

14 ENVIRONMENTAL MANAGEMENT

14.1 Introduction

- 14.1.1 This chapter of the Environmental Statement (ES) presents a summary of mitigation proposed within **Chapters 5 to 11** of the ES. This mitigation has been proposed in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment, detail is provided on how the mitigation will be put in place or secured, and the expected timing.
- 14.1.2 Good practice and mitigation measures have been integral to the design evolution and are described in **Chapter 2: Site Selection and Design Evolution**. For the purposes of this ES, embedded 'primary' mitigation measures form part of the Proposed Scheme for which consent is sought. **Chapter 3: Proposed Scheme** describes the environmental mitigation measures that are considered to be an inherent part of the Proposed Scheme (i.e. following the design approach adopted to avoid or prevent adverse environmental effects) and are not included in this environmental management summary.

CEMP

- 14.1.3 To ensure all mitigation measures documented in **Chapter 5 to 11** are undertaken on Site, contractors will be required to develop a Construction Environmental Management Plan (CEMP). The CEMP will contain the construction environmental impact mitigation measures which will be implemented during the construction phase of the works. The CEMP will form an overarching document for all site management and will include:
- A Traffic Management Plan (TMP)
 - A Right of Way Management Plan (RWMP)
 - A Construction Methodology Statement (CMS)
 - A Site Waste Management Plan (SWMP)
 - A Water Management Plan (WMP)
 - A Pollution Prevention Plan (PPP)
- 14.1.4 The CEMP will be prepared and submitted to the local planning authorities for approval prior to commencement of construction.
- 14.1.5 An Outline Construction Environmental Management Plan has been prepared and is appended to **Chapter 3: Proposed Scheme**, refer to **Technical Appendix 3.1 (Volume 4)**.
- 14.1.6 The outline CEMP provides an overview of the following aspects of environmental management required to mitigate any potential environmental incidents during construction:
- surface water management;

- oil and chemical delivery and storage;
- wastewater and water supply monitoring and control;
- waste and resource management;
- air, noise, vibration, land and flora and fauna;
- emergency environmental spill response, and spill kits;
- method statements and risk assessments; and
- traffic and transport plans.

14.1.7 The CEMP also contains environmental impact mitigation measures which will be implemented during the decommissioning phase of the wind farm.

Environmental Clerk of Works

- 14.1.8 A suitably qualified Environmental Clerk of Works (ECoW) will be employed for the duration of the construction and reinstatement periods, to oversee construction activities follow the practices as stated within the CEMP, although this may not necessarily be a full-time role throughout. Environmental Management
- 14.1.9 **Table 14.1** summarises the environmental mitigation/enhancement measures and commitments proposed within the ES to prevent, reduce or offset the effects of the Proposed Scheme. The means of implementation along with anticipated timing are also provided.

Table 14.1: Summary of Environmental Management

ES Chapter	Mitigation / enhancement measure proposed	Means of implementation and timing
Ecology	Pre-construction surveys for protected species (badger, otter and water vole) will be undertaken during the last available season prior to commencement of construction or enabling works to ensure the likely absence results recorded remain unchanged since the 2020/2021 baseline surveys.	Pre-construction CEMP
	A suitably qualified ECoW will be employed for the duration of the construction and reinstatement periods, to oversee the safeguarding of important habitats and species and the implementation of ecological mitigation, compensation or enhancement measures, although this may not necessarily be a full-time role throughout.	Construction CEMP
	Compensation for the loss of habitats within the Site, and additional biodiversity enhancement, would be provided via the restoration and management of a range of upland habitats, including the priority habitats modified bog and heathland via a Habitat Management Plan (HMP) (see Technical Appendix 7.6: Outline HMP for further details). Although the HMP is specifically targeted at habitats, in time (within a few years) the restored habitats have the potential to improve habitat quality for a range of flora and faunal species, such as reptiles.	Pre-construction / Construction Habitat Management Plan secured via agreement

ES Chapter	Mitigation / enhancement measure proposed	Means of implementation and timing
	The HMP sets out the restoration and management activities over an area of up to 179.5 ha, which is located outside the Gelligaer and Merthyr Common, providing an opportunity to control grazing and other management. With respect to non-avian ecology (the Outline HMP also includes measures targeted at breeding waders – see Chapter 8: Ornithology), this comprises two elements. On-site: Undertake restoration and management activities over an area of 22.6 ha that should in time lead to increased cover of dwarf shrubs and other heathland plant species and facilitate the area's recovery back to upland heathland. Off-site: Undertake restoration and management activities over an area of up to 156.9 ha, containing a range of upland habitats, that should lead to a significant increase in the extent and quality of priority habitats including modified bog and heathland.	Post-construction Habitat Management Plan secured via agreement
	In order to reduce the risk of bat casualties during wind farm operation, feathering will be implemented on all turbines throughout wind farm operation. The precise details of any curtailment, if required, would be determined at a later date based on post-construction monitoring data. The proposed monitoring strategy has been broken down into three phases: • Phase 1 – updated baseline monitoring of bat activity, prior to wind farm operation • Phase 2 – monitoring of bat activity during wind farm operation, to initially be undertaken in years one to three post construction • Phase 3 – collision monitoring, which would only be enacted if required, based on the results of post-construction bat activity monitoring	Post-construction

ES Chapter	Mitigation / enhancement measure proposed	Means of implementation and timing
Ornithology	A range of good practice measures will be implemented to minimise disturbance to breeding birds, including curlew and snipe, during construction and decommissioning, and to prevent damage to active nests. These may include: • timing of works; • pre commencement surveys; • implementation of disturbance-free buffers; • use of screens; • ECoW employed for the duration of the construction period; and surveys prior to decommissioning, to inform an up-to-date assessment of potential effects on important bird species.	Pre-construction / Construction Habitat Management Plan secured via agreement
	The Applicant has located an off-site habitat management area, on land owned by Dŵr Cymru Welsh Water (DCWW) adjacent to the Site to the east. Proposed management for curlew within the off-site management area is summarised below (for full details refer to the Outline HMP (Technical Appendix 7.6, Volume 4): • Habitat management and restoration of heathland, via controlling grazing density and management of tall vegetation outside the breeding season- specifically dense stands of rushes and dominant grasses; • Restoring wet ground and peatland via ditch blocking drains; • Predator control, specifically between February and July during and immediately prior to the breeding season; and • Temporary electric fencing of curlew nests to prevent predation. Any compensation and enhancement measures designed for curlew are likely to also benefit snipe.	Pre-construction / Construction Habitat Management Plan secured via agreement

ES Chapter	Mitigation / enhancement measure proposed	Means of implementation and timing
	Due to the potentially significant effects in relation to disturbance/ displacement of breeding waders (curlew and snipe) during operation of the Proposed Scheme, post-construction monitoring for breeding waders is proposed. The primary aims of the proposed monitoring are to validate the predictions made in the ES and to determine whether the management of the proposed off-site management area has been successful.	Operation Monitoring Plan
Hydrology, Hydrogeology, Geology and Peat	Peatland restoration opportunities have been identified in consultation with DCWW, which owns the adjacent land to the east of the Site, has led to the potential for peat and peatland habitat restoration to be undertaken within their land holding.	Pre-construction / Construction Habitat Management Plan secured via agreement
	A water quality monitoring programme would be established at key locations around the Site. Monitoring would begin prior to any construction works, to allow pre-construction baseline quality to be determined.	Pre-construction / Construction CEMP
	Groundwater monitoring boreholes would be installed at all proposed turbine locations prior to construction works beginning.	Pre-construction / Construction CEMP
	An outline peat management plan (PMP) Technical Appendix 6.2 (Volume 4) was prepared to investigate the volumes of peat anticipated to require removal for the Proposed Scheme and appropriate reuses within the Site for the excavated material. The outline PMP was informed by the collated peat depth probing exercise, combined with a full appraisal of potential reuse opportunities, for example reinstatement and landscaping requirements associated with infrastructure.	Pre-construction / Construction Peat Management Plan

ES Chapter	Mitigation / enhancement measure proposed	Means of implementation and timing
	A Peat Slide Risk Assessment (PSRA) was undertaken in accordance with the Scottish Government's Peat Landslide Hazard & Risk Assessments: Best Practice Guide for Proposed Electricity Developments (Scottish Government, 2017) in lieu of Wales-specific guidance. The PSRA was informed by the peat depth model, site walkover and peat depth surveys, geomorphological mapping and terrain classification. The assessment used a combined qualitative (contributory factor) and quantitative (factor of safety) approach to determine the likelihood of peat landslides. Areas with the highest likelihood were compared with identified receptors to identify risks and determine appropriate mitigation measures. The assessment is provided in Technical Appendix 6.1 (Volume 4) .	Pre-construction / Construction Peat Slide Risk Assessment
Access, Traffic and Transport	The Traffic Management Plan (TMP) will be agreed with Caerphilly County Borough Council and Merthyr Tydfil County Borough Council prior to the commencement of construction works.	Pre-construction Traffic Management Plan
	Within the site, consideration has been given to pedestrians due to potential interactions between construction traffic and users of the Common. These measures will be formulated into a Right of Way Management Plan.	Pre-construction Right of Way Management Plan
Heritage	An archaeological written scheme of investigation (WSI) will be prepared for the Site. The evaluation would be undertaken by a professional archaeological company, and a Registered Organisation with CfA. The WSI would need to be agreed with the Planning Services section of Glamorgan Gwent Archaeological Trust in their capacity as archaeological advisors to the local planning authorities (LPA). Written approval from the LPA will also be required.	Pre-construction Written Scheme of Investigation
Aviation	Approval and implementation of a Lighting and Marking Plan (LMP), which will set out specific requirements in terms of aviation lighting to be installed on the wind turbines, as required under CAA (2016). CAP 393, Air Navigation: The Order and the Regulations (2016).	Pre-construction Lighting and Marking Plan

ES Chapter	Mitigation / enhancement measure proposed	Means of implementation and timing
Aviation	Consultation with Cardiff Airport following submission of the Scoping Report resulted in a preliminary agreement that the ATC radar objection could be withdrawn subject to the implementation of a suspensive planning condition. It was agreed at that time that all 6 of the turbines were likely to have an impact on the ATC radar.	Pre-construction Suspensive planning condition
	Cardiff Airport, as the nearest civilian airport to the Proposed Scheme, has not indicated that while the turbines appear to be outside the areas where an impact would be observed, a full IFP (Instrument Flight Procedures) assessment should be carried out by a CAA APDO to ensure there will be no adverse impact on the airport's IFPs. At the time of submission, Cardiff Airport are finalising the contracting arrangements to commission an IFP assessment. The Applicant will request Cardiff Airport to update the local planning authorities once the APDO IFP assessment has been carried out and Cardiff Airport has assessed whether any IFPs will need to be amended.	Pre-construction IFP assessment
	It is anticipated that, on submission of the Application, any potential impact on military low flying operations will be operationally acceptable subject to installation of appropriate aviation lighting. It is also expected that MoD will stipulate the requirements in their planning response.	Pre-construction Implementation of proposed mitigation by suitably worded condition
Telecommunications	Consultation with the Joint Radio Council has identified that a mitigation solution is available to the Applicant in resolving the potential negative effects on telecommunication links.	Pre-construction Implementation of proposed mitigation by suitably worded condition
Utilities	The design of the Proposed Scheme, as presented in Chapter 3: Proposed Scheme , has the potential to directly impact the National Grid high-pressure gas pipeline and WWU high-pressure gas pipeline (which crosses the Site in an east to west direction). Both National Grid and Wales and West Utilities will be consulted on the final design of the crossing points.	Pre-construction Implementation of proposed mitigation by suitably worded condition