuration (this modelling considers bare earth terrain and makes a worst-case assumption that direct sunlight is present during all daylight hours)
- Evaluation of impact significance based on the criteria for the receptor type in accordance with Pager Power’s guidance (the main considerations are duration, field of view and intensity but this varies per receptor type):
 - For aviation receptors the key considerations are field of view and intensity (see Section 6.2.2 of **Volume III, Appendix 15.3** for full details)
 - For road receptors, the key consideration is field of view (see Section 6.3.1 of **Volume III, Appendix 15.3** for full details)
 - For dwelling receptors, the key consideration is duration (see Section 6.4.1 of **Volume III, Appendix 15.3** for full details)
 - For viewpoint receptors the key consideration is whether reflections are geometrically possible (see Section 9 of **Volume III, Appendix 15.3** for full details)
- Identification of areas that require mitigation, if any; and
- Mitigation strategy if required.

15.3.5 There is no formal guidance with regard to the maximum distance at which glint and glare should be assessed. From a technical perspective, there is no maximum distance for potential reflections. However, the significance of a solar reflection decreases with distance. This is because the proportion of an observer’s field of vision that is taken up by the reflecting area diminishes as the separation distance increases. In most instances, terrain and shielding by vegetation are also more likely to obstruct an observer’s view at greater distances.

Baseline Conditions

15.3.6 The location of the Scheme is rural, surrounded by roads, dwellings, PRoW, and airfields. A description of the Scheme and its wider context is set out in **Volume I, Chapter 3: Site Boundary**.



- 15.3.7 Terrain topology and screening in the form of existing buildings and vegetation exist within the assessment area and have been considered where relevant, with an overview of this in relation to the Site be provided further in the ES. For some receptors, screening will reduce the predicted impacts due to views of the panels not being expected in practice.
- 15.3.8 The following airfields in the surrounding area have been identified for assessment. Full details of the aviation receptors are shown in Sections 4.1 and 8.2 of **Volume III, Appendix 15.3**:
- RAF Marham, approximately 5.1km south-west
 - Great Friars Thornes Farm Airfield, approximately 1.4km south-west
 - East Winch Airfield, approximately 7.9km north-west; and
 - Great Massingham Airfield, approximately 9.2km north.
- 15.3.9 Road receptors have been identified for assessment along the A1065 and A47. 59 receptors are identified, at intervals of approximately 100m along these roads. Full details of the road receptors are shown in Section 4.3 of **Volume III, Appendix 15.3**.
- 15.3.10 44 dwelling receptors have been identified within the assessment area. Some receptors are used to represent a small number of separate addresses and results are considered representative for the adjacent observer locations. Full details of the dwelling receptors are shown in Section 4.4 of **Volume III, Appendix 15.3**.
- 15.3.11 Several kilometres of footpaths and bridleways are located within the site boundary and the assessment area. Public Rights of Way (PRoW) are considered at a high-level and without detailed modelling. Full details are shown in Section 9 of **Volume III, Appendix 15.3**.
- 15.3.12 Only the indicative areas for the Solar PV Site are relevant for Glint and Glare, as PV panels will be sited within these areas and significant glint and glare effects would not occur from other components of the scheme. The indicative areas for mitigation and enhancement and/or retained agricultural land/buildings, and indicative siting zones for Customer Substation and Battery Energy Storage System (BESS), and National Grid infrastructure are not relevant for Glint and Glare, due to no PV panels being sited within these areas and have therefore not been considered.

Potential Impacts

- 15.3.13 Prior to the implementation of any mitigation, the Scheme has the potential to affect Glint and Glare during the Construction, Operational and/or Decommissioning Phase, in the following ways:
- PV panels can reflect sunlight causing glint and glare towards residential dwellings, potentially negatively affecting residential amenity
 - PV panels can reflect sunlight causing glint and glare towards roads, potentially disrupting visibility for road users, posing safety risks
 - PV panels can reflect sunlight causing glint and glare towards Air Traffic Control (ATC) towers and aircraft on approach to nearby airfields, potentially disrupting visibility for ATC personnel and pilots, posing safety risks; and



- PV panels can reflect sunlight causing glint and glare towards users of PRoW, potentially negatively affecting amenity.

Embedded Mitigation

- 15.3.14 Embedded mitigation measures have been included in the Glint and Glare assessment, where relevant. The embedded mitigation which has been considered is proposed planting and hedgerow reinforcement along the Site boundary.

Assessment of Likely Impacts and Effects

- 15.3.15 This section considers the potential impacts outlined above and assesses the potential for the Scheme to generate effects using the Impact Assessment Methodology detailed in paragraph 15.3.4.

Construction and Decommissioning Phases

- 15.3.16 During the Construction Phase, the PV panels will be installed over the duration of the construction programme until they represent the presence of the Operational Phase. As the Scheme is constructed and PV panels are installed, there is the potential for glint and glare impacts on the identified receptors as detailed for the assessment of Operational Phase impacts. As a worst-case scenario, the potential glint and glare impacts from the Scheme during the Construction Phase will be of the same level as during the Operational Phase, when the maximum number of PV panels are present. As concluded above, there are no likely significant effects during the Operational Phase, when the Scheme has the highest potential for glint and glare impacts. As a result, during the Construction Phase, when fewer PV panels will be present and there is a lesser potential for glint and glare impacts, there is not the potential for likely significant effects.
- 15.3.17 During the Decommissioning Phase, the PV panels will be removed over the duration of the decommissioning programme. As the Decommissioning Phase progresses, there is the potential for glint and glare impacts from the PV panels that have not been removed yet; however, as a worst-case scenario, these impacts would be of the same level as identified during the Operational Phase, when the maximum number of PV panels are present. As concluded in the Operational Phase assessment above, there are no likely significant effects during the Operational Phase, when the Scheme has the highest potential for glint and glare impacts. As a result, during the Decommissioning Phase there is not the potential for likely significant effects.

Operational Phase

Aviation Receptors

- 15.3.18 Solar reflections with 'potential for temporary after-image' are predicted to be geometrically possible towards the ATC Tower and approach path for runway 05 at RAF Marham for the Fixed South Facing PV Array configuration; however, consideration of Zones of Theoretical Visibility (ZTV) modelling indicates that views of the Site are unlikely to be possible in practice. Consultation will be undertaken with RAF Marham to confirm if views of the Site will be possible, the outcome of which will be incorporated into the ES.
- 15.3.19 Solar reflections with 'potential for temporary after-image' are predicted towards the approach paths for runways 01 and 05 at RAF Marham for the Single Axis Trackers PV panel configuration. A low impact is predicted due to the duration of glare being very low, but



consultation will be undertaken with RAF Marham to understand their position towards the Scheme prior to ES. Impacts are considered to be not significant.

- 15.3.20 Solar reflections with ‘potential for temporary after-image’ are predicted towards receptors on the approach paths and visual circuits (specified paths to be flown by aircraft operating in the vicinity of an aerodrome) at Great Friar Thornes Farm Airfield for both Fixed South Facing and Single Axis Trackers PV panel configurations. The effects have been considered in an operational context and may be considered operationally accommodatable. The impact is not considered to be significant but consultation with the airfield will be undertaken to understand their position towards the Scheme. If mitigation is required for aviation receptors, this would take the form of changes to the PV configuration (i.e. removal and/or reorientation of PVs). Specific mitigation will be confirmed in the ES, if significant impacts are identified.
- 15.3.21 A low impact is predicted towards aviation activity associated with East Winch Airfield and Great Massingham Airfield. Detailed modelling has not been undertaken in relation to the above two mentioned airfields as it is considered that solar reflections towards East Winch Airfield and Great Massingham Airfield would constitute a low impact in the worst-case due to the distance between the airfields and the Scheme, and previous project experience. Impacts are considered to be not significant.

Road Receptors

- 15.3.22 Solar reflections are predicted to occur within a road user’s primary field-of-view (50° either side of the direction of travel) towards a 2.2km section of the A1065 for the Single Axis Trackers PV panel configuration. Existing vegetation has been identified, but this is not considered to significantly screen reflections towards road users. Embedded vegetation planting and hedgerow reinforcement has been proposed which would significantly screen views once matured. Impacts are considered to be not significant, considering the proposed planting once matured (maturity considered to be 2m) but significant impacts may be possible temporarily, therefore additional mitigation has been identified, until vegetation reaches the required height.
- 15.3.23 A low impact is predicted towards road safety associated with a 2.1km section of the A1065 for the Fixed South Facing PV Array configuration. Solar reflections are predicted to occur outside a road user’s primary field-of-view (50° either side of the direction of travel). Impacts are considered to be not significant.
- 15.3.24 No impact is predicted towards the remaining road receptors, as it is predicted that no solar reflections will be experienced in practice, when considering the geometric modelling and the presence of screening in the form of existing and proposed vegetation.

Dwelling Receptors

- 15.3.25 A low impact is predicted towards residential amenity associated with one dwelling for the Fixed South Facing PV Array configuration, where reflections are predicted to occur for more than three months per year but less than 60 minutes on any given day in the presence of mitigating factors. Impacts are considered to be not significant.
- 15.3.26 A low impact is predicted towards residential amenity associated with two dwelling receptors for Single Axis Trackers PV panels, where reflections are predicted to occur for more than three months per year but less than 60 minutes on any given day in the presence of mitigating factors. Impacts are considered to be not significant.



15.3.27 No impact is predicted towards the remaining dwelling receptors, as it is predicted that no solar reflections will be experienced in practice, when considering the geometric modelling and the presence of screening in the form of existing and proposed vegetation.

Viewpoint Receptors

15.3.28 A low impact is predicted towards users of Public Rights of Way (PRoW) in the vicinity of the scheme. Detailed modelling has not been undertaken as it is considered that solar reflections towards PRoW would constitute a low impact in the worst-case as there are no significant safety implications and any negative impact upon amenity will be fleeting for users travelling on PRoW. Impacts are considered to be not significant.

Additional Mitigation

15.3.29 As identified in the Assessment of Likely Impacts and Effects section above, for road receptors along the A1065, a temporary significant impact may be possible until vegetation matures to a sufficient height. The following additional mitigation measures are being considered by the Applicant's design team for the most appropriate to mitigate the potentially significant effect:

- Mature planting along this section, sufficient in height to mitigate significant impacts, established by the start of the Operational Phase
- Short-term installation of opaque fencing in the required areas (which would be in place until the vegetation reaches the required height)
- Programming single-axis panels to backtrack to an angle where solar reflections are not possible during the time where effects are predicted; and
- Providing fixed south facing panels only in the areas where the reflections are predicted to occur from.

15.3.30 The additional mitigation strategy will utilise the options listed above and include one or multiple of the options to mitigate the effect. The Applicant is committed to mitigating the short-term potentially significant effect on Road Users along the A1065 and will continue to develop and consult on the optimum strategy. With this mitigation commitment, there are no significant effects likely on Road Users of the A1065 in respect of glint and glare.

15.3.31 For the remaining receptors, no significant effects are likely in respect of glint and glare, when considering the embedded mitigation already proposed as part of the Scheme. Therefore, no additional mitigation is required.

Residual Effects and Conclusions

15.3.32 Considering the additional mitigation measures detailed above, no significant effects are likely as a result of glint and glare impacts.

15.3.33 Consultation will be undertaken to inform the ES with RAF Marham to confirm the results of the ZTV, that there is no visibility of the Site from the ATC tower.

Cumulative Assessment

15.3.34 For individual receptors, this cumulative effect assessment identifies where the predicted effects of the Scheme could interact with effects arising from other plans and/or projects based



on a spatial and/or temporal basis. A full methodology and cumulative assessment is included within Section 7 of **Volume III, Appendix 15.3**.

- 15.3.35 In order for a cumulative effect to be possible with relation to Glint and Glare, another solar farm must be located within 2km of the Solar PV Site (this allows the respective 1km assessment areas to overlap) and a receptor must have visibility of both solar farms. Two solar projects have been identified within this distance of the Scheme.
- 15.3.36 It is understood at the time of writing, High Grove Solar is a proposed DCO solar project sited adjacent to The Drovers Solar Farm. This project has been considered for cumulative effects regarding aviation receptors and ground-based receptors (roads and dwellings).
- 15.3.37 For aviation receptors, cumulative impacts are possible but modelling suggests that the glare intensity classification will not change towards any of the aviation receptors, compared to considering the Scheme in isolation (see Section 7.2.2 of **Volume III, Appendix 15.3**). No significant impact is predicted, though this will continue to be considered as further details emerge regarding High Grove Solar and will be presented in the ES.
- 15.3.38 For ground-based receptors, cumulative impacts are possible towards one dwelling receptor, which is predicted to experience residual impacts from the Scheme and have visibility of High Grove Solar. The potential for cumulative impacts will be considered as further details are known regarding the High Grove Solar project and presented in the ES. Mitigation may be required to reduce the level of impact.
- 15.3.39 Burntstalk Solar Park is a constructed solar project, operated by Lightsource BP Renewable Energy, sited approximately 550m south-west of The Drovers Solar Farm. This project has been considered for cumulative effects regarding aviation receptors and ground-based receptors.
- 15.3.40 For aviation receptors, cumulative impacts are not possible as the project is not sited directly adjacent to the Scheme and the primary consideration for aviation receptors is glare intensity. If solar panel areas are spaced apart, they would appear as two separate glare sources rather than a single glare source with increased intensity. No significant impact is predicted.
- 15.3.41 For ground-based receptors, cumulative impacts are not possible as none of the assessed receptors are located within 1km of both sites. No significant impact is predicted.
- 15.3.42 The above cumulative impacts may also occur during the Construction and Decommissioning Phases, but no significant effects are predicted during these periods as it is considered that the Operational Phase presents the worst-case for cumulative impacts, as this is when all PV panels will be installed and operational.
- 15.3.43 No instances have been identified where in-combination cumulative effects are considered likely to result in a new or different likely significant effect, or an effect of greater significance, than any one of the impacts on their own. No significant effects are identified.



15.4 Electromagnetic Fields (EMF)

- 15.4.1 As set out in the Scoping Opinion Request (**Volume III, Appendix 2.1**) and agreed upon with PINS in the Scoping Opinion (**Volume III, Appendix 2.3**), an assessment of EMF is scoped out of the ES on the basis that potentially significant effects can be avoided through design measures and a High Level Electromagnetic Field Assessment (**Volume III, Appendix 15.4**), setting out the routing and voltages of Low and High Voltage Cables up to 400kV, will accompany the ES.
- 15.4.2 At PEIR stage, design measures for the avoidance of significant effects have been built into the Scheme and, as is concluded in the High Level Electromagnetic Field Assessment (**Volume III, Appendix 15.4**), significant effects are not likely in respect of EMF.
- 15.4.3 The High-Level Electromagnetic Field Assessment undertaken for the PEIR includes information regarding the routing and voltages of Low and High Voltage Cables (ranging up to 400kV) and infrastructure over 132kV.
- 15.4.4 The High-Level Electromagnetic Field Assessment has considered EMF in relation to the following Scheme infrastructure:
- Low and High Voltage underground and overground cables (specifically those that exceed 132kV up to 400kV)
 - Customer Substation
 - National Grid Substation; and
 - BESS.
- 15.4.5 As concluded in the High-Level Electromagnetic Field Assessment (**Volume III, Appendix 15.4**) there is not the potential for significant effects as a result of the Scheme in respect of EMF.
- 15.4.6 It is considered there is not the potential for significant cumulative effects in relation to EMF as a result of the Scheme and other identified developments within the Study Area (the Site); however, should this change during assessment as part of the ES, potentially significant cumulative effects will be presented in the Other Environmental Matters chapter of the ES.
- 15.4.7 The High-Level Electromagnetic Field Assessment will be reviewed in light of the final Scheme information and a final Electromagnetic Field Assessment will be prepared and appended to the ES, updated to reflect the Scheme design at ES stage.

15.5 Telecommunications, Utilities and Television Receptors

Introduction

- 15.5.1 Effects relating to existing infrastructure are not environmental effects and there is no requirement to include an assessment of these effects under the EIA Regulations. However, given the nature of solar farm developments, they have the potential to affect existing utility infrastructure above and below ground.
- 15.5.2 Due to the size, scale and nature of the Scheme, as detailed in **Volume I, Chapter 5: Scheme Description**, and as set out in the Scoping Opinion Request (**Volume III, Appendix 2.1**) it is



considered there is limited potential for likely significant effects on all above ground telecommunications, utilities and television infrastructure, and thus scoped out of the ES. This approach was agreed upon with PINS in the Scoping Opinion (**Volume III, Appendix 2.3**).

- 15.5.3 However, solar farms have the potential to affect existing below ground utility infrastructure, for example, through ‘cable strike’ when piling for Ground mounted PV Modules or excavating the cable trenches. The potential for significant effects on below ground infrastructure will be considered in the **Volume I, Chapter 15: Other Environmental Matters** of the ES.

Consultation and Legislation, Planning Policy and Guidance

- 15.5.4 No further consultation beyond that received within the Scoping Opinion (**Volume III, Appendix 2.2**) has been undertaken at the time of writing (April 2025) for telecommunications, utilities and television receptors however, the Applicant will continue to engage with relevant stakeholders to inform the evolving Scheme design.
- 15.5.5 There is no other legislation, policy or guidance specifically related to telecommunications, television reception, and utilities.

Potential Effects

- 15.5.6 The underground utility assets and pipelines that have been identified through a preliminary high-level review of Applicant provided information within the Site boundary include the following:
- Exolum Fuel Pipeline – running through the centre of the Site in a north south alignment
 - Bore Pipe (32mm) – running south from South Acre past Bartholomew’s Hill Plantation
 - Irrigation Main – aligning approximately off a PRoW in proximity to South Acre Road toward past Bartholomew’s Hill Plantation
 - Foul Main Sewer– Anglian Water - aligned with the A1065 on the east of the Site; and
 - Landowner agricultural irrigation underground waterpipe – aligning indicatively along the north-western Site boundary.
- 15.5.7 Discussions with relevant third parties will be undertaken as part of the design evolution of the Scheme to ensure legal, safe, and practical design considerations to ensure these have been actively integrated into the Scheme design. No field work/site surveys have been undertaken at the time of writing in relation to underground utilities as but not limited to the predominantly rural and undeveloped nature of the Site. As the Scheme progresses, if new evidence such as but not limited to previously unknown utilities finds during archaeological field evaluation and/or feedback from statutory consultee during Statutory Consultation indicates a need guidance will be sought on survey requirements.
- 15.5.8 Sufficient and practical offsets and/or suitable mitigation measures (e.g. buffers) will be fed into the outline Construction Environmental Management Plan (oCEMP) to ensure construction work is carried out such that impacts on services are minimised. Where direct conflict is anticipated as part of crossing works to utilities, such as is of greater likelihood along the Scheme’s cable routes, the crossing of utilities will be carried out in direct collaboration with the relevant utility provider. The Scheme is therefore anticipated not to have any significant effects on telecommunications services and utilities as a result of the Construction Phase of the Scheme.



- 15.5.9 The impacts to underground utilities are associated with activities that involve breaking the ground and potentially striking the below ground infrastructure. Due to the nature of the Scheme, there are no below ground impacts associated with the Operational Phase. No likely significant effects on underground utilities are predicted as a result of the Operational Phase of the Scheme.
- 15.5.10 There is likely to be no significant effect to telecommunications and utilities due to the cables being severed of operational activities.
- 15.5.11 The Applicant will provide a statement submitted with the ES to evidence why significant effects are not likely to occur, supported by locations of below ground utilities and evidence of agreement with the relevant stakeholders, as necessary, as to why significant effects are not likely to occur. This approach was suggested by and agreed upon with PINS in the Scoping Opinion (**Volume III, Appendix 2.3**).

Embedded Mitigation Measures

- 15.5.12 The design of the Scheme has been informed by topographical and geophysical survey data to ensure underground utilities are adequately offset from. This will ensure safe working procedures can be maintained, access can be provided for utility maintenance, and crucially, construction impacts can be mitigated against. Mitigation measures embedded into the Scheme design will be set out in the oCEMP, to be secured via the DCO Application, which will aim to minimise, as far as practicable, potential effects on underground utilities. In addition, protective provisions for the benefit of statutory undertakers and electronic communications network code operators will be included in the DCO.
- 15.5.13 Discussions and negotiations with the relevant third parties will be undertaken prior to the submission of the DCO Application, meaning safeguarding distances and measures for working in proximity will be incorporated into the development parameters for the Scheme and protective provisions agreed where required. These discussions will be undertaken as part of the design evolution of the Scheme and sufficient offsets and/or suitable mitigation measures (e.g. buffers) will be embedded into the design to ensure that there is no potential for likely significant effects. Any safeguarding areas that are in place for existing infrastructure will be observed and incorporated into the design of the Scheme assessed in the ES.
- 15.5.14 Following the application of the mitigation measures outlined above, the Scheme is not expected to have any adverse impacts on below ground telecommunication, television, or utilities.

Additional Mitigation

- 15.5.15 At this stage, no significant effects are likely in respect of telecommunications, utilities and television receptors, when considering the embedded mitigation already proposed as part of the Scheme. Therefore, no additional mitigation is required.

Cumulative Effects

Cumulative Effects

- 15.5.16 It is expected that the other solar developments, in particular the nearby High Grove Solar Farm, and others included within the cumulative schemes identified would also have no effect on telecommunications and television reception and would adhere to the same mitigation as set out above to reduce the risk of damaging utilities. It is anticipated other cumulative



schemes will be managed through similar mitigation plans such as a CEMP and would include mitigation measures to reduce the risk of damaging utilities during construction. Therefore, no likely significant cumulative effects are expected on telecommunications, television reception, or utilities.

In-combination Effects

15.5.17 No instances have been identified where in-combination cumulative effects are considered likely to result in a new or different likely significant effect for a particular receptor, or an effect of greater significance, than any one of the impacts on their own. No significant effects are identified.

15.6 Waste

Introduction

15.6.0 As set out in the Scoping Opinion Request (**Volume III, Appendix 2.1**) and agreed upon with PINS in the Scoping Opinion (**Volume III, Appendix 2.2**) a standalone chapter on waste is not required within the ES.

15.6.1 A summary of consultation and relevant legislation, planning policy and other guidance relating to waste receptors pertinent to the Scheme is included at **Volume III, Appendix 15.1**. No further consultation beyond that received within the Scoping Opinion (**Volume III, Appendix 2.2**) has been undertaken at time writing (March 2025) for waste; however, the Applicant will continue to engage with relevant stakeholders to inform the evolving Scheme design.

15.6.2 This section of the Other Environmental Matters chapter discusses the expected waste streams, including estimated volumes by type and quantity, of expected waste during the Construction and Decommissioning Phases of the Scheme.

15.6.3 For the purpose of this assessment, waste comprises:

- Key construction materials only; and
- Generation and disposal of waste.



Assessment Methodology

- 15.6.4 IEMA guidance ‘Materials and Waste in Environmental Impact Assessment – Guidance for a proportionate approach’ [Ref 15--1] provides a clear framework for determining the methodology for assessing waste impacts. This includes defining the area of influence subject to study, applying sensitivity criteria, and defining how to assess the magnitude of impacts.
- 15.6.5 As a result, the impact assessment methodology outlined below has been determined in compliance with the guidance set out by IEMA.
- 15.6.6 In line with IEMA guidance, two Study Areas are proposed in relation to Scheme waste:
- The Scheme Study Area – extending to the Site boundary and any areas required for temporary access, Temporary Construction Compounds and other enabling activities; and
 - The wider Study Area – extending to the capacity of waste management infrastructure and remaining landfill void within the administrative area of Norfolk County Council (NCC).
- 15.6.7 The approach to the waste assessment methodology in the ES will be developed in consultation with NCC as the Waste Planning Authority.

Impact Assessment Methodology

- 15.6.8 The IEMA guidance offers two methods to assess waste effects:
- Void Capacity – The magnitude of impact from waste is assessed by determining the percentage of the remaining landfill void capacity that will be depleted by waste produced during the Construction and/or Operational Phases of the Scheme; and
 - Landfill Diversion – Developments are compared to a good practice landfill diversion rate of 90%. In applying this method, the waste assessment should take into account the size nature and expected capability of developments to minimise waste in construction and/or operation.

Sensitivity of Receptors

- 15.6.9 The sensitivity of waste receptors is based upon the relative importance of the receptors, and their ability to respond and adapt to the anticipated level of change. These are defined by the assessed Baseline Conditions.



Table 15.1 Criteria for Assessing Sensitivity of Receptors

Sensitivity	Definition
Very High	Over the defined study period the future baseline (without development of the Scheme), of regional recycling handling and landfill void capacity is - expected to reduce very considerably (by >10%); end during construction or operation; is already known to be unavailable; or, would require new capacity or infrastructure to be put in place to meet forecast demand.
High	Over the defined study period the future baseline (without development of the Scheme), of regional recycling handling and landfill void capacity is expected to reduce considerably: by 6-10% as a result of wastes forecast
Medium	Over the defined study period the future baseline (without development of the Scheme), of regional recycling handling and landfill void capacity is expected to reduce noticeably: by 1-5% as a result of wastes forecast.
Low	Over the defined study period the future baseline (without development of the Scheme) of regional recycling handling and landfill void capacity is expected to reduce minimally: by <1% as a result of wastes forecast.
Negligible	Over the defined study period the future baseline (without development of the Scheme) of regional recycling handling and landfill void capacity is expected to remain unchanged, or is expected to increase through a committed change in capacity

Magnitude of Impacts

15.6.10 In determining the anticipated magnitude of impact, the criteria for each level of magnitude has been determined in compliance with the guidance set out by IEMA [Ref 15--1] as detailed in Table 15.2 and Table 15.3 for both void capacity and landfill diversion.

Table 15.2 Criteria for Assessing Magnitude of Impacts (Void Capacity)

Magnitude	Definition
Major	Waste generated by the Scheme will reduce regional recycling handling and landfill void capacity baseline by >10%.
Moderate	Waste generated by the Scheme will reduce regional recycling handling and landfill void capacity baseline by 6-10%.
Minor	Waste generated by the Scheme will reduce regional recycling handling and landfill void capacity baseline by 1-5%.



Magnitude	Definition
Negligible	Waste generated by the Scheme will reduce regional recycling handling and landfill void capacity baseline by <1%.
No change	Zero waste generation and disposal from the Scheme.

Table 15.3 Criteria for Assessing Magnitude of Impacts (Landfill Diversion)

Magnitude	Definition
Major	Less than 30% landfill diversion (i.e. over 70% to sent to landfill)
Moderate	30 to 59% landfill diversion
Minor	60 to 89% landfill diversion
Negligible	90 to 99% landfill diversion
No change	100% landfill diversion

Assessment of Significance

15.6.11 The significance of any environmental effects is determined by the interaction of the magnitude of any impacts and the sensitivity of the receptor and can be beneficial or adverse.

Table 15.4 Criteria for assessing the Significance of Effects

Sensitivity	Very High	High	Medium	Low	Negligible
Magnitude					
Major	Large	Large or Very Large	Moderate or Large	Slight or Moderate	Slight
Moderate	Large or Very Large	Moderate or Large	Moderate	Slight	Neutral or Slight
Minor	Moderate or Large	Slight or Moderate	Slight	Neutral or Slight	Neutral or Slight
Negligible	Slight	Slight	Neutral or Slight	Neutral or Slight	Neutral



Sensitivity	Very High	High	Medium	Low	Negligible
Magnitude					
No Change	Neutral	Neutral	Neutral	Neutral	Neutral

15.6.12 Where the level of effects has been determined in accordance with professional judgment to be of a moderate or greater level of effect, these are deemed to be “significant effects”. In accordance with the IEMA Guidelines, all effects with regard to consumption of materials and waste are deemed to be adverse effects.

Assessment Assumptions and Limitations

15.6.13 The waste assessment for ES will contain a description of the potential waste streams during the Construction and Decommissioning Phases of the Scheme on the basis of information available at the time of the assessment. Estimated volumes of waste, by type and quantity, of expected residues and emissions and quantities and types of waste produced, for assessment of likely significant effects will likely be based upon other similar solar Nationally Significant Infrastructure Project (NSIP) schemes.

15.6.14 Should off-site disposal be required during the Construction or Decommissioning Phases of the Scheme, an assessment of likely significant effects including cumulative effects will be included within the assessment in the ES.

Baseline Conditions – Existing Conditions

15.6.15 The land within the Site is predominately in agricultural use, being utilised in part for pig farming, chickens and other livestock, and in part for arable crop production across agricultural fields. The existing waste arisings are assumed to be low.

15.6.16 Norfolk has a non-hazardous and inert landfill capacity of 3.48 million m³ [Ref 15-12]. For hazardous merchant landfill, the void capacity in England is 9.7 million m³. National non-hazardous construction and demolition waste recovery rate. In 2020, the UK generated 59.4 million tonnes of non-hazardous construction and demolition waste, of which 55 million tonnes was recovered. This represents a recovery rate of 92.6 %.

15.6.17 The UK recovery rate from non-hazardous construction and demolition waste has remained at similar levels from 2010 to 2020 [Ref 15-13].

15.6.18 Detail on waste management facilities in Norfolk outlined in the unadopted Norfolk Minerals and Waste Local Plan Publication (NM&WLP, May 2022) [Ref 15-14] records 89 operational sites for the treatment and/or transfer of waste (including municipal, commercial and industrial, hazardous, clinical, construction and demolition), which received over 2.533 million tonnes of waste in 2019 and over 2.172 million tonnes in 2020. The NM&WLP records 2 non-hazardous landfill sites in Norfolk with a total landfill voidspace for non-hazardous waste disposal is 2.626 million m³ [Ref 15-14]. There is an estimated void capacity at inert landfill sites and for quarry restoration of at least 3.42 million m³ in Norfolk at the end of 2020 plus the 2.34 million m³ in a named landfill site [Ref 15-14].



- 15.6.19 According to NM&WLP Policies Map (May 2022) there is potential safeguarded mineral resources (Sand and Gravel) located within the Site boundary [Ref 15-15].

Baseline Conditions - Future Baseline Conditions

- 15.6.20 Inert landfill capacity is assumed to stay the same because predicting future capacity is unrealistic due to its cyclical nature. For non-inert landfill (including hazardous waste), if landfill is needed, it is considered plausible that new capacity will be approved. Thus, non-hazardous and hazardous landfill capacity is assumed to stay the same.

Embedded Mitigation Measures

- 15.6.21 In accordance with the waste hierarchy [Ref 15-16], the Scheme will prioritise waste prevention, followed by preparation for reuse, recycling, and recovery, with landfill disposal as the last resort.
- 15.6.22 The nature of the waste to be produced during the Construction, Operation and Decommissioning Phases will mean it will be managed by appropriately permitted carriers and facilities in line with the appropriate environmental permits and requirements.
- 15.6.23 All waste management will comply with relevant industry regulations and legislation. All waste transported off-site will be delivered to appropriately licensed receivers. Operators receiving waste materials from the Scheme will follow their own consenting procedures.
- 15.6.24 Through iterative and detailed assessments, potential impacts will be evaluated, and mitigation opportunities will be further refined to prevent or reduce impacts as much as possible. This proactive approach aims to minimise potential adverse impacts from the beginning.

Construction Phase

- 15.6.25 The Scheme will aim to minimise and eliminate waste streams wherever possible. Opportunities for reusing material resources will be pursued. When reuse and prevention are not feasible, waste will be managed according to the waste hierarchy and detailed in the CEMP. The CEMP will incorporate industry-standard practices and control measures to address environmental impacts during construction, such as dust control and on-site material and waste management. The CEMP will be secured through DCO before the commencement of the Construction Phase.
- 15.6.26 Once appointed, details of the waste carriers and contractors for the Scheme, along with copies of their appropriate licenses, will be included in the outline Construction Resource Management Plan (oCRMP) will be developed by the appointed contractor and submitted in the ES and in support of the DCO Application.

Operational Phase

- 15.6.27 During operation and replacement, the Scheme will prioritise waste prevention, followed by preparation for reuse, recycling, and recovery, with landfill disposal as the last resort, in line with the waste hierarchy. A Site Waste Management Plan (SWMP) will be developed as part of the OEMP. The SWMP, to be prepared before construction begins, will detail the efficient management, storage, and legal disposal of materials during the Operational Phase, including the maintenance and replacement. It will also outline the aims, objectives, and ongoing



management responsibilities, including practices for management and storage, and set targets for waste reduction, landfill diversion, and reuse.

- 15.6.28 All waste management will comply with relevant regulations, and waste will be transported by licensed hauliers to authorised waste management sites with the necessary permits for the consigned wastes.
- 15.6.29 It is anticipated that the Scheme will generate Waste from Electrical and Electronic Equipment (WEEE) during both operation and maintenance phases, and a significant amount during decommissioning. This includes photovoltaic panels, batteries, substation equipment, and smaller quantities from supporting electrical infrastructure. These items will be recovered and recycled by an authorised re-processor in compliance with the WEEE Regulations 2013 [Ref 15-17], which will be detailed in the OEMP.

Decommissioning Phase

- 15.6.30 During the Decommissioning Phase, PV panels and related built infrastructure, Ancillary Infrastructure, substations and energy storage will be removed, recycled, recovered or disposed of in accordance with good practice and market conditions at that time. As outlined in paragraph 15.6.29 the Scheme is anticipated to generate WEEE however, recycling and recovering of these items will be detailed in the DEMP.
- 15.6.31 The decommissioning of the Scheme will adhere to the measures and procedures outlined in a DEMP, secured through the DCO. A Decommissioning Resource Management Plan (DRMP) will be developed by the appointed contractor and will set out how measures to manage the disposal of waste may be required in accordance with relevant legislative and policy requirements at the time of decommissioning and submitted in the ES and in support of the DCO Application.

Assessment of Likely Impacts and Effects

- 15.6.32 A preliminary assessment of potential waste streams and quantities arising from the Scheme during the Construction and Decommissioning Phases will be considered in the ES. A detailed assessment of waste based on industry standards, activities and material requirements during the Construction and Decommissioning Phases will be completed to support the DCO Application following design refinement. The processing of these quantities will be considered in the assessment to identify whether any significant effects from the generation of waste are anticipated.

Construction Phase

- 15.6.33 During the Construction Phase, it is likely waste will arise from the following streams:
- General waste from Site offices and welfare facilities
 - Packaging waste from incoming materials; and
 - Other waste from construction of fencing, access roads and other supporting infrastructure.
- 15.6.34 The main construction activities associated with the Scheme are as follows:
- Piling of steel frame Mounting Structures in rows across the Site
 - Mounting of the PV panels onto the frame system



- Digging of trenches for laying of underground electrical cables
- Creation of concrete foundation/bases as required for structures such as substations
- Creation of Access Tracks within the Scheme
- Installation of mesh and timber post fencing and palisade fencing; and
- Installation of CCTV camera poles.

15.6.35 The PV panels, Ground mounted PV Modules, Inverters and other supporting equipment will be manufactured off-site to the specified sizes, and wastage during installation is expected to be minimal. The majority of the construction equipment will be delivered to site for assembly, installation and connection. The types of waste streams associated with the removal of waste material during the Construction Phase are summarised below in Table 15.5.

15.6.36 Large scale earthworks and demolition is not anticipated - and as a result it is not intended for large quantities of material to be removed from the Site.

15.6.37 A qualitative estimate on the volume of waste materials is made in Table 15.5 given the information that is known at this stage. The anticipated volumes of waste generated during the Construction Phase of the Scheme will be set out in the ES, once the design of the Scheme is fully developed.

Table 15.5 Estimated Waste associated with the Construction Phase

Waste	Destination	Estimated Volumes
Paint	Authorised recycling or landfill	Limited
Solvents	Authorised recycling or landfill	Limited
Chemical cans and containers	Authorised recycling or landfill	Limited
Carboard	Authorised recycling or landfill	Moderate - anticipated to be from packaging
Woods	Authorised recycling or landfill	Moderate - anticipated to be from packaging
Plastic	Authorised recycling or landfill	Moderate - anticipated to be from packaging
Metal	Authorised recycling or recovery	Limited

15.6.38 All waste transported offsite will be taken to the appropriately licensed sites for the relevant materials. The operators receiving any waste materials resulting from the Scheme will be subject to their own consenting procedures which are applicable at the time of the Construction Phase. Any waste created through the Construction Phase will be required to be removed from the Site and disposed of in line with lawful requirements.



- 15.6.39 Where any of the equipment that is removed from the Site still has an ongoing lifespan, the equipment will be removed and reused in their current form. Where there is no ongoing lifespan, they will be taken from Sites and then disposed of at a suitable waste recycling centre.
- 15.6.40 Any reusable waste materials that are generated as part of the Scheme such as soil which is excavated from trenches, roads, compound areas and foundations will be re-used wherever possible.
- 15.6.41 Consideration of potential effects associated with wastewater disposal from welfare facilities is outlined in **Volume I, Chapter 12: Water Resources**.
- 15.6.42 There may be a requirement to remove some soils from the Scheme for treatment or disposal, if it is found to be contaminated and cannot be treated on site. Any toxic and hazardous material will also be required to be dealt with by an authorised carrier and by a suitably qualified contractor as necessary, ensuring no cross contamination with 'clean' materials. With the use of appropriate control measures as set out in the oCEMP, submitted in support of the DCO Application, no significant effects are anticipated at this stage.
- 15.6.43 An assessment on the capacity of waste management infrastructure in the vicinity of the Scheme will be undertaken ahead of the DCO Application submission. The likely anticipated waste stream quantities will be included to determine the likely effects caused on the receptors. At this stage with the information that is available and considering similar type and scale of schemes, it is not considered that there is the potential for likely significant effects during the Construction Phase.

Operational Phase

Maintenance Activities

- 15.6.44 No on-Site staff will be required to operate the Scheme on a day-to-day basis. Waste arising during the Operational Phase from routine inspection and maintenance activities is expected to be substantially less than during the Construction and Decommissioning Phases and could include the following:
- Waste metals
 - Equipment that requires replacing, such as solar panels
 - Waste associated with maintenance; and
 - General waste (paper, cardboard, wood).
- 15.6.45 During the Operational Phase of the Scheme, waste arisings associated with maintenance activities are expected to be minimal and, as they will be considered to be commercial waste this will be managed by appropriately permitted carriers and facilities in line with the appropriate environmental permits and requirements.
- 15.6.46 It is assumed that the local waste infrastructure has the capacity for this given the anticipated waste arising during the Operational Phase. As such it is anticipated at this time, general activities will result in limited amounts of waste.



Replacement Activities

- 15.6.47 Across the 60-year operational lifetime of the Scheme, it is expected that alongside the regular maintenance and ad hoc replacement of equipment, the PV panels and the BESS will require replacement. The operational life of PV panels is 40 years. The operational replacement of panels is anticipated to comprise replacement of individual defective and broken PV Panels on an ad hoc basis and/or planned replacement of all PV panels once during the Operational Phase. The PV panels are anticipated to be replaced over a 12 to 24 month period. It is expected that the BESS could be replaced up to five times during the Operational Phase. The operational replacement of BESS will be assessed in the ES; however the effects are not anticipated to be greater than those associated with PV panel replacement.
- 15.6.48 Details relating to an expected programme of replacement equipment is being developed and will be reported within the ES. Further, the programme for maintenance and the replacement of equipment across the Scheme should naturally be staged such that this is not concurrent across all the Site.
- 15.6.49 When these solar components need to be replaced several decades from now, there will likely be even more recycling or recovery opportunities. This is due to the anticipated growth in the market driven by the increasing number of PV installations. Any electrical waste will be disposed in accordance with the WEEE regulations [Ref 15-17], minimising the environmental impact of the replacement of any elements of the Scheme.
- 15.6.50 A full assessment of waste arising during the Operational Phase will be provided in the ES. Considering the approaches to similar type and scale of Schemes, the waste impacts will be long term however considering embedded mitigation measures and good and best practice waste recovery at the time of writing and at decommissioning and likely recycle opportunities, it is not considered that there is the potential for likely significant effects as a result of replacement activities.
- 15.6.51 Further detail on replacement activities is included in **Volume I, Chapter 5: Scheme Description**.

Decommissioning Phase

- 15.6.52 The Decommissioning Phase of the Scheme will include the removal of all equipment, except the National Grid Substation and the pylons and overhead lines would remain in situ.
- 15.6.53 The outline Decommissioning Environmental Management Plan (oDEMP) will allow the Scheme to be decommissioned in accordance with best practice and guidance at the time. The Site would be reinstated to its original use as far as practicable and in accordance with a Decommissioning Environmental Management Plan ('DEMP').
- 15.6.54 Any requirement to leave the Access Tracks in situ would be discussed and agreed with the landowner at the time of decommissioning and consented separately.
- 15.6.55 The main decommissioning wastes associated with the Scheme are expected to be as follows:
- PV panels and their associated Mounting Structures
 - Breaking up of concrete foundation/bases
 - Rubble from any Access Tracks within the Site



- Electrical equipment including batteries, cables and Inverters
- Welfare facility waste; and
- Waste metals and wood.

15.6.56 Standard good practice for waste management will be implemented during decommissioning and outlined within the DEMP. As noted previously, the contractor will be required to seek to reduce waste and reuse any of the decommissioned items as far as possible to reduce the waste going to landfill.

15.6.57 Prior to decommissioning, opportunities to minimise waste as far as possible will be explored. Possibilities to re-use, recycle or recover materials will be explored before resorting to landfill options. There is a new industry emerging for recycling solar panels. This will be explored, in addition to any resale of any operational solar panels. Further details will be provided in the ES that is submitted with the DCO Application.

15.6.58 If any hazardous materials need to be removed from the Scheme during the Decommissioning Phase, suitably qualified contractors will be appointed to decommission and remove any items, as necessary. The type of hazardous materials that may form part of the Scheme include lithium-ion batteries and Transformer oil.

15.6.59 An assessment on the capacity of waste management infrastructure in the vicinity of the Scheme will be undertaken in the ES and submitted in support of the DCO Application submission. The likely anticipated waste stream quantities will be included to determine the likely effects caused on the receptors. At the Decommissioning Phase the Scheme will produce additional waste than at the Construction Phase due to the equipment that will need to be removed. At this stage with the information that is available, and the unknowns around the process and level of recycling processes which will be available at the time of decommissioning, with an assumption that future waste management practices no less equal to recycling process at the time of writing, it is not considered that there is the potential for likely significant effects during the Decommissioning Phase. This conclusion will be further clarified and assumptions underpinning provided in the ES when more information on the Scheme design is known.

Additional Mitigation Measures

15.6.60 At this stage, no additional mitigation measures for the Scheme are considered to be required given that no significant adverse effects are expected. However, this will be investigated further within the ES.

Residual Effects

15.6.61 Based on the preliminary information currently available, it is anticipated that through the use of mitigation measures as suggested above (e.g. use of suitably qualified contractors, recycling and reuse waste wherever possible) that there will not be any significant residual effects. A full assessment will be included in the ES that is submitted with the DCO Application.



Cumulative Effects

Cumulative Effects

- 15.6.62 A long list of cumulative schemes is provided in **Volume II, Appendix 2.4** of the PEIR. This list will be refined in due course through consultation with statutory consultees and will be presented and assessed in the ES.
- 15.6.63 Depending on construction dates, there may be cumulative waste effects as multiple construction projects can put pressure on waste management facilities. The Applicant is actively engaging with the developer of the adjacent High Grove Solar (EN0110010) DCO Scheme (which is currently at the pre-application stage) proposed to the south of The Drovers. It is intended that ongoing collaboration and information sharing between the two projects will ensure that both assessments are cognisant of each other and minimise likely significant effects arising cumulative waste effects as far as reasonably practicable. A cumulative assessment will be undertaken in the ES as the Schemes' design progresses and more information is available.

In-Combination Effects

- 15.6.64 The in-combination effect interaction is the effect over and above the individual effects assessed in other chapters and is described as the difference between the change caused to a receptor from one effect alone and the change caused to the receptor from all effects combined.
- 15.6.65 The review of other topics assessments has concluded that there is no potential for significant effect interactions on waste receptors as a result of the Scheme.
- 15.6.66 It is anticipated this will be managed sufficiently through the implementation of management plans including the oSWMP within the oCEMP, oOEMP and oDEMP and effects from volumes of waste are not expected to be significant.
- 15.6.67 It is assumed to meet regulatory requirements, that each of the cumulative developments will also be considering and implementing the waste hierarchy as per requirements set out in The Waste (England and Wales) Regulations 2011 [Ref 15-18].



References

- Ref 15-1 Environmental Protection UK and Institute of Air Quality Management (2017), Land-Use Planning & Development Control: Planning For Air Quality v1.2
- Ref 15-2 Breckland District Council Local Plan (Adopted September 2023)
- Ref 15-3 Pager Power Glint and Glare Guidance, Fourth Edition, September 2022
- Ref 15-4 Renewable and low carbon energy, Ministry of Housing, Communities & Local Government, 18th June 2015
- Ref 15-5 Interim CAA Guidance - Solar Photovoltaic Systems, CAA INFO ALERT 2010/53, 17th December 2010
- Ref 15-6 CAP 738: Safeguarding of Aerodromes, Civil Aviation Authority, 29th October 2020
- Ref 15-7 Interim Policy, FAA Review of Solar Energy System Projects on Federally Obligated Airports, Department of Transportation, Federal Aviation Administration (FAA), October 2013
- Ref 15-8 Federal Aviation Administration Policy: Review of Solar Energy System Projects on Federally-Obligated Airports, Federal Aviation Administration, May 2021
- Ref 15-9 Signal Sighting Assessment Requirements, Railway Group Guidance, June 2016
- Ref 15-10 Planning guidance for the development of large scale ground mounted solar PV systems, BRE, 2014
- Ref 15--11 Institute of Environmental Management & Assessment (IEMA), 2020. Materials and Waste in Environmental Impact Assessment – Guidance for a Proportionate Approach.
- Ref 15-12 Environment Agency. (2024). 2023 Waste Data Interrogator.
- Ref 15-13 Department for Environment, Food & Rural Affairs. (2024). UK Statistics on Waste.
- Ref 15-14 Norfolk Minerals and Waste Local Plan Publication (NM&WLP) UNADOPTED, May 2022.
- Ref 15-15 Norfolk Minerals and Waste Local Plan Publication (NM&WLP) Policies Map UNADOPTED, May 2022.
- Ref 15-16 Department for Environment, Food & Rural Affairs and Environment Agency, 2018. Waste Duty of Care Code of Practice.
- Ref 15-17 Waste Electrical and Electronic Equipment (WEEE) Regulations 2013.
- Ref 15-18 The Waste (England and Wales) Regulations 2011.



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