EAST PARK ENERGY

East Park Energy

EN010141

Outline Waste Management Plan

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EAST PARK ENERGY

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Outline Waste Management Plan

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1.0 INTRODUCTION

1.1 Background

1.1.1 This outline Waste Management Plan (oWMP) has been prepared for the East Park Energy project (the 'Scheme'). This document has been prepared as part of an application for development consent for the construction, operation and decommissioning of the Scheme.

1.1.2 This oWMP is a control document that will be certified as part of the Development Consent Order (DCO) and secured via a Requirement in Schedule 2 of the **draft DCO [EN010141/DR/3.1]**. Should the Scheme be consented, the DCO will require that a final Waste Management Plan (WMP) is prepared prior to relevant phase of the authorised development.

1.1.3 The purpose of the oWMP is to set out how materials and waste will be managed during the construction, operation and decommissioning phases of the Scheme in accordance with the waste hierarchy and best practicable environmental standards. The oWMP demonstrates the commitment to efficient and sustainable waste management, ensuring that opportunities to prevent, reduce, reuse and recycle waste are maximised wherever possible.

1.1.4 This oWMP applies to all phases of the Scheme, from initial site preparation and construction through to operational maintenance and eventual decommissioning. It addresses likely waste streams and management measures for each phase in a manner consistent with **ES Vol 1 Chapter 16: Other Environmental Topics [EN010141/DR/6.1]**.

1.2 Relationship with Other Management Plans

1.2.1 This oWMP is part of a framework of environmental management documents that will be implemented across the lifetime of the Scheme. The following plans are also relevant to the management of waste across the Site and will be developed separate to the oWMP, pursuant to DCO Requirements:

- **Construction Environmental Management Plan (CEMP)**: This plan will set out how the construction phase of the Scheme will be managed to avoid, reduce, or mitigate environmental impacts. It will cover topics like pollution prevention measures, dust and noise control, protection of wildlife, site waste management, and incident response protocols. The CEMP ensures that commitments made in the ES are translated into practical measures on-site. An **outline Construction Environmental Management Plan [EN010141/DR/7.3]** has been prepared and submitted with the application for development consent;
- **Operational Environmental Management Plan (OEMP)**: This plan will set out how the operational phase of the Scheme will be managed to control environmental risks. An **outline Operational Environmental Management Plan [EN010141/DR/7.5]** has been prepared and submitted with the application for development consent; and
- **Decommissioning Environmental Management Plan (DEMP):** This plan will set out how the decommissioning phase of the Scheme will be managed to control environmental risks. An **outline Decommissioning Environmental Management Plan [EN010141/DR/7.6]** has been prepared and submitted with the application for development consent.

1.2.2 Each of these plans will contain specific monitoring and reporting requirements, which will be reviewed regularly by the Site Manager, Environmental Manager, and relevant regulatory authorities. Monitoring results will be documented as part of the compliance framework for the Scheme.

2.0 OBJECTIVES

2.1 Objectives of the Waste Management Plan

2.1.1 The primary objectives of this oWMP are to:

- **Ensure Legal Compliance and Best Practice:** Fulfil all relevant legal duties for waste management (as set out in Section 2) and implement industry best practice for sustainable resource management. This includes adhering to the waste hierarchy as required by the Waste Framework Directive and national policy.
- **Promote Waste Minimisation:** Demonstrate how the Scheme will minimise waste generation at source and handle any waste arisings in a manner that minimises disposal. The Scheme will seek to prevent waste in the first instance, and where waste does arise it will be reused, recycled or recovered wherever feasible, with landfill disposal as a last resort.
- **Manage Waste Efficiently and Safely:** Set out the provisions for on-site waste segregation, storage, handling, and removal by licensed contractors so as to avoid harm to human health or the environment. This includes managing all waste in accordance with Duty of Care obligations and ensuring any hazardous wastes are controlled to prevent pollution.
- **Establish Roles, Responsibilities and Monitoring:** Clearly define the roles and responsibilities for waste management and outline how implementation will be monitored, reported, and continuously improved.

3.0 REGULATORY AND POLICY CONTEXT

3.1 Legislation

3.1.1 Waste management for the Scheme will be undertaken in line with all applicable legislation, policy and guidance. The following key legal and policy provisions set the context and requirements for this oWMP:

- Waste Framework Directive & Waste (England and Wales) Regulations 2011;
- Environmental Protection Act 1990;
- Hazardous Waste Regulations 2005;
- Control of Pollution (Amendment) Act 1989;
- Environmental Permitting (England and Wales) Regulations 2016; and
- Waste Electrical and Electronic Equipment (WEEE) Regulations 2013.

Waste Framework Directive & Waste (England and Wales) Regulations 2011

3.1.2 The EU Waste Framework Directive 2008/98/EC (transposed into UK law by the Waste (England & Wales) Regulations 2011) defines “waste” as “any substance or object which the holder discards or intends or is required to discard”. It establishes the waste hierarchy as a guiding principle in waste management. Regulation 12 of the 2011 Regulations imposes a duty on waste producers to take all reasonable measures to apply the waste hierarchy in priority order: prevent waste, then prepare for reuse, recycle, recover energy, and lastly dispose.

Environmental Protection Act 1990

3.1.3 The Waste (England & Wales) Regulations 2011 along with Section 34 of the Environmental Protection Act 1990 impose a duty of care on those who produce, keep or manage waste to prevent its escape, ensure it is transferred only to authorised persons, and to complete and retain waste transfer documentation.

Hazardous Waste Regulations 2005

3.1.4 The Hazardous Waste Regulations 2005 require that wastes classified as hazardous (e.g. oils, solvents or contaminated materials) only be removed from site by registered carriers to appropriately permitted facilities, and and that consignment notes are used to track movements.

Control of Pollution (Amendment) Act 1989

3.1.5 The Control of Pollution (Amendment) Act 1989 establishes a legal requirement for those transporting controlled waste in the course of business to be registered as waste carriers; it is a criminal offence to transport controlled waste without such registration. Subsequent reforms (now embedded alongside the Waste (England and Wales) Regulations 2011) extend the registration regime to waste brokers and dealers and set out who must register (including those transporting their own waste, transporting waste for others, buying or selling waste, or arranging waste movements).

Environmental Permitting (England and Wales) Regulations 2016

3.1.6 The Environmental Permitting (England and Wales) Regulations 2016 require activities that store, treat or dispose of waste to be undertaken under a valid Environmental Permit, unless an applicable registered exemption applies. Certain low-risk activities are exempt from permitting but must generally be registered with the Environment Agency and operated within stated limits. Temporary on-site storage of waste at the place of production will not usually require a permit, but depending on type, quantity, duration and location, an exemption may be required.

3.1.7 The Principal Contractor will be responsible for identifying any permit or exemption needs and for ensuring that all receiving facilities used for Scheme wastes hold the appropriate permits or registered exemptions.

Waste Electrical and Electronic Equipment (WEEE) Regulations 2013

3.1.8 The Waste Electrical and Electronic Equipment (WEEE) Regulations 2013 require that waste electrical and electronic equipment (including solar photovoltaic panels and associated apparatus) is separately collected and sent to authorised treatment facilities for recycling or recovery. They also place obligations on equipment producers to finance or facilitate the take-back and proper treatment of end-of-life devices, ensuring such items are disposed of correctly and recycled where possible.

Waste Batteries and Accumulators Regulations 2009 (SI 2009/890)

3.1.9 The Waste Batteries and Accumulators Regulations 2009 establish the UK framework for the separate collection, treatment and recycling of waste batteries, covering portable, industrial and automotive batteries and applying extended producer responsibility principles so that producers fund and organise compliant end-of-life routes. The Regulations require relevant producers to register, keep records, report battery tonnages and chemistry types, and provide or fund take-back/recycling arrangements; distributors of portable batteries have take-back duties; and waste industrial and automotive batteries must not be landfilled or incinerated, except for residues after treatment and recycling. Treatment and export for recycling must be carried out through approved battery treatment operators or approved battery exporters, with minimum treatment standards and recycling efficiencies applying. The overall purpose is to prevent batteries entering general waste streams and to ensure environmentally sound recovery of battery materials.

3.2 Guidance

Waste Management Plan for England 2021

3.2.1 The Waste Management Plan for England 2021 (which builds on the Resources and Waste Strategy 2018) reiterates the national target of

recovering at least 70% of construction and demolition waste by weight (excluding naturally occurring soils and stones). It also emphasises moving towards a circular economy by designing out waste and keeping resources in use for longer.

3.3 Review and Monitoring

3.3.1 This oWMP will be updated as necessary to reflect any changes in legislation or guidance prior to or during construction, operation and decommissioning. The Principal Contractor and all subcontractors will be made aware of these requirements and will be contractually obligated to comply.

4.0 THE SCHEME

4.1 The Site

Order Limits

4.1.1 The area of land required for the construction, operation and maintenance of the Scheme, which includes land required for permanent and temporary purposes, is shown on **ES Vol 3 Figure 1-1: Site Location [EN010141/DR/6.3]**. This is referred to as the 'Order Limits' or the 'Site'.

The Site

4.1.2 The 'Site' is located to the north-west of the town of St Neots, and is across two administrative areas; Bedford Borough Council (BBC) (a unitary authority) and Huntingdonshire District Council (HDC) (a two-tier authority with Cambridgeshire County Council (CCC). The Site location is shown on **ES Vol 3 Figure 1-1: Site Location [EN010141/DR/6.3]**. The Site area extends to approximately 773 hectares (ha).

4.1.3 With reference to **ES Vol 3 Figure 1-2: Site References [EN010141/DR/6.3]**, for ease of reference the Order Limits have been sub-divided into East Park Sites A to D, in which all of the above ground infrastructure proposed as part of the operational Scheme would be located (excluding works to the Eaton Socon Substation). The Order Limits also cover land outside of East Park Sites A to D which will be required for access, cabling, and the grid connection to the Eaton Socon substation. East Park Sites A to D can be described as follows:

- **East Park Site A** – covering land west of the B660 between Pertenhall and Swineshead at the western end of the Site. East Park Site A comprises arable fields located to the north, west and east side of a small hill that lies between Pertenhall and Riseley. East Park Site A lies either side of the Pertenhall Brook, with access proposed from the B660 to the east.

- **East Park Site B** – covering land between Pertenhall, Keysoe, and Little Staughton. East Park Site B comprises arable fields located north of an elevated ridgeline which runs between Keysoe and Little Staughton. East Park Site B is crossed by a number of small watercourses, with access proposed from the B660, Great Staughton Road, Little Staughton Road, and an unnamed road between Little Staughton and Great Staughton Road.
- **East Park Site C** – covering land south of Great Staughton. East Park Site C comprises arable fields located south of the River Kym, with access proposed from Moor Road to its south-eastern boundary, and from Little Staughton Road to the north-west.
- **East Park Site D** – covering land around Pastures Farm between Great Staughton and Hail Weston. East Park Site D comprises arable fields with access proposed via a new access from the B645.

4.1.4 With reference to **ES Vol 3 Figure 1-2: Site References [EN010141/DR/6.3]**, there are three linear corridors proposed for underground cabling that connect the different parts of the Site and provide a grid connection to the Eaton Socon substation. These are also shown on **Figure 1-2** and identified as:

- **Cable Corridor – Site B to Site C** – which connects Site B to Site C across an unnamed road and arable fields.
- **Cable Corridor – Site C to Site D** – which connects Site C to Site D across Moor Road and an arable field.

4.1.5 **Grid Connection** – Site D to Eaton Socon substation – which connects Site D to the Eaton Socon Substation and crosses open arable fields, the Duloe Brook, and Duloe Road and Bushmead Road.

4.2 The Scheme

4.2.1 The Scheme comprises a new ground-mounted solar photovoltaic energy generating station and an associated on-site BESS on land to the north-west of St Neots. The Scheme also includes the associated infrastructure for connection to the national grid at the Eaton Socon National Grid Substation.

4.2.2 The Scheme would allow for the generation and export of 400 megawatts (MW) of renewable electricity, as well as the storage of 100 MW of electricity in the BESS. The precise generating capacity and storage capacity will be subject to detailed design, but it should be noted that the Applicant presently has a grid connection agreement with National Grid for 400 MW export and 100 MW import.

4.2.3 Subject to the Scheme securing a Development Consent Order in Winter 2026/27 it is anticipated that works would start on site in early 2028 and be completed by mid-to-late 2030 (although initial energisation of the Scheme is likely to commence prior to 2030). The Scheme comprises a temporary development with an operational phase of 40 years; decommissioning activities would therefore likely commence in 2070, 40 years after commissioning.

4.2.4 A more detailed description of the Scheme is provided within **ES Vol 1 Chapter 2: The Scheme [EN010141/DR/6.1]**.

5.0 ROLES AND RESPONSIBILITIES

5.1 Introduction

5.1.1 Effective implementation of this oWMP requires clearly defined roles and responsibilities. All organisations and personnel involved in the Scheme have a duty to manage waste in accordance with this oWMP and relevant legislation.

5.1.2 Every individual working on the project has a duty to follow the waste management procedures. This will be clearly communicated during site inductions and ongoing training. Workers are responsible for placing waste in correct bins, handling materials to minimise damage/waste, and reporting any issues (like a full skip or a spill). Subcontractors in particular will be contractually required to manage waste arising from their works in line with the final WMP. Compliance will be monitored by the Site Manager and Environmental Manager. Any subcontractor not following the waste segregation rules may face corrective instructions or, if persistent, could face removal from site.

5.1.3 While not part of the Scheme, the appointed waste collection and disposal contractors are responsible for providing suitable containers, collecting waste on schedule, and transporting it to the appropriate facilities. They must ensure the paperwork is provided for each load. The Principal Contractor will coordinate with them and verify that their performance is satisfactory.

5.2 Construction Phase

5.2.1 The following are key Site roles during the construction phase that would have responsibility for implementing the final WMP (this list is not definitive and additional roles & responsibilities may be added to the final WMP):

- **Principal Contractor** – This is a formal role established in the Construction (Design and Management) Regulations 2015[1] (CDM Regulations 2015). The Principal Contractor will be appointed by BSSL

Cambsbed 1 Ltd and have responsibility for co-ordinating the construction phase of the project.

- **Construction Project Manager** – The Principal Contractor will identify a Construction Project Manager who will have overall responsibility for implementation of the CEMP, WMP and all other DCO and legislative requirements.
- **Quality Manager** – The Quality Manager will have responsibility for quality assurance and compliance, document management and record keeping, inspections for quality control, management of risks, and process improvement related to quality control and assurance.
- **Environmental Manager** – The Environmental Manager has responsibility for management of environmental matters related to the construction phase of the Scheme, including ensuring compliance with legislation, ensuring that mitigation, management and monitoring measures are implemented, and that best practice is applied during works. The Environmental Manager will be a point of contact with environmental bodies and other third parties as required to perform their duties.

5.3 Operational Phase

5.3.1 The following are key Site roles during the operational phase that would have responsibility for implementing the final WMP (this list is not definitive and additional roles & responsibilities may be added to the final WMP):

- **Site Manager** – The Scheme Owner/Operator will identify a Site Manager who will have overall responsibility for implementation of the final WMP and all other DCO and legislative requirements.
- **Quality Manager** – The Quality Manager will have responsibility for quality assurance and compliance, document management and record keeping, inspections for quality control, management of risks, and process improvement related to quality control and assurance.
- **Environmental Manager** – The Environmental Manager has responsibility for management of environmental matters related to the operational phase of the Scheme, including ensuring compliance with

legislation. The Environmental Manager will be a point of contact with environmental bodies and other third parties as required to perform their duties.

5.4 Decommissioning Phase

5.4.1 The following are key Site roles during the decommissioning phase that would have responsibility for implementing the final WMP (this list is not definitive and additional roles & responsibilities may be added to the final WMP):

- **Principal Contractor** – This is a formal role established in the Construction (Design and Management) Regulations 2015 (CDM Regulations 2015) . The Principal Contractor will be appointed by BSSL Cambsbed 1 Ltd and will have responsibility for co-ordinating the decommissioning phase of the Scheme.
- **Decommissioning Project Manager** – The Principal Contractor will identify a Decommissioning Project Manager who will have overall responsibility for implementation of the DEMP, WMP and all other DCO and legislative requirements.
- **Quality Manager** – The Quality Manager will have responsibility for quality assurance and compliance, document management and record keeping, inspections for quality control, management of risks, and process improvement related to quality control and assurance.
- **Environmental Manager** – The Environmental Manager has responsibility for management of environmental matters related to the decommissioning phase of the Scheme, including ensuring compliance with legislation, ensuring that mitigation, management and monitoring measures are implemented, and that best practice is applied during works. The Environmental Manager will be a point of contact with environmental bodies and other third parties as required to perform their duties.

6.0 WASTE MANAGEMENT MEASURES BY SCHEME PHASE

6.1 Construction Phase

Waste Management and Mitigation Measures

6.1.1 The following measures will be implemented to manage construction phase waste in accordance with the waste hierarchy and legal requirements.

Apply Waste Hierarchy

6.1.2 Priority will be given to avoiding waste generation. The Principal Contractor will implement a range of waste minimisation practices, including:

- working with suppliers to reduce packaging (e.g. using returnable packaging or bulk deliveries);
- adopting a just-in-time delivery system so that materials arrive only as needed and are not over-ordered or stored for long periods (this reduces damage/spoilage which can turn unused materials into waste);
- accurately estimating material needs to avoid surplus; and
- prefabricating and modularising where practical to reduce on-site cutting and assembling waste.

6.1.3 At the detailed design stage, the Principal Contractor will review opportunities to design out waste before construction begins, embedding any further changes that could reduce waste such as optimising panel layout (in accordance with the Scheme design parameters) to reduce off-cut fencing or cabling.

Reuse On-Site and Segregate Waste at Source

6.1.4 The construction works will aim to re-use materials on-site wherever feasible. For instance, excavated subsoils will be re-used for backfilling trenches, grading the land around foundations, rather than being treated as waste (in accordance with a final Soil Management Plan). Should any existing hardcore

or demolition material be generated (e.g. from breaking existing farm tracks), it will be crushed and reused as aggregate on site if suitable. Topsoil will be stripped and stored correctly for later reinstatement.

6.1.5 Beyond reusing soil, other materials like timber off-cuts might be repurposed or sent to other local projects for reuse. When waste generation is unavoidable, the Principal Contractor will ensure waste segregation at source as far as practicable.

6.1.6 Site staff will be instructed to segregate wastes as appropriate, and mixed waste will be kept to a minimum. By segregating on-site, recycling rates can be maximised and the quality of recyclable material maintained.

Waste Storage and Handling

6.1.7 All waste storage on site will be done in a manner that prevents pollution, nuisance, or health hazards. Waste containers/skips will be located in designated areas within the construction compound or work areas, away from watercourses and sensitive receptors. These areas will have impermeable ground or drip trays as needed for spill containment.

6.1.8 Hazardous wastes (like oily waste, chemicals) will have dedicated containers with lids, stored in a secure, bunded area to prevent leaks. Incompatible wastes will not be mixed (e.g. solvents will not be mixed with general waste, and different hazardous wastes will be stored separately as required by law).

6.1.9 The site will be kept generally tidy to avoid litter; lightweight materials prone to being wind blown (plastics, insulation) will be covered or weighed down. Regular housekeeping checks will be carried out to ensure waste is being stored safely and correctly.

6.1.10 No burning of waste on-site will be allowed under any circumstances, as open burning is illegal and causes pollution.

6.1.11 Any organic waste or food waste will be secured (e.g. closed bins) to avoid attracting pests.

Recycling and Recovery Off-Site

6.1.12 Wastes that cannot be reused on-site will be sent off-site for recycling or recovery wherever possible. The Principal Contractor will make arrangements with appropriately licensed waste management facilities to accept segregated wastes from the project. Only if neither on-site reuse nor off-site recycling/recovery is feasible will materials be destined for landfill.

6.1.13 By implementing the above measures, the Scheme will seek to divert the vast majority of construction waste from landfill. In practice, it is expected that well over the mandated 70% of construction waste (by weight) will be recovered or recycled.

Treatment and Disposal

6.1.14 If certain waste streams cannot be reused or recycled, they will be disposed of responsibly at licensed facilities. Any landfill disposal will comply with pre-treatment requirements (e.g. segregating recyclables so that only truly non-recoverable waste is landfilled). Similarly, if energy recovery (incineration with energy generation) is available for certain wastes, that may be used as an alternative to landfill in the waste hierarchy order.

6.1.15 All hazardous wastes, if any (e.g. contaminated soil or oily waste that cannot be cleaned or recovered), will be disposed of at a hazardous waste landfill or incinerator licensed to take such waste.

6.1.16 The Scheme will ensure full Duty of Care in selecting waste disposal sites; waste will only go to facilities with the correct permits, and waste transfer/consignment notes will record the disposal route for accountability.

Waste Collection and Off-Site Transport

6.1.17 A licensed waste management contractor (or multiple, for different waste streams will be appointed to collect waste from site on a regular schedule, with the frequency to be adjusted based on generation rates.

6.1.18 The contractor(s) will remove waste using registered waste carriers, and each load will be accompanied by a Waste Transfer Note (WTNs) or Consignment Note as appropriate, detailing the waste description, EWC code, quantity, origin (the Site), carrier name and registration, and the destination facility's details and permit number.

6.1.19 The site team will verify that all paperwork is correct and that copies of all notes are retained on file (for at least 2 years for WTNs and 3 years for Consignment Notes, as per regulations). The waste carriers and disposal facilities will be recorded in an appendix of the final WMP, including their licensing details.

6.1.20 The Principal Contractor will audit waste contractors if necessary to ensure they are managing the Scheme's waste in compliance with the law (as part of the Duty of Care).

Estimate of Arisings

6.1.21 Many of the Scheme's components would be prefabricated offsite i.e. solar panels, racks, inverters and transformers, battery energy storage system (BESS) units, substation components. As such, the generation of waste resulting from the construction of these elements will be minimal.

6.1.22 The types of wastes generated during construction are likely to comprise:

- General waste from site offices and welfare facilities;
- Small quantities of waste from the maintenance of construction vehicles;
- Packaging waste from incoming materials; and
- Other waste from construction of fencing, access roads and other supporting infrastructure.

6.1.23 Waste streams are likely to include:

- Metals (iron and steel);
- Plastic;
- Paper and cardboard;

- Wood; and
- Chemicals, fuels and oils.

6.1.24 Table 1 below provides an estimate of the waste volumes likely to be generated during the construction phase of the Scheme. The table sets out the waste type, the estimated tonnage of the waste type and the expected fate in terms of the waste hierarchy based on the application of best practice measures set out in this oWMP. The precise quantities of each waste type will depend on the final detailed design and contractor's methods. However, based on comparable large-scale infrastructure projects, the overall volume of construction waste is expected to be modest.

Table 1: Construction phase waste estimates and fate

Waste Type	Tonnage / Unit	Assumed Fate
General Waste (e.g. from offices and welfare units)	~ 70 t	50% recycle / 50% landfill or energy recovery
Paper/Cardboard Packaging (e.g. module and equipment boxes)	~ 800 t	90% recycle / 10% landfill or energy recovery
Wooden Packaging (e.g. pallets, crates, cable drums)	~ 855 t	70% re-use or recycle / 30% energy recovery
Plastic Packaging (e.g. shrink-wrap, straps, foam)	~ 190 t	90% recycle / 10% landfill or energy recovery
Concrete Waste (e.g. excess concrete mix, spillage that hardens)	~ 800 t	90% recycle or recovery / 10% landfill
Aggregate Waste (e.g. surplus gravel / sand from works)	~ 3,500 t	90% recycle or recovery / 10% landfill
Cement-Bound Sand Waste (e.g. excess backfill material)	~ 525 t	90% recycle or recovery / 10% landfill
Cable Offcuts – Metals (e.g. scrap copper/ aluminium from cable trimming)	~ 60 t	95% recycle / 5% landfill or energy recovery

Waste Type	Tonnage / Unit	Assumed Fate
Cable Offcuts – Plastics (e.g. scrap insulation sheath)	~ 48 t	95% recycle / 5% landfill or energy recovery
Misc. Hazardous Waste (e.g. paints, oils, solvents from construction use)	Negligible	50% recycle / 50% landfill or energy recovery

6.1.25 There is likely to be a requirement for some earthworks on Site, and there would also be soil arisings resulting from the construction of underground cable trenches, piling operations or localised excavations for construction of foundations or placement of services. The CL:AIRE Code of Practice (CoP)[2] provides a framework which allows the re-use of excavated materials on-site or their transfer between sites. In the unlikely event that soil arisings are not used on-site then the contractor would look to reuse soils in accordance with the CoP, thereby minimising export of materials to landfill. Further detail is provided in the **outline Soil Management Plan [EN010141/DR/7.9]**.

6.2 Operational Phase

Waste Management and Mitigation Measures

6.2.1 The following measures will be implemented to manage operational phase waste in accordance with the waste hierarchy and legal requirements.

Apply Waste Hierarchy

6.2.2 The Site Operator will take all reasonable actions to minimise the volume of waste produced during operations. This starts with reducing consumption such as only replacing components when truly necessary (extending the life of equipment through good maintenance), using durable materials, and avoiding single-use items on site.

6.2.3 Where waste is generated, the preference will be to reuse or recycle. For instance, if a solar panel is replaced, the operator will see if it can be

refurbished or used elsewhere (some panels might still have useful life) before classifying as waste. If battery units are replaced, the possibility of manufacturer take-back or regeneration will be explored.

Procurement and Inventory Control

6.2.4 During operation, procurement practices will mirror those in construction to prevent waste. Maintenance staff will use a just-in-time approach for spare parts delivery to avoid stockpiling parts that may become obsolete. They will also carefully plan maintenance tasks to determine exact material needs (avoiding over-ordering of supplies).

6.2.5 Any unused parts that are still good will be stored properly for future use or returned to the supplier if possible. The operator will maintain a register of materials and waste to monitor usage and waste generation, enabling adjustments to procurement if waste is observed (for example, if a certain spare part is routinely over-stocked and disposed, orders will be reduced).

On-Site Waste Segregation

6.2.6 As with construction, segregation of waste streams will be practiced on site. The storage, operations and maintenance building and substation / control buildings will have separate bins for recyclables (paper, plastic, metal cans) and general waste. Any hazardous waste generated will be collected separately in appropriate containers and not mixed with general waste.

6.2.7 For replaced solar panels or battery units, these will be removed from their installed position and stored securely until they can be transported off-site. Solar panels, being large and potentially fragile, will be stacked on pallets or in crates to prevent breakage and hazard. Battery units will be disconnected and stored per safety guidelines.

6.2.8 Any waste solar PV modules or other electrical equipment replaced during the operational phase will be managed in accordance with the Waste Electrical and Electronic Equipment Regulations 2013. This ensures that such

equipment is diverted to authorised WEEE collection and recycling routes, in line with the regulations' producer responsibility requirements.

Reuse and Recycling of Equipment

6.2.9 The Site Operator will arrange for specialist recycling or take-back of Scheme components such as solar panels or battery storage units. Many solar panel manufacturers participate in recycling schemes that ensure panels are processed to recover glass, silicon, and metals. Likewise, battery manufacturers often offer take-back services to recycle valuable metals (lithium, cobalt, etc.).

6.2.10 Where take back schemes are not available for the battery cells, the Site Operator would arrange for the battery cells to be sent for recycling to an Approved Battery Treatment Operator (ABTO) or Approved Battery Exporter (ABE) in accordance with the Waste Batteries and Accumulators Regulations 2009. Preference in this scenario would be for the use of an ABTO over an ABE, as this would be more compliant with the requirements of the UK Waste Framework Directive. There are an increasing number of facilities promoting the recycling of industrial grade lithium-ion batteries in the UK and it is expected that this will grow to cater for the increasing requirements of the automotive and industrial (including BESS) battery sectors.

6.2.11 The Site Operator will regularly review available outlets for reuse/recycling of panels and batteries during the operational life. This means the operator will stay informed about recycling facilities or programs and will utilise the best available option at the time of any disposal.

6.2.12 If any component cannot be recycled, the Site Operator will consider other recovery as required. Only if no other option exists will disposal be considered. Given the forty-year operational phase of the Scheme, it is anticipated that recycling technologies will continue to improve, ensuring that during operation and by decommissioning nearly all component materials can be recovered.

Waste Collection and Off-Site Transport

6.2.13 A licensed waste management contractor (or multiple, for different waste streams will be appointed to collect waste from site on a regular schedule, with the frequency to be adjusted based on generation rates.

6.2.14 The contractor(s) will remove waste using registered waste carriers, and each load will be accompanied by a Waste Transfer Note (WTNs) or Consignment Note as appropriate, detailing the waste description, EWC code, quantity, origin (the Site), carrier name and registration, and the destination facility's details and permit number.

6.2.15 The site team will verify that all paperwork is correct and that copies of all notes are retained on file (for at least 2 years for WTNs and 3 years for Consignment Notes, as per regulations). The waste carriers and disposal facilities will be recorded in an appendix of the final WMP, including their licensing details.

6.2.16 The Site Operator will audit waste contractors if necessary to ensure they are managing the Scheme's waste in compliance with the law (as part of the Duty of Care).

Estimate of Arisings

6.2.17 During operation, waste arisings would include:

- Solar panels;
- Cables;
- Fencing;
- Electrical equipment;
- Energy storage i.e. batteries;
- Welfare facility waste;
- Waste chemicals, fuels and oils;
- Waste metals; and
- General waste (paper, cardboard, wood, etc.).

6.2.18 Table 2 below provides an estimate of the waste volumes likely to be generated during the operational phase of the Scheme. The table sets out the waste type, the estimated tonnage of the waste type and the expected fate in terms of the waste hierarchy based on the application of best practice measures set out in this oWMP. The precise quantities of each waste type will depend on the final design and contractor's methods.

Table 2: Operational phase waste estimates and fate

Waste Type	Tonnage / Unit	Assumed Fate
General Waste (e.g. from operations and maintenance buildings units)	~ 80 t	50% recycle / 50% landfill or energy recovery
Solar photovoltaic modules	~ 29,000 t	90% recycle / 10% landfill or energy recovery
Inverters	~ 1,040 t	90% recycle / 10% landfill or energy recovery
Solar transformers	~ 1,900 t	90% recycle / 10% landfill or energy recovery
Battery storage units	~ 2,200 t	90% recycle / 10% landfill or energy recovery
Battery transformers	~ 2,200 t	90% recycle / 10% landfill or energy recovery
Cabling	~ 700 t	95% recycle / 5% landfill or energy recovery
Fencing	~ 450 t	90% recycle / 10% landfill or energy recovery
Paper/Cardboard Packaging (e.g. module and equipment boxes)	~ 800 t	90% recycle / 10% landfill or energy recovery
Wooden Packaging (e.g. pallets, crates, cable drums)	~ 655 t	70% re-use or recycle / 30% energy recovery

Waste Type	Tonnage / Unit	Assumed Fate
Plastic Packaging (e.g. shrink-wrap, straps, foam)	~ 190 t	90% recycle / 10% landfill or energy recovery

6.3 Decommissioning Phase

Waste Management and Mitigation Measures

6.3.1 It is anticipated the following measures will be implemented to manage decommissioning phase waste in accordance with the waste hierarchy and legal requirements, however this will be reviewed based on prevalent legislation and best practice measures at the time.

6.3.2 The fundamental strategy at decommissioning will be to maximise recovery and recycling of materials, such that very little ends up as waste requiring landfill.

Planning and Pre-Decommissioning Audit

6.3.3 Prior to decommissioning, the Principal Contractor will carry out a waste audit of all components to be removed. This will identify the types and quantities of materials present on site to inform the final WMP.

Segregation of Materials

6.3.4 During decommissioning works, different waste materials will be segregated at the source of dismantling. For example, panels will be taken down and stacked for recycling, metal frames will be collected, concrete will be stored separately, and cables will be stockpiled for stripping. Hazardous wastes (like battery units or oil) will be kept separate and in secure containers.

Reuse of Components

6.3.5 At decommissioning it is possible some components could be reused rather than scrapped. For instance, if equipment still has residual life then it could potentially be sold on appropriate second-hand markets.

Recycling and Recovery Off-Site

6.3.6 The Principal Contractor will ensure that all recyclable materials are sent to appropriate recycling facilities. As set out above, by the time of decommissioning it is expected that dedicated solar panel recycling plants and battery recycling plants will be common, given the significant nationwide increase in renewable energy installations. Any hazardous waste will be handled by licensed hazardous waste contractors and treated/disposed of in accordance with the regulatory requirements at that time.

6.3.7 All solar PV panels and associated electrical equipment removed during decommissioning will be handled as WEEE in accordance with the Waste Electrical and Electronic Equipment Regulations 2013. Compliance with these regulations will ensure that these materials are collected for recycling or recovery, consistent with best practice and legal requirements at the time.

Disposal

6.3.8 Ultimately, the goal is that only a small fraction of the decommissioning materials will require landfill disposal. If landfill is needed, an assessment of regional landfill capacity at that time will be provided, but given that almost everything is recyclable or inert, significant strain on landfill capacity is not anticipated.

Waste Collection and Off-Site Transport

6.3.9 A licensed waste management contractor (or multiple, for different waste streams will be appointed to collect waste from site on a regular schedule, with the frequency to be adjusted based on generation rates.

6.3.10 The contractor(s) will remove waste using registered waste carriers, and each load will be accompanied by a Waste Transfer Note (WTNs) or Consignment Note as appropriate, detailing the waste description, EWC code, quantity, origin (the Site), carrier name and registration, and the destination facility's details and permit number.

6.3.11 The site team will verify that all paperwork is correct and that copies of all notes are retained on file (for at least 2 years for WTNs and 3 years for Consignment Notes, as per regulations). The waste carriers and disposal facilities will be recorded in an appendix of the final WMP, including their licensing details.

6.3.12 The Principal Contractor will audit waste contractors if necessary to ensure they are managing the Scheme's waste in compliance with the law (as part of the Duty of Care).

Estimate of Arisings

6.3.13 During the decommissioning phase it is expected that a number of waste streams will be created. They are likely to include the following:

- Solar panels and mounting structures;
- Cables;
- Fencing;
- Waste materials from foundations;
- Electrical equipment;
- Energy storage i.e. batteries;
- Welfare facility waste;
- Waste chemicals, fuels and oils;
- Waste metals.

6.3.14 Table 3 below provides an estimate of the waste volumes likely to be generated during the decommissioning phase of the Scheme. The table sets out the waste type, the estimated tonnage of the waste type and the expected fate in terms of the waste hierarchy based on the application of best practice

measures set out in this oWMP. The precise quantities of each waste type will depend on the final design and contractor's methods.

Table 3: Decommissioning phase waste estimates and fate

Waste Type	Tonnage / Unit	Assumed Fate
General Waste (e.g. from operations and maintenance buildings units)	~ 70 t	50% recycle / 50% landfill or energy recovery
Solar photovoltaic modules	~ 26,400 t	90% recycle / 10% landfill or energy recovery
Solar mounting structures	~ 5,800 t	100% recycle
Inverters	~ 1,040 t	90% recycle / 10% landfill or energy recovery
Solar transformers	~ 1,900 t	90% recycle / 10% landfill or energy recovery
Battery storage units	~ 2,200 t	90% recycle / 10% landfill or energy recovery
Battery transformers	~ 2,200 t	90% recycle / 10% landfill or energy recovery
Cabling	~ 3,580 t	95% recycle / 5% landfill or energy recovery
Fencing	~ 450 t	90% recycle / 10% landfill or energy recovery
Concrete Waste (e.g. excess concrete mix, spillage that hardens)	~ 26,400 t	90% recycle or recovery / 10% landfill
Aggregate Waste (e.g. surplus gravel / sand from works)	~ 30,000 t	90% recycle or recovery / 10% landfill
Cement-Bound Sand Waste (e.g. excess backfill material)	~ 17,500 t	90% recycle or recovery / 10% landfill

7.0 MONITORING AND REVIEW

7.1 Monitoring

7.1.1 To ensure and demonstrate compliance with the measures set out in the WMP, monitoring and reporting will take place throughout each phase of the Scheme. Details of monitoring, inspection and audits to be undertaken will be provided in the final WMP.

7.1.2 The Environmental Manager (or delegate) will conduct routine inspections (at focusing on waste management. This will involve checking that waste is being correctly segregated, storage areas are tidy and secure, no evidence of spills or wind-blown litter, and that signage is in place. They will also inspect records (ensuring WTNs are on file) and verify that only approved waste contractors are being used. Any issues observed will be noted and rectified promptly (by re-training staff or improving signage, etc.). These inspections will be logged, and reports will be maintained as part of the environmental record.

7.1.3 All movements of waste off-site will be recorded in a register maintained by the Environmental Manager. This will capture data from the WTNs, including date, type of waste, EWC code, quantity (in tonnes or m^3), destination facility, and whether it was recycled, recovered, or landfilled. Hazardous waste consignment notes will similarly be logged, with details of the hazardous constituents and receiving facility.

7.2 Review

7.2.1 The final WMP will be reviewed at regular intervals and as required to respond to specific issues that may arise, with the intervals to be defined in the final WMP and as agreed by the Principal Contractor, Site Operator and Local Authorities.

7.2.2 The records held in respect of the WMP will be made available for the purposes of monitoring compliance where a request is made by a Local Authority.

8.0 REFERENCES

[1] HMSO (2015). The Construction (Design and Management) Regulations 2015. Available at: https://www.legislation.gov.uk/uksi/2015/51 [Last Accessed: 17 September 2024]

[2] CL:AIRE (March 2011). The Definition of Waste. Development Industry Code of Practice Version 2. Available at: https://claire.co.uk/projects-and-initiatives/dow-cop/28-framework-and-guidance/111-dow-cop-main-document [Last Accessed: 12 September 2024]