Date: 10 June 2026
Our ref: 545691

[redacted]
Calderdale Wind Farm Ltd
C/O Enshore Subsea Limited Port of Blyth
South Harbour
Blyth
Northumberland
NE24 3PB

T 0300 060 3900

BY EMAIL ONLY

Dear [redacted]

Planning consultation: Calderdale Energy Park statutory pre-application consultation – Section 42

Thank you for your consultation on the above date 09 April 2026.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

We understand that you are consulting us under Section 42 of the Planning Act 2008. We have reviewed the Preliminary Environmental Information Report (PEIR) and supporting documents, and have provided comments on the areas relevant to our remit based on this information.

Natural England recognises the importance of the pre-application stage of the consenting regime, and we welcome the opportunity to engage at this stage.

For new consultations, or to provide further information on this consultation please send your correspondences to consultations@naturalengland.org.uk.

Yours sincerely,

Yorkshire and Northern Lincolnshire Area Team

Table 1: Contents

1. Summary of Natural England's Comments

Due to the large amount of information provided in the Preliminary Environmental Information Report (PEIR), Natural England has reviewed the topic-specific and general chapters most relevant to our remit only.

We have grouped our comments into the below sections to reflect our areas of remit:

- Habitats, Species and Hydrology
- Landscape
- Climate Change
- Access
- Agricultural Land
- Legislation and Policy

We may have further comments to make on information provided within other chapters at a later stage, if it is subsequently assessed within relevant documents, such as the shadow Habitats Regulations Assessment (HRA) or Report to Inform European Sites Assessment (RIES).

The advice provided in our EIA scoping response (29 September 2025 and 06 October 2025) should also be referred to when reading this letter.

Our detailed comments on the PEIR included in the below sections are flagged as red, amber, yellow, or grey:

- **Red** are those where there are fundamental concerns which it may not be possible to overcome in their current form.
- **Amber** are those where further information is required to determine the impacts of the project and allow the Examining Authority to properly undertake its task and/or where further information is required on mitigation/compensation proposals in order to provide a sufficient degree of confidence as to their efficacy.
- **Yellow** are those where Natural England does not agree with the Applicant's position or approach. We would ideally like this to be addressed but are satisfied that for this particular project it is unlikely to make a material difference to our advice or the outcome of the decision-making process. However, we reserve the right to revise our opinion should further evidence be presented. It should be noted by interested parties that whilst these issues/comments are not raised as significant concerns in this instance, it should not be understood or inferred that Natural England would be of the same view in other cases or circumstances.
- **Grey** are notes for your attention.

2. Habitats, Species and Hydrology

Our comments in this section relate to information provided within the following chapters:

- Chapter 4 – The Proposed Development
- Chapter 8 – Biodiversity
- Chapter 9 – Ornithology
- Chapter 10 – Hydrology, Hydrogeology, Geology and Peat
- Chapter 15 – Noise and Vibration
- Chapter 16 – Air Quality
- Chapter 20 – Major Accidents and Disasters

We note that no shadow HRA or SSSI assessment has been provided at this stage and will be included in the ES. The below advice should be taken into account when completing these assessments, where relevant.

It will be of key importance within the HRA appropriate assessment to fully understand the impact of the project directly and indirectly after effective mitigation, such that residual effects on the SAC and SPA are clearly and robustly presented prior to application of the derogations tests.

Summary of Key Concerns Relating to Habitats, Species and Hydrology

- Natural England has advised that an ecosystem function approach is required to ensure the ecohydrology of the wider ecosystem function is assessed. Natural England advises that impact assessment on blanket bog (and any peatland habitat) and the underlying peat deposit needs to be done at peatland hydromorphological unit level. This is the minimum scale at which impacts occur, and properly considers the integrity and coherence of the peat deposit and the hydrological environment in which it developed and has been sustained. In some cases impacts on adjacent hydromorphological units will also need to be considered, given the ecohydrological dependencies of different parts of the same peatland macrotope (landscape).
- The classification, assessments, and consequent requirements for mitigation and potential compensation have consistently underestimated habitat quality and extent, which has therefore influenced impact estimations and led to uncertainties and underestimations regarding mitigation and potential compensation.
- In particular, there is a misleading focus on the ‘degraded’ nature of some habitats present. The entirety of the blanket bog resource on the site falls within the Habitats Directive Annex 1 definition (JNCC website). UKHab, the tool that has been used to map the habitats, incorrectly excludes non-’active’ bog from the definition, with the result that some areas of blanket bog have been excluded from those qualifying as the Annex 1 habitat. This is then used to downplay both the importance of these areas and likely impacts despite their high sensitivity, irreplaceability, and very slow recovery times. Natural England considers that blanket bog habitat at this site is, whilst modified, mostly in a stable and recovering condition, and are all part of the SAC feature.
- The residual impacts of the proposed development on irreplaceable SAC habitats (after implementation of mitigation) are anticipated to be

widespread and ecologically and hydrologically complex. In terms of identifying potential compensatory measures, it is not possible to create blanket bog, as it is an irreplaceable habitat which takes thousands of years to form and relies on specific climatic and hydrological conditions. Existing peatlands have policy and legislative protections. Therefore, Natural England advises that we consider it will not be possible to agree effective measures that adequately compensate for the effects of this development. We do not expect it will be possible to agree compensatory measures that ensure that the coherence of the UK national European Site network is protected in the context of the anticipated impacts of the proposed development on the relevant SAC and SPA features.

- The Proposed Development would result in a significant loss of functionally important habitat for birds. The site forms part of a high-quality upland habitat complex of international importance, supporting a diverse assemblage of breeding and non-breeding bird species, including many of the UK's most threatened species. The site itself comprises a substantial proportion of the SPA (10.72%) and provides important supporting habitat that contributes to the SPA's ability to meet its conservation objectives. Loss of this area would reduce the SPA's functional capacity to support qualifying species. Given the scale and ecological complexity of this habitat, Natural England considers that it is unlikely that mitigation or compensatory measures could be agreed.
- Natural England considers that the ecology survey submissions are broadly appropriate and aligned with best practice for the PEIR stage. However, the protected species evidence base is not yet sufficiently developed to support future licensing. The principal issues relate to incomplete spatial coverage, gaps in survey effort, and insufficient information to characterise populations and assess impacts with the level of detail and confidence required for licensing. Substantial additional survey work, particularly extending across the full Order Limits and focusing on species-specific requirements, will be necessary to address these gaps and to ensure that the project can meet licensing requirements.

Table 2: Natural England's detailed comments on Habitats, Species and Hydrology

NE ref	Document and section	Topic	Comment	RAG
NE1	Chapter 4 – The Proposed Development 4.3.24	Fuel storage	It is stated that fuel storage will be situated a minimum of 50m from watercourses, *"where practicable."* We advise that the 50m offset distance from watercourses should be a requirement. We advise that further detail should be provided on potential exemptions to this requirement, and alternative mitigation where the 50m distance is not possible.	Amber
NE2	Chapter 04 – The Proposed Development 4.3.32	Hazardous materials	We note that 4.3.2 includes details of proposed storage of hazardous materials. Natural England advises that there should also be details of how hazardous materials are transported around the site between the compounds, particularly for those materials that could easily be spilled. Natural England would expect mitigation measures to include spill kits being carried, and use of fuel bowsers. Details of incident reporting should also be provided, including how incidents will be attended to.	Amber

NE3	Chapter 04 – The Proposed Development 4.3.33	Sources of potable water	We note that it is *"anticipated that potable water will be transported, though further options will be considered."* Natural England reiterates that an assessment would be required if any water abstractions that affect designated site catchments are proposed.	Amber
NE4	Chapter 4 – The Proposed Development 4.3.4	Ground investigation works	Further clarification pre-consent as to what intrusive advance ground investigation work entails would be welcomed. It is unclear how such work will be planned to ensure damage and destruction to habitat is minimised.	Amber
NE5	Chapter 4 – The Proposed Development 4.3.35	Foul water and surface water	Clarification would be welcome on what foul water means in this context and whether it is limited to foul water from sinks/toilets, or also includes water from other sources such as concrete batching/other onsite industrial processes. An assessment should also be provided for potential habitat and hydrological impacts from required excavation and potential pollution from the proposed septic/foul tank and oil separator.	Amber
NE6	Chapter 4 – The Proposed Development	Storing peaty soils	Natural England has significant concerns around the approach to storing peaty soils. We consider that storage of these materials will further increase the area of construction resulting in further damage/loss of habitat. Therefore, this should be assessed in the ES and HRA. Potential impacts on shading of nearby vegetation should also be considered. Details of proposed wind/water erosion prevention measures should be provided.	Amber
NE7	Chapter 4 – The Proposed Development 4.3.39	Borrow pits	Borrow pits are likely to have hydrological and water quality impacts beyond the site footprint as well as causing direct loss of habitat. These impacts should be assessed in the ES and HRA.	Amber
NE8	Chapter 4 – The Proposed Development	Transporting aggregate	Transporting imported aggregate into the turbine area does not appear to have been addressed in the PEIR. The ES and HRA should assess additional impacts, including potential effects such as compaction, disturbance, dust/pollution, and biosecurity.	Amber

	4.3.39			
NE9	Chapter 4 – The Proposed Development 4.3.44	Tracks	Natural England advises that both cut and floating tracks are likely to cause loss of interest feature and wider hydrological impacts. By facilitating public access, they can also increase negative impacts including the risk of wildfire ignition and bird disturbance. These impacts should be assessed in more detail within the ES and HRA.	Amber
NE10	Chapter 4 – The Proposed Development 4.3.45-4.4.47	Existing tracks	Existing tracks on site may be unsuitable for HGV and AIL traffic. Therefore, the design and associated assessments should include detail as to how existing tracks will be upgraded to suit heavier traffic, which in turn may require further consideration of habitat damage and loss.	Amber
NE11	Chapter 4 – The Proposed Development 4.3.55-4.3.58	Drainage	The proposed approach to intercepting and diverting flows, which risks lowering the local water table, leading to drying, oxidation and degradation of surrounding peat and associated habitats. Concentrating naturally dispersed flow into drains, culverts and discharge points can concentrate water into limited locations, increasing flow velocity and significantly elevating the risk of peat erosion, gullying and scouring at outfalls. Even where filtration measures are used, sudden overground discharge may create further erosion and preferential flow paths that permanently alter pre-construction natural hydrological patterns. Additional concerns include the mobilisation of fine peat sediments and release of into downstream watercourses. Bog vegetation communities are highly sensitive to even minor hydrological change and the impacts of diverting water at construction sites extend well beyond the construction footprint. This should be fully accounted for in the ES and HRA appropriate assessment.	Amber
NE12	Chapter 4 – The Proposed Development 4.3.67-4.3.73	Trenchless techniques	The trenchless technique detail to be provided in the ES should take potential damage and loss of habitat into account. Specifically, location, soils, habitat and species, and potential risks associated with ground investigations and duct installation.	Amber
NE13	Chapter 4 – The Proposed Development 4.4.12	Habitat reinstatement	It is stated that *'where infrastructure is removed, the land will be reinstated to its original baseline condition, where practicable'*. However, Natural England advises that, for the purposes of HRA appropriate assessment, land affected by infrastructure removal should be assumed to result in a permanent loss, as reinstatement to original baseline condition is not guaranteed.	Red
NE14	Chapter 4 – The	Outline Peat	It is noted that Table 4-2 states "The oPMP [Outline Peat Management Plan] will be	Grey

	Proposed Development Table 4-2	Management Plan	discussed and agreed with the Environment Agency and Natural England." However, this assumes that it will be possible to reach agreement and achieve regulatory compliance. This may be complex and it should not be assumed that full agreement can be reached.	
NE15	Chapter 8 – Biodiversity Table 8-9	Habitat condition	Natural England notes that there is a focus on the 'degraded' nature of some of the habitats present across the site. Table 8-9 states that *"The results of the NVC surveys and habitat condition assessments indicate that the peatland habitats present remain degraded in nature across much of the Turbine Area, potentially as a result of long-term management as a grouse moor. Sample locations lacked frequent/abundant Sphagnum cover with heather dominant or abundant in the majority of survey quadrats. Other signs of degradation included; abundant or frequent occurrence of grass species including Descampsia flexuosa and Molina Caerulea; evidence of livestock grazing and direct human impacts (including pathways, vehicle tracks and cutting)."* Natural England considers that blanket bog habitats at this site are, whilst modified, mostly in a stable and recovering condition. Blanket bog should not be ecologically devalued based on assumptions regarding its current condition or species frequency alone. Due regard should be given to its SAC designation and the existing duty to restore SAC habitats to favourable condition, in addition to blanket bog's inherent capacity for restoration and its ability, under appropriate management, to recover to a fully functioning peatland system delivering key ecosystem services. Therefore, we advise that the Environmental Statement and HRA should fully account for these factors. The vegetation species composition broadly aligns with typical blanket bog vegetation when habitats are modified but recovering. 18.98% of the 6409 peat depth points identified Sphagnum as being present. This field data contradicts the statement that there is minimal Sphagnum present on site, and the coverage is considered higher than other sites within the South Pennines. Sphagnum incidence indicates that the hydrological conditions required for natural blanket bog recovery are in place on the majority of the deep peatland areas of the site and there should be no reason why the habitat condition should not continue to improve if damaging management is prevented. Other peat-forming species, including cotton grass, are also frequently	Red

			occurring. Therefore, these statements are considered misleading.	
NE16	Chapter 8 – Biodiversity 8.5.11	Future Baseline	Natural England has concerns with the proposed approach to calculating the future baseline. We note that the future baseline is expected to involve a 'continuation of existing land management,' in line with the existing Walshaw Moor Catchment Restoration Plan. However, it is considered unlikely that future management would resemble historical management in the absence of the development, given changes to legislation on burning,[1] government commitments to peatland restoration[2], and growing evidence on recovering peatlands[3], [4]. In addition, some restoration works have already been carried out on the site, as described, and these may not yet have been fully reflected in habitat condition due to slow trajectories of vegetation change on blanket bog. It therefore seems likely that there is scope for improvement of the habitat condition in relation to the current baseline, in the absence of the development. Consideration should also be given to other mechanisms for site restoration that would reasonably be expected to meet the 'restore' targets for the site features, such as Countryside Stewardship Higher Tier and Calder and Colne Landscape Links Landscape Recovery Project. The Government also has a commitment in the Environmental Improvement Plan 2025 to restore approximately 280,000 ha of peatland in England by 2050. Therefore, there is uncertainty in the conclusion that the current baseline would not significantly alter, and this assessment should be revised.	Red
NE17	Chapter 8 – Biodiversity 8.6.8	Enhancement of retained habitats	In the context of the Habitats Regulations, Natural England's view is that a loss of habitat cannot be mitigated for by habitat re-creation or translocation proposed within the same site. Proposals to 'mitigate' a loss by re-creating or restoring the same habitat within the site boundary or outside should be considered as compensatory measures only, and not taken into account at the appropriate assessment stage (in line with Briels, Orleans and Grace and Sweetman rulings). Natural England highlights that compensatory measures should be additional to the actions that are 'normal	Amber

[1] The Heather and Grass etc. Burning (England) Regulations 2021
[2] Policy Update: UK Government on Environment & Energy | IUCN UK Peatland Programme
[3] Growing the evidence base to recover England's treasured peatland landscapes – Natural England
[4] A collection of three Natural England reports marks a step change for English peatlands | IUCN UK Peatland Programme

			practice' under existing requirements. Measures that would normally be expected to be taken to restore or recover features which are not meeting their conservation objectives are generally considered an existing obligation on the relevant authorities. The potential for impacts associated with the proposed development to reduce the effectiveness of proposed on-site measures should also be assessed, such as hydrological changes limiting habitat establishment or collision risk affecting bird populations.	
NE18	Chapter 8 – Biodiversity 8.6.9	Habitat mitigation and compensation strategy	Natural England notes that a *"Habitat Mitigation and Compensation Strategy will be developed and submitted as part of the ES."* However, Natural England advises that proposed mitigation measures and compensation measures should be detailed in separate documents, as they relate to distinct parts of the Habitats Regulations process and legislation.	Amber
NE19	Chapter 8 – Biodiversity 8.6.9	Compensation Strategy	The baseline surveys demonstrate the extent, structure, function and quality of the habitats present and the site's contribution to the UK national European Site network. The residual impacts of the proposed development on irreplaceable SAC habitats (after implementation of mitigation) are anticipated to be widespread and ecologically and hydrologically complex. In terms of identifying potential compensatory measures, it is not possible to create blanket bog, as it is an irreplaceable habitat which takes thousands of years to form and relies on specific climatic and hydrological conditions. At an international scale, blanket bog is considered globally rare (20% lies in Britain and Ireland). Existing peatlands have policy and legislative protections, including the EIP target for restoration. Therefore, Natural England advises that we consider it will not be possible to agree effective measures that adequately compensate for the effects of this development. We do not expect it will be possible to agree compensatory measures that ensure that the coherence of the UK national European Site network is protected in the context of the anticipated impacts of the proposed development on the relevant SAC features. Please note that our advice on compensatory measures at this stage is provided in	Red

			principle, and without prejudice to the proper application of the HRA process and derogation legal tests.	
NE20	Chapter 8 – Biodiversity Table 8-14 Appendix 4-1: Draft Commitments Register	Introduction of toxic pollutants or sediments	The assessment of water quality impacts should be extended to include the introduction of debris, sediments (including particulate organic carbon), dissolved organic matter, nutrients, contaminants (including chemicals and heavy metals etc.) and changes to temperature, oxygen levels, pH and cation concentrations from different activities during construction, operation and decommissioning. We note from Appendix 4-1: Draft Commitments Register ID2 that *"The proposed drainage strategy will ensure that surface run off rates and the quality of water are maintained at current levels."* Natural England advises that a detailed assessment of how water quality levels at current levels will be achieved for all relevant chemical and physical water properties should be provided in the ES. The assessment should consider habitat-specific impacts from water quality changes, such as pH changes to blanket bog vegetation communities. There are also likely to be increases to sediment and macronutrient loading from activities, including the onsite borrow pits, which may affect both the site and any surface runoff into streams and surface waters that naturally drain the peatland extent. Ideally, borrow pits would be located off site. Pathways and receptor impacts should therefore be considered from site activities.	Amber
NE21	Chapter 8 – Biodiversity Table 8-14	Introduction of toxic pollutants or sediments	We note that a zone of influence of up to 1km from pollution sources along hydrologically connected watercourses, lakes and reservoirs has been selected. However, the 1km zone of influence should be evaluated and justified for each relevant pollutant and source – ecological impacts may extend beyond 1km for certain pollutants. This should be considered in conjunction with hydraulic pathways.	Amber
NE22	Chapter 8 – Biodiversity Tables 8-15, 8-16 ,8-17 and 8-19	Definition of Annex 1 habitat	Tables Paragraphs 8-15, 8-16 ,8-17 and 8-19, identify "blanket bog" as Annex I habitat H7130 but do not include areas of degraded blanket bog within the same Annex I classification. This approach is inconsistent with the Habitats Directive, which recognises that blanket bog remains an Annex I habitat where it retains the characteristic blanket bog form and vegetation and is capable of restoration, even where peat-forming processes are not currently active (Blanket bog (Blanket bogs) -	Red

			Special Areas of Conservation). This should be corrected to ensure the table clearly distinguishes between active blanket bog, which has additional conservation value as it qualifies as a priority habitat (*H7130), and degraded blanket bog, which should continue to be classified as Annex I habitat H7130. Failure to classify all blanket bog as H7130 risks under-representing the extent of Annex I habitat within the study area. Natural England believes that most of the blanket bog on the site, 'degraded' or not, is 'active' blanket bog supporting a significant area of vegetation that is normally peat-forming (Annex 1; EUR27).	
NE23	Chapter 8 – Biodiversity Table 8-21	Changes in surface and sub-surface hydrology resulting in degradation and/or loss of habitat	Table 8-21 (Summary of Preliminary Assessment of Effects) identifies potential changes in surface and sub-surface hydrology resulting in degradation and/or loss of habitat, including blanket bog, and concludes that significant effects cannot be ruled out, with a medium magnitude of impact currently predicted due to the loss of Annex I habitats and designated features of the SAC and SSSI. Given the sensitivity and irreplaceable nature of blanket bog, and its reliance on stable hydrological conditions to sustain peat-forming processes, the predicted impacts are more appropriately characterised as being of high magnitude. Hydrological change represents a key threat to the integrity of blanket bog and can result in long-term or permanent degradation, with recovery timescales extending over centuries. Where such effects have the potential to affect Annex I habitat within a designated SAC and associated SSSI features, the magnitude of impact should therefore be assessed as high, rather than medium. The current classification risks underestimating the seriousness of the predicted effects on habitats of European importance.	Red
NE24	Chapter 8 – Biodiversity 8.8.27	Design process and habitat loss	It is stated that *"8.8.27 The design process for the Proposed Development has sought to minimise the areas of habitat loss, in particular seeking to re-position turbines and infrastructure such that areas of deep peat (i.e. peat occurring at a depth of 30cm or more), and therefore locations most likely to support blanket bog habitat, are avoided or minimised."* However, based on Figure 10-10 Peat Probe Depth and Core Location, some of the turbines are located on peat >30cm. Other infrastructure, including access tracks, is also located on areas of deep peat/blanket bog, which covers much of the turbine site and western access route. Therefore, we consider this statement to be misleading. We would welcome transparency about the full amount of blanket bog habitats to be destroyed and damaged within these statements.	Amber

NE25	Chapter 8 – Biodiversity 8.8.50	Toxic pollutants	We do not agree with the conclusion that *"Proposed environmental measures follow best practice approaches and if applied throughout the Proposed Development should ensure that the risk of toxic pollutants impacting the South Pennine Moors SAC or SSSI is avoided or minimised. Effects of pollution is currently predicted to result in a low magnitude of impact which is Not Significant. This should ensure that the integrity of the South Pennine Moors SAC and SSSI is not affected."* At this stage, we advise that sufficient information is not available to rule out adverse effects on the South Pennine Moors SAC, SPA or SSSI. Further assessment of the proposed mitigation measures and justification for their effectiveness in the context of the relevant SAC features and processes (in line with the site's Conservation Objectives and Supplementary Advice) should be included in the shadow HRA, and inform the ES.	Amber
NE26	Chapter 8 – Biodiversity Chapter 20 – Major Accidents and disasters	Wildfire	The increased risk of wildfire from infrastructure, drying of habitats and increased access should be assessed in the HRA and ES. A full risk assessment should be carried out prior to identification of suitable mitigation measures. We note from Chapter 20 that it is proposed that additional mitigation will include *"regular risk assessment of fire/wildfire risk, drawing on the principles of DEFRA's wildlife management plan guidance."* However, the Defra Wildfire Management Plan guidance is part of a requirement for a burning licence to show burning heather on deep peat is needed to reduce the impact of wildfire, not to assess the risk of wildfire on site and reduce the risk accordingly. Therefore, the template may provide some useful prompts, but is intended for a different purpose, so may include parts that are not relevant to this situation and miss considerations that are relevant. Alternative guidance can be found at: https://publications.naturalengland.org.uk/file/6430012213559296. The suitability of proposed measures and methodologies should be assessed in the context of the proposed development. For example, it is mentioned that the measures will include *"reducing fuel loads directly near infrastructure."* However, reducing fuel load has the potential to damage habitat, so would also need to be considered as a potential impact itself rather than just a mitigation measure. The suitability of the	Amber

			proposed methodology for reducing fuel loads should also be considered. Heather cutting may not be suitable in all locations due to terrain, and burning on deep peat would require a licence (which may not be granted) and have associated carbon losses. Therefore, the effectiveness of the proposed measures to adequately reduce the risk should be assessed in detail.	
NE27	Chapter 8 - Biodiversity	Ancient woodland	Natural England's advice with regard to Ancient Woodland and veteran trees is generally limited to our Standing Advice. This Standing Advice should be followed in the assessment of impacts and any required mitigation. We note that veteran and notable trees have been identified within the Turbine Area. In the first instance impacts to veteran trees should be avoided in line with the mitigation hierarchy.	Grey
NE28	Chapter 8 – Biodiversity Table 8-9	Designated features along the Eastern Access Route and Bradford West Cable Corridor	It should not be assumed that areas along the Eastern Access Route and Bradford West Cable Corridor are not relevant features designated for the South Pennine Moors SAC solely because they are alongside roads. Natural England welcomes that further surveys will be completed in 2026 in order to fully assess the presence of designated features and potential impacts along these routes. Impacts to designated habitats should be fully assessed within the HRA, even if the feature is considered to be degraded.	Amber
NE29	Chapter 8 – Biodiversity Table 8-21: Summary of Preliminary Assessment of Effects 8.8.58	Dust during construction	We note the PEIR states that *"effects of dust deposition are currently predicted to result in a low magnitude impact which is Not Significant"*. At this stage, there is insufficient information to support this conclusion, as the full extent of impacts and proposed mitigation has not yet been fully defined or assessed. Further assessment within the HRA is required to consider potential effects on SAC habitats from dust, including their ecological sensitivity and potential biochemical impacts (e.g. nutrient enrichment, changes to pH or deposition of trace metals), not solely physical smothering.	Amber
NE30	Chapter 8 – Biodiversity	Spatial extent of ecology	A key overarching concern relates to the spatial extent of surveys. At present, survey effort is largely focused on the turbine area, with comparatively limited or absent	Amber

		surveys	coverage of access routes, the cable corridor, and the wider Order Limits. We welcome that further surveys are proposed. Natural England would advise all areas potentially affected by construction and operation, and therefore where licensable activities may be undertaken, to be subject to appropriate survey effort. This limitation represents a significant constraint in terms of future licensing, where more complete spatial coverage is required to fully understand impacts on protected species.	
NE31	Chapter 8 – Biodiversity	Use of habitat suitability data	With regards to the habitat baseline, whilst the habitat data is robust, it is evident that there is a degree of reliance on habitat suitability to infer species presence, particularly for mammals. Natural England would advise that this is supplemented by more comprehensive species-specific survey data as the project progresses, as habitat suitability alone is typically insufficient to inform licensing decisions.	Amber
NE32	Chapter 8 - Biodiversity	Bat surveys	With regard to bats, Natural England considers that the survey approach is broadly consistent with current best practice for wind energy developments. The use of static detectors, activity surveys, and reference to Bat Conservation Trust guidance is appropriate, and the dataset is generally sufficient to inform the PEIR. However, there are notable limitations, including missed surveys, reduced detector deployment, and some equipment failures, which collectively reduce the robustness of the dataset. In addition, there is a reliance on activity data with comparatively limited confirmation of roost presence and use. For licensing purposes, further work will be required to address seasonal gaps, expand coverage beyond the turbine area, address design changes, and undertake additional roost surveys where high suitability features are present. As it stands, the information is suitable for PEIR but not yet adequate to support an EPS licence application.	Amber
NE33	Chapter 8 – Biodiversity Table 8.10	Possible woodland bat roosts	In the first paragraph it is stated that a small parcel of plantation woodland is not considered suitable for roosting bats. Please clarify why this is the case and confirm whether this woodland been surveyed for potential roost features. In the case of both deciduous and coniferous plantation woodland, woodpecker holes and double-leadered trees (in addition to other features) can provide potential roost features for bats. Surveys should take account of all roosts/potential roosts that will be both directly (i.e. modified/destroyed, including immediate landscape connections) and indirectly (i.e. via	Amber

			disturbance) impacted by the proposals.	
NE34	Chapter 8 – Biodiversity Table 8.10	Walkover surveys and weather	Paragraph 4 states that the walkover surveys recorded low levels of bat activity. Natural England advises the number of foraging bats using moorland is very weather dependant, since this habitat can have very little bat activity when windy/rainy due to the lack of shelter, but potentially rather more when the weather is drier/milder due to typically high insect abundance. Natural England advises that an assessment should be provided of the weather data and the bat activity data, to determine if there is an increase in bat activity with drier/milder weather conditions. This may improve understanding of usage of the moorland by bats under different conditions. Natural England advises that NatureScot guidance on bats and onshore wind turbines[5] may inform the assessment.	Amber
NE35	Chapter 8 – Biodiversity Table 8.10	Habitat suitability	Paragraph 6 states that much of the habitat within the Turbine area is of low suitability for foraging and commuting bats. However, Natural England advises the number of foraging bats using moorland is habitat and species dependant. Wetter areas of boggy/marshy habitat can provide foraging habitat for a number of bat species. Upland habitats can be of significant value to commuting and foraging bats, although use can be more weather dependent than for lowland habitats. Open moorland (particularly areas above wet ground) can support significant numbers of foraging pipistrelle, noctule and Leisler's bat, with Myotis species also known to forage in such areas. Therefore, it is possible that the impact of habitat loss to bats is higher than anticipated. We would advise that potential suitability for foraging and commuting bats should be analysed in more detail with consideration of specific habitat and species variables. The impact of habitat loss to bats will be increased if there is significant change to the hydrology of the area. This should also be considered. Natural England welcomes that further surveys and assessment will be completed during 2026 to assess impacts.	Amber
NE36	Appendix 8.4 – Bat Survey Report Figure 1	Bat species mortality risk	Natural England advises that it is not possible to determine the exact level of impact to bats from site presence/ activity alone because the presence of wind turbines alters bat behaviour[6]. Some bat species (the faster flying open-space foragers) are more at	Amber

[5] Bats and onshore wind turbines - survey, assessment and mitigation | NatureScot
[6] Song flight and 3D thermal detection provide evidence for bat attraction to wind turbines in Central Europe | Communications Biology

			risk than others[7]. These include Noctule, Leisler's, serotine, common pipistrelle, soprano pipistrelle and Nathusius' pipistrelle. In addition, turbines placed within areas of higher insect concentrations (such as near hedges/ treelines/ woodland edges and within wet/ marshy grassland and moorland) have an increased chance of causing bat mortality. Natural England recommends that these factors should be considered when assessing impacts to bat species. The NatureScot guidance[8] provides several mitigation options which can be employed including adjusting the turbine layout, use of buffers, and curtailment during operation. We advise that a post-construction monitoring plan should be created to determine whether curtailment is required, and if so, to what extent.	
NE37	Appendix 8.4 – Bat Survey Report Table 4	Presentation of static location data	We recommend that summary data are presented for each static location to inform the assessment of potential impacts across different areas of the site.	Amber
NE38	Appendix 8.4 – Bat Survey Report Paragraph 4.1.6 Chapter 8 – Biodiversity Table 8.10	Overall conclusion	We note that it is concluded that the site is of regional importance to bats. However, we advise that this conclusion is revisited following completion of the additional surveys and an updated assessment, in line with the above advice.	Amber
NE39	Appendix 04-2 Outline Construction Environmental Management Plan (CEMP)	Construction Environmental Management Plan (CEMP)	The outline CEMP refers to a sensitive lighting strategy that will be employed to avoid unnecessary light pollution and avoid/minimise impacts of lighting on nocturnal species. Natural England requests that this is shared for review upon completion.	Amber
NE40	Chapter 8 – Biodiversity Paragraph 8.6.14 Appendix 04-2 Outline	Construction Environmental Management	Natural England notes that a noise threshold level that would cause disturbance to bats has not been assessed. We advise that all areas that would be subject to noise levels above the baseline should be assessed for the likelihood of impact. The assessment should measure unweighted baseline noise levels in the frequency range	Amber

[7] Bat mortality at wind turbines in northwestern Europe
[8] Bats and onshore wind turbines - survey, assessment and mitigation | NatureScot

	Construction Environmental Management Plan (CEMP). Chapter 15 – Noise and vibration. Table 15-6	Plan (CEMP)	audible to bats[9]. We note, it may not be possible to determine where higher levels of noise would begin to have an effect, but it should be possible to predict with reasonable confidence (using modelling) where noise impacts can be expected not to occur which will allow unaffected commuting routes to be identified, and the extent (proportion) of unaffected foraging areas to be estimated.	
NE41	Chapter 8 - Biodiversity	Otter surveys	The evidence base for otter indicates that the species is present within the survey area, with records of holts, couches, and field signs. This provides a sound basis for PEIR assessment. However, the surveys are spatially limited and do not provide a clear understanding of territory use, commuting routes, or the functional importance of identified features and whether the holt is a natal holt. There is also limited information on levels of activity and potential sensitivity to disturbance. For licensing purposes, Natural England would require further survey effort to define these aspects and to inform appropriate mitigation, including the establishment of protection zones around key resting sites. Accordingly, while the baseline is sufficient to inform PEIR, it is not yet adequate to support a licence application.	Amber
NE42	Chapter 8 – Biodiversity Paragraph 8.8.236 and 8.8.253	Otter holt	Natural England advises that the status of recorded otter holt/s should be confirmed. Breeding sites should be assessed in more detail	Amber
NE43	Chapter 8 – Biodiversity Paragraph 8.8.249	Disturbance to otters	Natural England advises that assessment of disturbance to otters should not be limited to the construction and decommissioning phases. The potential impacts during operation should also be considered in the ES.	Amber
NE44	Chapter 8 – Biodiversity Paragraph 8.8.252	Otter disturbance	Natural England advises that a 50m disturbance distance for may not be sufficient for otter. Natural England/ Forest Research/ Forestry Commission's joint Guidance on managing woodlands with otter in England[10] states that operations should be avoided within 30m of a known holt or resting place and within 100 to 200m of a breeding site.	Amber

[9] Noise Impacts on Bats – A Sound Assessment? (Paola Reason and Clive Bentley, 2020)
[10] Guidance on managing woodlands with otter in England

NE45	Chapter 8 – Biodiversity	Wildlife licencing – Great crested newts	In respect of great crested newts, the methodology employed — specifically the use of HSI assessments and eDNA survey — is in line with current guidance. However, not all ponds identified through desk study have been surveyed, and some sampling has taken place late in the season, reducing reliability. Furthermore, the reliance on eDNA alone does not provide sufficient information to determine population size class, which is a key requirement for impact assessment and licensing, particularly given that District Level Licensing is not available in this area. Additional surveys will therefore be required to achieve a robust understanding of distribution and population status. While the current approach is acceptable for PEIR, it may not be sufficient to support a mitigation licence.	Amber
NE46	Chapter 8 – Biodiversity	Wildlife licencing – Badgers	For badgers, the applicant has undertaken standard walkover surveys, and the conclusion that badgers can be scoped out of the turbine area is reasonable based on the available evidence. However, the survey data is limited to a single season and does not cover the full extent of the development footprint, including access routes and the cable corridor. NE would expect updated surveys to be undertaken prior to construction, and for survey coverage to extend across all affected areas. The current evidence is therefore acceptable for PEIR-level scoping but is not adequate to support licensing or to inform construction-phase mitigation.	Amber
NE47	Chapter 8 – Biodiversity	Wildlife licencing – Water voles	In relation to water voles, the current baseline and evidence is limited, with only a small number of potential indicators recorded and no clear confirmation of presence through multiple field signs or repeat surveys. While the precautionary treatment of the species at this PEIR stage is appropriate, further targeted surveys will be required to provide greater confidence of presence or likely absence, and to inform any licensing decisions.	Amber
NE48	Chapter 8 – Biodiversity Table 8.12	Potential effects on badger and dormouse scoped out	Natural England advises that the reasons behind the lack of habitat suitability for badger and dormice within the Turbine Area should be explicitly stated (e.g. no dry substrate suitable for badger setts, very few flowering/fruiting trees/shrubs for dormice).	Amber

			Natural England welcomes that further surveys of Access Routes and the Bradford West Cable Corridor for badger and dormice are to be undertaken in spring/ summer 2026.	
NE49	Chapter 9 – Ornithology	General	Natural England advises that the scale and context of the Proposed Development in relation to ornithological receptors is of particular concern. The evidence presented clearly identifies that the site forms part of a high-quality upland habitat complex of international importance, supporting a wide range of upland breeding and non-breeding bird species. The study area represents a significant proportion of the wider SPA (10.72%) and supports a diverse assemblage including many of the UK's most threatened and priority species. It provides important supporting habitat that contributes to the extent, distribution and availability of suitable breeding habitat within the SPA. Loss of this area would therefore undermine the site's ability to meet its conservation objectives by reducing its capacity to support the SPA population. Recreating an area of this scale and ecological complexity, capable of supporting comparable diversity and densities of upland breeding birds, is not considered achievable within any realistic timescale. There are also existing Environment Act targets on reducing the risk of species extinction. Given the nature of this habitat and the species it supports, we do not expect it will be possible to agree mitigation and compensatory measures that ensure that the coherence of the UK national European Site network is protected.	Red
NE50	Chapter 9 – Ornithology Table 9-4	Study area	Natural England notes that a summary of survey coverage is provided in Table 9-4. However, a clear visual representation of survey coverage and effort would help demonstrate the spatial and temporal distribution of transect and vantage point surveys, and identify any gaps in coverage. This would enable a more transparent assessment of survey effort across species and locations. Without this information, Natural England is unable to provide a comprehensive assessment of whether sufficient survey effort has been achieved or fully evaluate the conclusions drawn within the assessment.	Amber
NE51	Chapter 9 – Ornithology	Assessing importance of	Natural England does not agree that the application of a fixed 1% threshold provides an appropriate basis for determining the ecological significance of bird populations	Red

	9.4.39	ornithological features	associated with the designated sites. While such a threshold may serve as a useful initial point of reference for certain impact pathways, it should not be relied upon as a definitive measure of importance. Further advice is provided in Appendix 2.	
NE52	Chapter 9 – Ornithology 9.5.56	Baseline surveys	Natural England notes that the Western Access Route lies outside the ornithological survey coverage undertaken between 2022 and 2025, despite its potential to support birds from the designated sites. We acknowledge the intention to undertake habitat walkover surveys, however, insufficient justification has been provided as to why this approach alone is considered adequate. A habitat-only assessment may not be sufficient to determine the presence, distribution, or use of the land by SPA bird species. Natural England therefore advises that further justification is required, or that additional ornithological survey work is undertaken to ensure a robust assessment of potential use by qualifying species.	Amber
NE53	Chapter 9 – Ornithology	Future baseline	Natural England has concerns with the proposed approach to calculating the future baseline, due to uncertainty with the predictions made in the assessment. For example, the suggestion that snipe may benefit from climate change should be treated with caution, as this may depend on factors such as where this population winters. It is not clear whether this is known for the snipe associated with the site. Clarification should be provided on whether the wintering provenance of these birds is understood before relying on potential climate-related benefits within the assessment. The potential for improvement of the habitat condition in the absence of the development should also be considered, in line with the above advice.	Amber
NE54	Chapter 9 – Ornithology 9.6.6	Site fidelity	The examples of species exhibiting strong site fidelity are noted. However, this should not be treated as an exhaustive list. Other species present within the SPA/SSSI, including curlew, are also known to demonstrate strong site fidelity. This should be considered in the full assessment of impacts.	Amber
NE55	Chapter 9 – Ornithology 9.6.6	Design considerations – sensitivity	Design considerations should seek to avoid areas of highest sensitivity for all qualifying SPA/ SSSI ornithological features, rather than focusing only on the species listed.	Amber

NE56	Chapter 9 – Ornithology 9.6.15	Design – nesting birds	The proposed approach to checking for, and preserving, nests prior to vegetation clearance is welcomed. However, birds may also nest opportunistically in piles of cleared vegetation if these are not promptly removed, as well as on machinery, vehicles, and within temporary compound structures. This should be anticipated and managed through appropriate construction practices and outlined in the oCEMP.	Amber
NE57	Chapter 9 – Ornithology 9.6.24	Monitoring	The proposed programme of post-construction monitoring, including avian fatality monitoring, is welcomed. However, to ensure that monitoring is robust and effective, surveys should utilise appropriate methodologies, including the use of trained detection dogs where suitable. In addition, monitoring results should be made available to relevant local authorities and statutory bodies.	Amber
NE58	Chapter 9 – Ornithology Table 9-11	Potential effects scoped out (Bradford West Cable Corridor)	Natural England notes the conclusion that operational effects of the Bradford West Cable Corridor on ornithology can be scoped out since the cable will be underground. While this approach recognises the absence of direct effects, there remains potential for indirect effects via changes to habitat condition, particularly where infrastructure is located within peatland. Alterations to local hydrology may result in long-term habitat degradation, affecting the availability of supporting habitat and prey resources for bird species, with effects potentially arising over extended timescales. Given the potential pathway for effects on qualifying features, these impacts should be appropriately considered within the HRA.	Amber

NE59	Chapter 9 – Ornithology Table 9-12	Evaluation of ornithological features	Natural England advises that further justification is required where Table 9-12 assigns levels of importance/ sensitivity to ornithological features that appear inconsistent with their association with designated sites. In addition, it should be noted that all species listed within the assemblages of breeding birds for upland moorland and grassland (with and without waterbodies), as defined in the JNCC SSSI selection guidelines (Chapter 17: Birds)[11], and recorded within the Zone of Influence should be considered part of the South Pennine Moors SSSI. Whimbrel, for example, forms part of the assemblage but is currently presented under "other notable wader species". For the purposes of the HRA, all relevant species should be considered in the context of the site's conservation objectives and relevant targets.	Amber
NE60	Chapter 9 – Ornithology Table 9-12	Evaluation of ornithological features	Natural England does not agree that ring ouzel can be scoped out of further assessment at this stage. Ring ouzel is a key component of the upland breeding bird assemblage (SPA and SSSI interest feature), is one of the UK's most threatened species, and breeding is largely confined to restricted upland habitats. The presence of a breeding record within the study area (i.e. within the potential zone of impact from the Proposed Development) indicates that this species may be affected. In addition, given the species' elusive behaviour, it is uncertain whether the survey methods employed were sufficiently robust to fully characterise its presence. The fact that breeding was recorded is therefore notable. While ring ouzel is generally considered to have a lower likelihood of collision, turbines nonetheless present a potential collision risk, particularly given that the species is known to migrate at night and structures are likely to be more difficult to detect and avoid during hours of darkness. Table 9.12 also notes that ring ouzel have been recorded on passage during the non-breeding season, further supporting that the species uses the site and there is a potential for effects as a result of the Proposed Development.	Amber

[11] Guidelines for the selection of biological SSSIs. Part 2: Detailed guidelines for habitats and species groups. Chapter 17. Birds (version 1.2)

NE61	Chapter 9 – Ornithology Table 9-12	Evaluation of ornithological features	Natural England does not agree that twite can be scoped out of further assessment at this stage. Twite are known to migrate at night, and the site has also been identified as an important migratory route. Structures are likely to be more difficult to detect and avoid during hours of darkness, and therefore there is a potential collision risk. Further assessment should establish whether twite are moving through the development site, particularly during nocturnal periods. While twite are not currently recorded breeding within the study area, this does not preclude their presence or future use. The species is a high conservation priority, and recovery is dependent on the maintenance and enhancement of suitable breeding habitat. The presence of breeding populations within the wider SPA and the recorded flock of approximately 40 individuals within the wind farm area indicate that the site may be of functional importance. The potential for the Proposed Development to affect suitable or potentially suitable habitat should therefore be considered within the ES and HRA, with reference to relevant conservation objectives and targets.	Amber
NE62	Chapter 9 – Ornithology Table 9-12	Evaluation of ornithological features	Natural England advises that for species which may migrate at night, including small passerines, collision risk with turbines cannot be scoped out and should be assessed further within the ES and, where appropriate, the HRA.	Amber
NE63	Chapter 9 – Ornithology Table 9-12	Evaluation of ornithological features	Natural England does not agree that disturbance and displacement effects on stonechat can be scoped out during the operational phase. Where tracks between turbines remain in situ, these may facilitate increased access. As a species that nests on or close to the ground, stonechat are particularly vulnerable to disturbance and predation, including from ground predators using utilising tracks to access the site[12,13]. This may lead to ongoing disturbance and reduced nesting success in areas adjacent to tracks during the operational phase. This should be considered further within the ES.	Amber
NE64	Chapter 9 – Ornithology	Evaluation of	Natural England notes that common scoter have been scoped out of further	Amber

[12] Power lines, roads, and avian nest survival: effects on predator identity and predation intensity - PMC
[13] Vehicle tracks are predator highways in intact landscapes - ScienceDirect

	Table 9-12	ornithological features	assessment for all phases of development. However, this conclusion requires further consideration. The justification for scoping out appears to rely primarily on the absence of breeding records within the study area. However, this does not account for the potential for migratory movements through the site. Common scoter are known to migrate at night, and nocturnal movements may increase the risk of collision with tall structures, as these are more difficult to detect and avoid during hours of darkness. If evidence indicates that common scoter are migrating through the development site, particularly during nocturnal periods, this would represent a potential pathway for impact which should be assessed within the ES.	
NE65	Chapter 9 – Ornithology Table 9-12	Evaluation of ornithological features	Natural England advises caution in the approach taken to scoping out species within Table 9.12, particularly where this is based on infrequent or occasional records. The current approach assesses species in isolation and scopes out those recorded infrequently on the basis of low importance. However, this risks underestimating the value of the site as a whole, as it does not adequately reflect the importance of the bird assemblage and the diversity of species supported. The presence of a wide range of species, including those recorded only occasionally (such as whimbrel, black grouse and grey partridge), is indicative of the quality, functionality and ecological resilience of the habitat. Treating such records as "outliers" and removing them from further assessment may therefore diminish the overall evaluation of site value and sensitivity. This is particularly relevant for species of high conservation concern, where even infrequent observations may indicate potential use of the site and its role within the wider landscape, including for future range expansion or recovery. For the purposes of HRA, each species should be assessed in line with the site's conservation objectives and SACO.	Amber
NE66	Chapter 9 – Ornithology 9.9	Habitat loss and alteration	The assessment should clearly quantify the full extent of habitat loss, including both direct and indirect effects.	Red

			The assessment identifies potential indirect habitat loss of approximately 80 ha based on the application of a 10 m buffer around infrastructure, reflecting assumed hydrological effects on peat. However, this approach is likely to underestimate the extent of impact, as alterations to peat hydrology can influence water movement and habitat condition over substantially greater distances than a fixed buffer. Changes to hydrological regimes may therefore result in longer-term and more extensive degradation of habitat, with implications for availability of nesting habitat, foraging opportunities and prey availability, and consequently breeding success. These effects may occur over extended timescales beyond the construction phase. The assessment should therefore more fully consider the likely spatial extent and duration of these effects to ensure that indirect habitat loss is appropriately characterised within the ES and HRA.	
NE67	Chapter 9 – Ornithology 9.9.52	Habitat loss and alteration	Natural England advises that the characterisation of 'temporary' effects requires further consideration. While the assessment identifies effects arising from construction as temporary, this conclusion should be considered in the context of the lifespan and ecological requirements of the affected bird species (*e.g.* curlew, lapwing, redshank, snipe, oystercatcher and dunlin). Where habitat is lost, degraded, or not fully restored within the typical lifespan of individuals, effects may result in a permanent impact on the current SPA population, as opportunities for breeding and successful recruitment may be lost over that period. Recovery of habitat alone does not guarantee recovery of the population, which may be dependent on re-colonisation from surrounding areas, requiring sufficiently robust nearby populations.	Red
NE68	Chapter 9 – Ornithology 9.9.76	Death/injury due to collision with turbines	Natural England advises that the assessment of collision risk should not be limited to rotating turbine blades during operation. The assessment states that collision risk arises from the rotating blades of turbines within the rotor swept area. However, this does not fully capture the potential for impact. While collision with blades is a key mechanism, the presence of tall vertical structures themselves can also present a collision risk, particularly where such	Red

			features are not currently present within the landscape. This is especially relevant for species moving through the site, including in poor weather and at night, where structures may be more difficult to detect and avoid. In addition to turbines, other infrastructure associated with the Proposed Development, such as turbine towers, cranes during construction, and any ancillary structures (e.g. masts), may similarly increase collision risk. The assessment should therefore consider collision risk in relation to both moving and static structures across all relevant phases of the Proposed Development.	
NE69	Chapter 9 – Ornithology	Death/injury due to collision with turbines	Natural England advises that reliance on collision risk modelling (CRM) requires careful consideration, as this approach may not be appropriate for all species in this context. Underlying survey data may not be sufficiently robust, particularly for species that are difficult to detect or active at night. For example, a significant proportion of flight activity in species such as snipe occurs during crepuscular periods or in conditions of reduced visibility[14]. According to NatureScot guidance, species such as merlin, short-eared owl, dunlin and snipe are likely to be under-recorded in vantage point surveys, which may result in an underestimation of collision risk[15,16]. In addition, for some species, including merlin, short-eared owl, golden plover and curlew, while much of their activity may occur below rotor height, they are known to undertake display and commuting flights at heights within the rotor swept area. This should be appropriately considered in the assessment, including whether CRM is an appropriate tool or whether a qualitative approach may be more reliable. The application of CRM also introduces additional uncertainty, including the use of generic avoidance rates. Given that the qualitative assessment already identifies potential adverse effects, further quantification through CRM may add limited value and risks obscuring the precautionary interpretation of the available evidence. The assessment should therefore clearly acknowledge these limitations, consider	Amber

[14] Effects of weather and timing on counts of breeding Snipe Gallinago gallinago : Bird Study: Vol 53, No 3
[15] Upland raptors and the assessment of wind farm impacts - MADDERS - 2006 - Ibis - Wiley Online Library
[16] Hardey, J., Crick, H., Wernham, C., Riley, H., Etheridge, B., & Thompson, D. (2006). Raptors a field guide to survey and monitoring. The Stationary Office Ltd, Edinburgh.

			whether CRM is appropriate for all species, and ensure that collision risk is assessed using a precautionary, evidence-led approach within the ES and, where relevant, the HRA.	
NE70	Chapter 9 – Ornithology 9.9.98	Displacement	Natural England advises that displacing birds on a continuing basis from areas of suitable habitat supporting SPA species for key stages of their breeding cycle (courtship, nesting, feeding) equates to effective habitat loss. We advise that further assessment should be carried out within a minimum 600 m buffer of the turbines to determine the predicted level and effects of displacement. This should be informed by site-specific factors including habitat quality, patterns of bird use, the relative importance of affected areas, and existing pressures. The ecological function of supporting habitats within proximity to the turbines will be a key consideration. Displacement effects are species-specific and may extend beyond standard buffer distances. Evidence indicates breeding densities may be reduced by up to 53% within 500 m of turbines, with species such as hen harrier, golden plover, snipe and curlew particularly affected, and curlew showing avoidance distances of up to 800 m[17]. Further work found declines in snipe and curlew that did not recover post-construction[18], and a 79% reduction in golden plover abundance within wind farms during operation[19]. The assessment should therefore draw on the best available evidence base, including species-specific studies and reviews, and where evidence is limited, adopt a precautionary worst-case approach. Potential displacement from ancillary infrastructure should also be assessed.	Red
NE71	Chapter 9 – Ornithology	Goshawk and Hobby	Natural England does not agree with the conclusion that disturbance and displacement effects on goshawk and hobby during the operational phase would be not significant at this stage.	Amber

[17] The distribution of breeding birds around upland wind farms - Pearce-Higgins - 2009 - Journal of Applied Ecology - Wiley Online Library
[18] Greater impacts of wind farms on bird populations during construction than subsequent operation: results of a multi-site and multi-species analysis - Pearce-Higgins - 2012 - Journal of Applied Ecology - Wiley Online Library
[19] Negative impact of wind energy development on a breeding shorebird assessed with a BACI study design - Sansom - 2016 - Ibis - Wiley Online Library

	9.9.148		This conclusion relies on the limited number of observations recorded during surveys. However, low levels of detection do not necessarily reflect absence or infrequent use of the site. These species in particular may be present more regularly than survey data suggests, particularly given their wide-ranging behaviour[20,21]. Their intermittent presence does not preclude displacement from foraging areas they would otherwise use, or associated impacts on productivity. Furthermore, even a small number of individuals may be of regional importance, and this should be taken into account when determining the significance of potential effects. For species such as goshawk, there is evidence that wind farm development can affect territory status and productivity beyond the immediate footprint of infrastructure[22], indicating that disturbance and displacement effects may extend over a wider area than assumed. On this basis, Natural England considers that the potential for disturbance and displacement effects during the operational phase should be further assessed in the ES.	
NE72	Chapter 9 – Ornithology 9.9.153	Overwintering raptors	Natural England does not agree that disturbance and displacement effects on non-breeding raptors can be concluded as not significant at this stage. If species are present during the winter period, it is important to understand whether their activity coincides with periods of poor visibility, when turbines and other structures are more difficult to detect and avoid. This may increase the potential for collision risk. The assessment should therefore establish whether these species use the site during the non-breeding period, and if so, consider how this overlaps with periods of reduced visibility (e.g. fog or low cloud).	Amber
NE73	Chapter 9 – Ornithology 9.9.159 – 9.9.163	Waterfowl	Natural England notes that the PEIR recognises the Pennine Chain as a migration corridor used by whooper swan and pink-footed goose. While we agree that these species typically migrate at higher altitudes and may deviate to avoid turbines, the assessment does not adequately consider the effects of poor weather and reduced	Amber

[20] Movements on the breeding grounds and during migration of female Eurasian Hobbies Falco subbuteo tracked with GPS loggers: Bird Study: Vol 73 , No 1 - Get Access
[21] Sex-specific seasonal variation in home range size in a sedentary avian predator | Oecologia | Springer Nature Link
[22] Wind Farms and Power Lines Reduced the Territory Status and Probability of Fledgling Production in the Eurasian Goshawk Accipiter gentilis

			visibility, which are likely to occur over the lifetime of the development and could increase collision risk. At this stage, Natural England does not consider there is sufficient evidence to conclude that effects would be not significant. Further assessment of adverse weather conditions should be provided within the ES.	
NE74	Chapter 9 – Ornithology 9.9.200	Mitigation and compensation	Natural England notes the commitment to develop a detailed Habitat Mitigation and Compensation Strategy in response to likely significant effects. We advise that mitigation and compensation measures are clearly distinguished and considered in line with the stepwise approach of the Habitats Regulations Assessment. Measures intended to avoid or reduce impacts should be identified and assessed independently from those required to address any residual effects, to ensure clarity in how impacts are managed and to support a robust and transparent assessment.	Amber
NE75	Chapter 9 – Ornithology 9.9.214	Noise and vibration impacts	Natural England welcomes that the Environmental Statement will refine and update impact assessments, particularly in relation to further assessment of noise effects on birds. This should include consideration of the spatial extent of predicted construction and operational noise contours and their overlap with sensitive breeding and foraging areas. Natural England recommends that noise and visual disturbance is assessed in line with the advice provided in Appendix 2.	Amber
NE76	Chapter 9 – Ornithology 9.9.214	Lighting impacts	Natural England welcomes that further assessment of lighting-related effects will be undertaken. However, the potential effects of artificial lighting on ornithological receptors are not clearly defined. In particular, the assessment should consider effects on birds active at dawn and dusk as well as at night. Lighting may attract birds moving at night, potentially increasing collision risk[23]. In addition, lighting can affect invertebrates that support bird populations by disrupting life cycles, attracting them away from suitable habitats, or causing immobilisation under prolonged illumination[24]. This may reduce prey availability for bird species and represents an indirect impact pathway.	Amber

[23] Attraction of nocturnally migrating birds to artificial light: The influence of colour, intensity and blinking mode under different cloud cover conditions | Tethys

[24] Ecological Consequences of Artificial Night Lighting

			Consideration should be given to whether lighting will be required on turbines or other tall structures during construction and operation, and how this may influence bird behaviour and collision risk. These direct and indirect effects of artificial lighting should be assessed in the ES and, where relevant, the HRA.	
NE77	Chapter 9 - Ornithology	SPA Review	It should be noted that JNCC's report 'The status of UK SPAs in the 2000s: the Third Network Review (Phase 2) summary of advice and options' identifies that breeding curlew and ring ouzel should be considered for addition to the South Pennine Moors Phase 2 SPA, and the SPA boundary should be reviewed for a number existing features[25].	Grey
NE78	Chapter 9 - Ornithology	Wider SPA impacts	The proposed development affects a significant proportion of the SPA area. The proposed development would be expected to have wider impacts on the resilience of the upland bird resource, fragmenting and degrading the habitat, disrupting connectivity, and breaking up the continuity of the habitat. These areas are already fragmented, and the SPA Phase 2 recommendations include proposals to extend SPA boundaries further into the inbye areas below the moorland line to include other important functionally linked habitats. Therefore, wider impacts to integrity of the SPA are of concern.	Red
NE79	Chapter 8 - Biodiversity Chapter 9 - Ornithology Chapter 10 - Hydrology, Hydrogeology, Geology and Peat	Nationally designated sites	Sites of Special Scientific Interest (SSSIs) are protected under the Wildlife and Countryside Act 1981 (as amended). Further information on SSSIs and their special interest features can be found at www.magic.gov.uk. The development site is within or may impact on the following Sites of Special Scientific Interest (SSSIs): • South Pennine Moors SSSI. • Crimsworth Dean SSSI. We advise that the ES should include a full assessment of the direct and indirect effects of the development on the features of special interest within the listed SSSIs, and identify appropriate mitigation measures to avoid, minimise or reduce any adverse	Amber

[25] The status of UK SPAs in the 2000s: the Third Network Review (Phase 2) summary of advice and options

			significant effects. Natural England's advice regarding impacts on the South Pennine Moors SSSI largely coincides with our advice regarding impacts on the South Pennine Moors SAC and South Pennine Moors Phase 2 SPA. We welcome that a separate assessment of the South Pennine Moors SSSI, and its additional features, will be considered as part of the Environmental Statement. Natural England note that potential impacts to Crimsworth Dean SSSI are not scoped in for further assessment in the Environmental Statement. We do not concur with this conclusion. Crimsworth Dean SSSI is designated for geological exposures located within the bed and banks of Crimsworth Dean Beck. Changing of water levels, tables and water utilisation are listed as operations likely to damage the site's special interest[26]. We therefore advise that potential impacts to this site resulting from the proposed development, including potential changes to hydrology, should be assessed in more detail in the ES.	
NE80	Chapter 8 - Biodiversity	Local Nature Recovery Strategies (LNRS)	Local Nature Recovery Strategies (LNRSs) map nature recovery actions. They target actions in locations where they are most needed and where they provide the best environmental outcomes. The strategies will help to join up national efforts to reverse the decline of biodiversity. To ensure that all opportunities for nature recovery are taken account of in design and assessment of NSIPs, it is recommended that the relevant LNRSs are considered at the earliest opportunity. Details of the West Yorkshire and Lancashire LNRSs can be found here: Restoring nature and Local Nature Recovery Strategy 2026 - Lancashire County Council, respectively. The LNRS and its associated Local Habitat Map can provide clear guidance on locally agreed Priorities and associated Measures (sometimes called Actions) for nature recovery. Natural England recommends that NSIP schemes review the LNRS mapping for the site area taking account of relevant mapped measures for the site. These mapped measures were informed by local expertise and provide a clear steer on the	Grey

[26] SSSI detail

			most appropriate activity for that location in terms of nature recovery, nature-based solutions and wider access to nature opportunities. This can save time and effort in identifying nature recovery and nature-based solutions which are appropriate for a site. Unmapped habitat and species measures in an LNRS are applicable wherever they are relevant to the location being considered. All types of measures offer insight into locally agreed activities on nature recovery for that area supported by Local Nature Partnerships and other stakeholders. This can help to ensure design that is acceptable to local stakeholders and address environmental considerations.	
NE81	Chapter 8 - Biodiversity	Biodiversity Net Gain	We welcome the commitment to delivering Biodiversity Net Gain (BNG) on this project. BNG will become mandatory for NSIPs in November 2026. The new Biodiversity Gain Statement sets out how energy NSIPs must calculate, deliver and report on BNG[27]. Early engagement with Natural England on BNG proposals will help maximise outcomes and reduce risks. It would also be beneficial to align BNG provision with the features of the designated site and the aims of the LNRS, and we advise consultation with the relevant LPAs on this matter should be considered.	Grey
NE82	Chapter 8 - Biodiversity	Biodiversity Net Gain	Natural England advises that there should be assessment of potential impacts on SAC habitats from any BNG proposals that are made, such as such as habitat loss or hydrological changes.	Amber
NE83	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat	Peat reuse	Natural England considers that the assessment underestimates overall impacts by relying on uncertain mitigation (e.g. peat reuse, reinstatement) that cannot replicate natural peatland function and may result in permanent habitat loss or degradation[28]. The proposals assume that peat reuse will be successful, without fully acknowledging the significant risks associated with unsuitable locations, failure of revegetation, erosion and oxidation of exposed/stored peat, disruption to hydrological processes, uneven water tables, and potential instability or slippage. Natural England has fundamental concerns regarding these risks.	Red
NE84	Chapter 10 –Hydrology,	Peat reuse	Even if peat reuse were technically successful, it would not replicate the structure,	Red

[27] NSIPs: biodiversity gain statement for energy - GOV.UK
[28] Bog in a Box - University of the Highlands and Islands

	Hydrogeology, Geology and Peat		function, or ecological value of the pre-existing peatland system. The proposal should therefore still be assessed within the HRA as a potential large-scale loss or degradation of habitat. On this basis, it may constitute an adverse effect on integrity, rather than being relied upon as mitigation.	
NE85	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat	Peat reuse	Reliance on assumed future success of peat reuse introduces uncertainty that is inconsistent with the precautionary principle underpinning the Habitats Regulations. Where outcomes depend on long-term ecological recovery and hydrological stability that cannot be guaranteed, such measures should not be treated as secured mitigation. Any residual risk of habitat loss, degradation, or functional impairment must therefore be recognised and assessed within the HRA.	Red
NE86	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat	Hydrological assessment	An important method of assessing hydrological impact is determination of peatland hydromorphological units. This is a fundamental requirement for understanding site ecohydrological function and the integrity of peat deposits at a site level, as well as identification of microtope and macrotope functional forms at landscape level. Once established, this can be used to help minimise impacts to disturbing hydrological function across the site and reduce unnecessary surface/subsurface disturbance by enabling the site design to account for unit locations.	Red
NE87	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat	Infilling of drainage ditches	The proposals also appear to treat the infilling of drainage ditches as a restoration gain, even though there is already a duty to address existing negative drainage impacts. Such works should therefore not be counted as net beneficial measures. Concerns regarding the long-term stability of infilled ditches, which may be prone to failure or wash out, particularly under high rainfall events, further undermining hydrological integrity should also be assessed.	Red
NE88	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat	Hydrological data	It would be beneficial to survey a network of dipwells across the site to gather hydrological data to allow a more accurate determination of the impact of the proposed development.	Amber
NE89	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.4.13	Degraded peat	Degraded peat is less resilient and therefore more vulnerable to disturbance. This should be acknowledged and appropriate mitigation proposed.	Amber

NE90	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.4.13 and 10.5.12 (onwards where discussing hydrological setting)	Peatland hydraulic function	Some of the assumptions around sensitivities do not consider hydrological function adequately, for example depth criterion does not directly correlate with a functional hydrological system as this is dependent primarily on interaction between acrotelmic and catotelmic components irrespective of depth; in addition, the criterion relating to degradation is not in line with the consideration of the peat mass as a functional whole, with restoration potential - as such the sensitivity categories are questionable based on the information provided in this chapter and do not align with an ecosystem function approach • Consequently the peat sensitivity diagram is not a correct representation of site peatland hydrological function, which should account for natural variabilities in peat across the site • A more useful assessment would incorporate peatland hydrological units and account for potential variation and degradation of the peat mass as potentially functionally important parts of the whole functional system	Amber
NE91	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.4.16	Sensitivity of peat	10.4.11 states that *"Sensitivity criteria are based on both the ability of a receptor to accommodate the anticipated impact of the likely changes and the importance of the resource under consideration or designated value of the receptor."* However, 10.4.16 states that shallow peat is less sensitive than deeper peat. We advise that the sensitivity of peat should not be determined by its depth. The ability of the receptor to recover is not depth-dependent, and all peat is a high value resource, in terms of its carbon content and supporting role for biodiversity. As above, peatland hydrological function should also be considered.	Amber
NE92	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.5.118	Groundwater (GW) dependence	No 'visible' signs of GW dependence does not mean that a site does not have a reliable source of GW input (or dependence on connectivity with GW as a way of preventing drainage from the GWDTE or peat mass), which would mean they have a certain degree of dependence on GW (even if slight). Peat is not an indicator of no GWD and many areas of peat may be GW dependent themselves, so this needs consideration. The statements are quite vague (e.g. "none of the potential GWDTE was found to be truly Groundwater Dependent") and could do with better evidence to support them.	Amber
NE93	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat	Existing drainage	There should be no instance where drainage is increased throughout the peat extent; there needs to be consideration of how the proposal will affect surface drainage should additional restoration action be undertaken in the future.	Amber

	10.5.157-159			
NE94	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.5.167	Further data collection (hydrology)	Natural England advises that measures should be included to help determine peat hydraulic units as an important outcome to help with hydrological assessment, including surface and subsurface information.	Amber
NE95	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.5.171 (& .172)	Hydrological assessment of GW effects	This point is welcomed, although we recommend this is undertaken both adjacent to infrastructure and also in relation to peat hydrological units and underlying geology which may affect supply and/or movement of water from GW. 10.5.172 is required to enable determination of hydrological units and peat-hydrology profiling.	Amber
NE96	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.5.175	Climate effects	It is advisable that the national biodiversity climate change vulnerability datasets are considered as part of any climate assessment.	Amber
NE97	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.6.5	Cut and fill	The proposals to limit the extent of cut and fill methods are critically important to avoid disturbing heterogeneity of microform topography across the peat mass and in order to limit changes to surface water movement pathways. However, it should be demonstrated how this will be achieved, based on the plans. The full extent of required cut and fill across the turbine locations and access roads should be provided.	Amber
NE98	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.6.7	Peat excavation and hydrology	Peat excavation is likely to have considerable impacts on hydraulic movement, in addition the damage caused to the peat through the process of excavation - it will be very difficult to reuse the peat once excavated and it is unlikely hydrological processes will operate in the excavated locations and in any areas where peat is attempted to be reused. This needs consideration.	Amber
NE99	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat	Buffer zones, crossings and drainage	Extended buffer zones should be considered as those suggested are potentially inappropriate for ensuring all surface water flows are properly protected. Minimising the number of crossings and encroachments is welcomed, and every effort should be made to ensure the integrity of natural flow pathways, minimising use of culverting and	Amber

	10.6.8 - 16		other infrastructure where possible. There should be assessments made to determine if any artificial drainage might benefit from works relating to crossings where these might normally be restored (i.e. try to not disturb existing natural peat surface flow channels).	
NE100	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.6.22	Surface runoff	There also needs to be consideration of ensuring surface runoff does not affect the stability and/or integrity of peat and peat habitat under particular conditions, and this should be incorporated into any design plans - i.e. wide area of infiltration to ensure erosional features are not introduced into the peat habitat and/or surface water does not change any water chemistry entering the peat habitat.	Amber
NE101	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat Table 10-16	Likely Significant Effects Assessment (hydrology)	Natural England advises that the approach to the following impacts should be revised, in line with the advice in this table, including: • *"Alteration of flow, ..."* - needs to be broadened to peat hydrological units as part of the functional hydrology of the site • *"Potential pollution events ..."* - should include construction material related changes to water hydrochemistry that could affect peat, not just spills • *"Peat instability"* - also needs to consider hydrological units in case of effects cascade to other areas of the peat mass • *"Loss of peat"* – should consider associated hydraulic changes	Amber
NE102	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat Table 10-17	Sensitive Receptors	Sensitivity of peat categories needs reconsidering - anywhere that has a functional connection to peat, irrespective of depth or condition has the potential to influence the wider functioning of the site, so sensitivity categories need adjusting to accommodate.	Amber
NE103	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.7.1	Drainage during and after operation	Active drainage is proposed around the wind turbine bases. Therefore, hydrological effects and associated habitat impacts and carbon loss are expected during operation, which should be assessed.	Amber
NE104	Chapter 10 –Hydrology, Hydrogeology, Geology	Long-term effects	Long-term effects following decommissioning should also be assessed, such as continued hydrological changes from retained infrastructure.	Amber

	and Peat		This should include an assessment of long-term drainage effects beyond the lifetime of the development should be assessed if drainage is to be retained.	
NE105	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.8.17	Topographic influence on hydrology	Natural England agrees with this statement; however, the context of hydrological unit identification should be included in the assessment of impacts from access tracks and cable trenches, as well as topographic influence.	Amber
NE106	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.8.23	Peat pipes	The impact of the development on water flow through peat pipes within the Catotelm should be assessed.	Amber
NE107	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.8.25	French drains	The use of French drains within areas of excavation is not recommended and will have a significant impact on the surrounding peat and associated habitat.	Amber
NE108	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.8.31	Concrete pH	The impact of alkali leaching from the concrete during the operation of the wind farm should be considered in the assessment of effects. As the concrete bases are to be retained following decommissioning, effects beyond the lifetime of the development should also be assessed.	Amber
NE109	Chapter 10 –Hydrology, Hydrogeology, Geology and Peat 10.8.80	Drainage	It is stated that *"Drainage infrastructure will continue to function to manage runoff, preventing erosion and associated sediment transport."* However, it is not appropriate to have active drainage on SAC designated blanket bog. Drainage is a critical risk, driving carbon loss, lowering water tables, and damaging SAC-designated peatland habitats[29,30]. Any residual adverse effects from operational drainage should be identified in the HRA appropriate assessment.	Amber

[29] Briefing 3 Impacts of Artificial Drainage on Peatlands.pdf
[30] Peatbogs_and_carbon.pdf

NE110	Appendix 10-1 Good Practice Methods Section - Peat Habitat and Deep Peat Avoidance	Avoidance	It is stated that *"The layout has been designed to avoid good quality peat habitats"*. However, to reiterate, Natural England believes that most of the blanket bog on the site, 'degraded' or not, is 'active' blanket bog supporting a significant area of vegetation that is normally peat forming (Annex 1 *H7130). Therefore, this statement is considered to be incorrect and misleading.	Red
NE111	Appendix 10-2 Peat Depth Survey Report	Probe verification	Insufficient verification of the peat probe results has been undertaken. Only 8 of the 8263 probe points were verified. Only one of the eight verified probe points was validated highlighting potential significant inaccuracies in all of the peat depth data presented. Additional validation of probe points is therefore recommended.	Amber
NE112	Appendix 10-2 Peat Depth Survey Report	Erosion features	Some of the depth points are located within erosion features e.g. drains, peat cutting areas which causes a significant underestimate of peat depth. Therefore, probe results need to be adjusted to account for variations in surface topography.	Amber
NE113	Appendix 10-2 Peat Depth Survey Report	Offroad access routes	Peat probe data for the offroad access routes is required.	Amber
NE114	Appendix 10-3 Outline Peat Management Plan (oPMP) 6.5	Von post scale	Natural England advises that the von post scale is not suitable for determining soil moisture and should not be used to determine the moisture content of peat stockpiles.	Amber
NE115	Appendix 10-3 Outline Peat Management Plan (oPMP)	Approach to assessment	2.3.2 of the oPMP states *"If peat retains its carbon, continues to support the hydrological functions it provided prior to excavation and is able to maintain the vegetation that was present prior to displacement, then there can be considered to be no net loss of peat. Both the displaced peat and that connected to it (e.g. surrounding an excavated area) must maintain these functions."* However, in practice, peat excavation within a designated site will result in localised hydrological disruption, including changes to water tables, lateral flow paths and peat structure in the surrounding intact peat. These impacts occur regardless of how carefully excavation is undertaken and cannot be fully mitigated through subsequent peat reuse or translocation elsewhere on the site.	Red

			Although the oPMP presents peat reuse and restoration as a means of offsetting disturbance, the benefits of relocating peat to other areas are inherently difficult to quantify, particularly in hydrological and functional terms. Translocated peat does not replicate the complex, site-specific hydrological connectivity of in-situ blanket bog, and there is no certainty that restored or newly created peat bodies will perform the same ecological or geomorphological functions as those disturbed. As a result, the approach risks treating peat as a transferable material resource rather than a fixed component of a hydrologically integrated designated site feature. Therefore, Natural England has significant concerns with this approach.	
NE116	Appendix 10-3 Outline Peat Management Plan (oPMP)	Construction compounds	The oPMP states that construction compounds will be temporarily excavated, with excavated peat stored locally and reinstated post-construction, and on this basis treats these works as reversible and of limited long-term consequence. However, even where peat is reinstated, the creation of large, level construction compounds represents a significant disturbance to peat and peatland hydrology. Excavation to formation level, compaction from heavy plant, and the removal and storage of peat will inevitably disrupt peat structure and local water tables during construction. The use of construction compounds for extended periods introduces sustained loading and trafficking pressures that can lead to peat compression, dewatering, and lateral displacement of water, with potential effects extending beyond the compound footprint. These changes are not fully reversed through reinstatement, particularly where peat fabric and hydrological connectivity have been compromised. The functional effects of construction compounds on peatland hydrology should be explicitly assessed, and the necessity, sizing and siting of compounds clearly justified, with a demonstrable preference for locations that avoid peat where possible. Reliance on reinstatement alone risks underestimating the degree of hydrological disruption and its implications for the notified features. As stated above, land affected by infrastructure removal should be assumed to result in a permanent loss.	Red
NE117	Appendix 10-3 Outline Peat Management Plan	Restoration	The peat management approach also appears to rely on improvements to the condition and function of other parts of the SAC to offset the loss of peat function in	Red

	(oPMP)		areas subject to excavation. However, within an SAC context, this represents a flawed assumption. Restoration and improvement of degraded SAC features should be occurring in any event to achieve favourable condition and cannot be relied upon as mitigation for new damage. Localised peat excavation will inevitably cause hydrological disruption and loss of function in situ, while the benefits of peat translocation and restoration elsewhere are uncertain, slow to materialise, and difficult to quantify. As such, the approach risks double counting existing conservation objectives and does not meet the requirement for avoidance of damage to notified features.	
NE118	Appendix 10-3 Outline Peat Management Plan (oPMP)	Floating tracks	The oPMP states that floating tracks "involve no excavation" and are therefore presented as a lower impact construction method. While it is correct that floating tracks avoid large scale peat removal, the assertion that "some settlement may be experienced" significantly underplays how floating tracks function in practice. Settlement is not a minor or incidental outcome; it is a fundamental mechanism by which floating tracks distribute load into the peat body. As settlement occurs, peat beneath and adjacent to the track is compressed and displaced, altering peat structure, reducing pore space and modifying local water storage and flow pathways. This compression can lead to localised lowering of the water table, lateral squeezing of water into adjacent peat, and changes in surface and subsurface hydrological connectivity. These effects are not confined to the track footprint and may persist for the operational lifetime of the infrastructure. In an SAC context, where intact peat structure and continuous hydrology are integral to the notified features, floating tracks should therefore not be treated as hydrologically neutral. While they may be preferable to cut-and-fill construction, they still represent a deliberate loading and modification of the peat system, with impacts that should be explicitly acknowledged rather than framed as minor or uncertain.	Amber
NE119	Appendix 10-3 Outline Peat Management Plan (oPMP)	Borrow pits	The oPMP states that peat excavation associated with the proposed borrow pits will be temporary, with peat reinstated once aggregate extraction is complete. However, this approach underestimates the extent and nature of the impacts likely to arise from borrow pit construction in a peatland setting. Borrow pits do not only disturb the overlying peat but also involve excavation into the underlying mineral geology, which plays a critical role in supporting peat formation and	Amber

			maintaining peatland hydrology. Removal and alteration of this substrate is likely to disrupt groundwater flow paths, alter hydraulic gradients, and change the connectivity between the peat body and its basal water sources. Such changes can lead to persistent drying or re-routing of water, with consequences that extend beyond the footprint of the borrow pit and are not readily reversed by reinstating peat alone. In addition, temporary peat removal, storage, and reinstatement within borrow pit footprints will result in disturbance and compression of peat, loss of peat structure, and interruption to hydrological continuity. Even where reinstatement is undertaken promptly, the restored peat is unlikely to function equivalently to undisturbed peat, particularly where the underlying geological conditions have been modified. In this context, borrow pits represent a compound risk: direct disturbance to peat, coupled with more fundamental disruption to the geological controls on peat hydrology. The assumption that impacts are temporary and reversible therefore lacks sufficient justification, particularly within or hydrologically connected to an SAC, where protection of peatland function—rather than volumetric reinstatement—should be the primary consideration.	
NE120	Appendix 10-3 Outline Peat Management Plan (oPMP)	Temporary excavations	Reinstatement alone cannot guarantee recovery of peatland function following extensive temporary disturbance. The oPMP proposes reinstatement of peat following the removal of temporary infrastructure associated with turbine construction, including blade storage areas, crane pads, working areas, construction compounds and borrow pits. While reinstatement is an important component of mitigation, the approach set out relies heavily on the assumption that reinstated peat will recover its pre-disturbance function, despite significant excavation, handling, storage and compaction. Temporary excavation associated with turbine construction represents a substantial disturbance of peat structure and hydrology, even where peat is reinstated shortly after use. Excavation and trafficking by heavy plant disrupt peat fabric, alter bulk density and compromise hydraulic conductivity. These effects are likely to persist beyond reinstatement, resulting in residual hydrological impacts, including altered water table behaviour and reduced hydrological connectivity with adjacent intact peat. Reinstatement should therefore not be treated as synonymous with impact avoidance. Even where excavations are temporary, the scale and intensity of disturbance	Red

			associated with turbine construction mean that lasting functional effects on peat hydrology remain likely, and these should be explicitly recognised and assessed.	
NE121	Appendix 10-3 Outline Peat Management Plan (oPMP)	Reinstatement of construction compounds and borrow pits	The proposal to reinstate peat into construction compounds and borrow pits to a greater depth than originally excavated introduces additional uncertainty. Increasing peat depth does not replicate original stratigraphy or hydrological gradients and may lead to differential settlement, uneven re-wetting and altered lateral flows. In such cases, reinstated peat is unlikely to function equivalently to undisturbed peat, particularly where underlying substrates have been compacted or disturbed. This should be accounted for in the assessment of impacts.	Amber
NE122	Appendix 10-3 Outline Peat Management Plan (oPMP)	Peat layer definitions	Further detail on how Acrotelmic and Catotelmic peat is defined is required as it is proposed that the two are separated and treated differently.	Amber
NE123	Appendix 10-3 Outline Peat Management Plan (oPMP)	Water to refresh peat stockpiles	The source and chemistry of the "local water to refresh the peat" stockpiles should be stated and assessed.	Amber
NE124	Appendix 10-3 Outline Peat Management Plan (oPMP)	Seed mix	The species used in the re-seed mix should be clarified to determine if they are appropriate.	Amber
NE125	Appendix 10-3 Outline Peat Management Plan (oPMP)	Turves	Checkerboard turves are higher risk on more exposed sites as each turf is more prone to drying out. Grouping the turves together is strongly recommended to minimise drying out. Alternative ways to revegetate the bare peat should be investigated e.g. plug planting.	Amber
NE126	Appendix 10-3 Outline Peat Management Plan (oPMP)	Borrow pit hydrology	The hydrology of the aggregate borrow pits needs to be fully understood to determine whether they would be suitable receptor sites for excavated peat. Otherwise, the peat could be placed into a hole which is unable to retain water leading to loss of the peat. Measures will also need to be put in place around each borrow pit to prevent them from dewatering the surrounding peat.	Red
NE127	Appendix 10-3 Outline Peat Management Plan (oPMP)	Mineral bunds	The use of mineral bunds within areas of peat is inappropriate. The mineral can cause changes to the soil and soil water chemistry causing the peat to be oxidised.	Red

NE128	Appendix 10-3 Outline Peat Management Plan (oPMP)	Instability of excavated peat	There is significant concern about increased peat instability associated with placing excavated peat into former peat cutting areas and wide gullies using unproven techniques.	Red
NE129	Appendix 10-3 Outline Peat Management Plan (oPMP)	Dams in existing channels	Where excavated peat is being placed into existing channels, dams should be installed at regular intervals to reduce the risk of peat instability, and to aid rewetting of the translocated peat.	Amber
NE130	Appendix 10-3 Outline Peat Management Plan (oPMP)	Hydraulic conductivity of peat	Translocated peat will have a higher hydraulic conductivity than in-situ peat and the impact of this needs to be considered throughout the restoration plan design.	Amber
NE131	Appendix 10-3 Outline Peat Management Plan (oPMP)	Baseline condition	The oPMP should consider baseline condition, and the location of the restoration works already undertaken should be included.	Amber
NE132	Appendix 10-3 Outline Peat Management Plan (oPMP)	Cable trench excavation	The oPMP does not currently reflect the functional and hydrological impacts associated with cable trench excavation. This should be considered in the ES. The oPMP states that peat excavated for cable trenches will be directly reinstated and is therefore excluded from the peat mass balance calculations. While this may be appropriate from a volumetric accounting perspective, it does not reflect the functional and hydrological impacts associated with trench excavation. Excavation of peat for cable installation inevitably disturbs the peat structure and hydrological integrity, even where peat is reinstated to its original depth. The installation of cables introduces artificial linear features within the peat profile, commonly incorporating bedding materials such as sand or fine aggregate, which differ markedly from the surrounding peat in terms of porosity and permeability. These materials can act as preferential drainage pathways, facilitating lateral and vertical movement of water and altering local water table dynamics. As a result, cable trenches have the potential to: • create long term subsurface hydrological pathways, • promote drying of adjacent intact peat,	Red

			• fragment hydrological connectivity across the peat body, and • increase susceptibility of surrounding peat to oxidation and degradation. These impacts extend beyond the physical footprint of the trench and are not eliminated by reinstatement alone. In an SAC context, where the notified features rely on intact and continuous peat hydrology, such disturbances represent a functional impact rather than a neutral or negligible activity. Excluding cable trench peat from the assessment on the basis that it is "temporary" therefore risks underestimating the scale and significance of hydrological effects, particularly where cable routes extend across large areas of designated peatland. The assessment of impacts to the SAC should focus on whether hydrological function is altered, and notified features are damaged or placed at risk, not solely whether peat volume is lost. Even reinstated peat can remain hydrologically compromised, and repeated trenching across the site can cumulatively undermine blanket bog function. This should therefore be addressed explicitly as a potential damaging operation, not excluded from impact consideration.	
NE133	Appendix 10-3 Outline Peat Management Plan (oPMP)	Peat Storage Area	The oPMP identifies a Peat Storage Area (PSA) to address a shortfall between excavated peat volumes and available reuse and restoration capacity. While the PSA is acknowledged as the least preferred option and "not genuine restoration," it nevertheless accommodates a substantial volume of peat—approximately 99,386 m^3 placed to depths of 1.0–1.5 m over 7.1 ha—and therefore represents a material component of the proposed peat management strategy. The establishment of a PSA raises several fundamental concerns. Firstly, peat storage is being used as a mechanism to manage excess excavation, rather than as a measure that delivers clear ecological or hydrological benefit. Although the area is described as having lost much of its peat cover historically, this does not in itself justify the creation of a deep, engineered peat body. Placing large volumes of translocated peat behind mineral bunds results in an artificial landform, with hydrological behaviour that is unlikely to replicate either historic or natural peat conditions. There is no certainty that such a deposit will function as an integrated component of the wider peatland hydrological system.	Red

			Secondly, the PSA represents a functional displacement of peat, rather than restoration. The peat being stored has originated from areas that currently contribute to peatland hydrology elsewhere within the site. Relocating that material does not preserve in situ peat function; instead, it concentrates peat in a new location where moisture regimes, hydraulic gradients, and long-term stability are uncertain. Differential settlement, uneven re wetting, and altered lateral water movement are all plausible outcomes, particularly given the proposed depths of peat placement. Finally, while the PMP commits to investigating ways to reduce reliance on the PSA post PEIR, this places undue dependence on future refinement. At this stage, the PSA is integral to achieving the peat mass balance, yet its long term effectiveness and acceptability within a designated peatland site remain uncertain. Overall, the PSA should be regarded as a clear indicator of residual, unmitigated impact rather than a satisfactory solution. Within an SAC/SSSI, peat storage cannot be considered equivalent to restoration and should not be relied upon to justify or offset extensive peat disturbance arising from development. The need for a PSA suggests that the proposal remains fundamentally constrained by peat sensitivity and hydrology, and that avoidance of excavation should be prioritised over relocation of peat material.	
NE134	Appendix 10-3 Outline Peat Management Plan (oPMP)	Peat mass balance	The peat mass balance presented in Table 5.7 demonstrates a near neutral balance at PEIR stage (–131 m^3), which is used to conclude that all excavated peat can be reused within the Turbine Area. However, this approach relies on volumetric parity rather than assessment of peatland functional integrity. A numerical mass balance does not account for: • loss of in situ hydrological connectivity and peat structure at excavation locations; • peat loss around excavation locations due to a loss of in-situ hydrological connectivity and soil structure; • compression, altered stratigraphy and reduced hydraulic performance of reinstated or translocated peat; • reliance on non-restorative measures, particularly the Peat Storage Area, which is acknowledged by the applicant to be the least preferred option and not genuine restoration.	Red

			Retaining peat soils within the site boundary does not mitigate for the damage caused. The mass balance also aggregates fundamentally different outcomes—true reinstatement, restoration of degraded features, engineered storage, and landscaping—into a single metric. This masks the fact that a significant proportion of "reuse" does not equate to recovery of original peat function in its original location e.g. PSA. In the context of an SAC, this is a critical limitation. The focus should be on impacts to the site's Conservation Objectives and relevant targets for each feature, not with achieving numerical equilibrium across a site. A balanced or near balanced peat mass does not demonstrate that hydrological function has been preserved, nor that damage has been avoided. Improvements to degraded areas should be occurring as part of baseline site management and cannot be relied upon to offset new disturbance without clear additionality and certainty of outcome.	
NE135	Appendix 10-3 Outline Peat Management Plan (oPMP)	Peat mass balance	The peat mass balance table assumes volumetric parity between excavated peat and its subsequent reuse. There will be inevitable losses caused by compression, altered stratigraphy, and reduced hydraulic performance of the translocated peat. Also, there will be peat loss around excavation locations due to a loss of in-situ hydrological connectivity and soil structure. There may also be losses from within both the temporary and permanent peat storage areas. The assessment of impacts should therefore be revised.	Red
NE136	Appendix 10-3 Outline Peat Management Plan (oPMP)	Western access route	The oPMP explicitly notes that the Western Access Route "may involve excavation of peat," while also acknowledging that peat depth data are not available for the full length of the route, and that excavation volumes are therefore estimated rather than measured. This represents a material uncertainty within the peat assessment. The Western Access Route is not a minor ancillary element; it has the potential to introduce a long, linear disturbance across peatland, with cumulative hydrological effects that extend beyond its immediate footprint. Estimating peat depths in the absence of full survey data risks underestimating both excavation volumes and functional impacts, particularly where peat depths are spatially variable. Furthermore, by deferring detailed assessment of this route, the oPMP effectively	Red

			transfers risk to later design stages, rather than demonstrating at the PEIR stage that impacts to peat and hydrology—within an SAC—can be avoided or acceptably managed. In a designated site, uncertainty itself is a concern: where the potential for peat excavation and hydrological disruption is acknowledged but not fully quantified, the precautionary principle should apply.	
NE137	Appendix 10-3 Outline Peat Management Plan (oPMP)	Western access route	Although sections of the Western Access Route may lie outside the SAC boundary, this does not remove the need for a robust understanding of peat distribution and depth along the full extent of the route. Peat presence should be a material consideration regardless of designation status. As stated above, the oPMP acknowledges that peat excavation may be required along the Western Access Route but confirms that peat depth data are not available for the full length and that excavation volumes have therefore been estimated. This level of uncertainty is not sufficient to support an informed assessment. Peat disturbance outside the SAC still has implications for carbon storage, hydrological function, and cumulative impacts across the wider peatland system, particularly where it interfaces with designated land. Accordingly, detailed peat mapping and depth data should be provided for all parts of the Western Access Route, including those outside the SAC, to demonstrate that impacts on peat have been properly characterised and that avoidance and minimisation have been applied consistently. Without this information, the scale of peat disturbance and the adequacy of proposed mitigation cannot be reliably assessed.	Amber
NE138	Appendix 10-3 Outline Peat Management Plan (oPMP)	Monitoring	The monitoring framework set out in Section 6 is heavily focused on observational checks of peat condition following disturbance, storage and reinstatement. While monitoring is a necessary component of any peat management strategy, the measures proposed are primarily reactive, and do not address the fundamental risk of irreversible or long-term functional damage to peatland hydrology. Post construction monitoring of vegetation cover, stability and surface condition provides limited insight into subsurface hydrological performance, which is critical to the functioning of blanket bog and other peatland features. The reliance on remedial measures triggered by monitoring outcomes, such as watering, additional seeding, stabilisation or installation of wood dams, reinforces that	Amber

			the proposed approach anticipates degradation and seeks to manage its consequences rather than avoid it. In an SAC/SSSI context, this is a significant limitation. Monitoring cannot be used as a substitute for demonstrating that damage to notified features will not occur. Once hydrological connectivity is compromised or peat begins to dry and oxidise, mitigation may be limited in its effectiveness and outcomes uncertain. The drying effect may take 10s of years to become evident in measures such as von post scale.	
NE139	Appendix 10-3 Outline Peat Management Plan (oPMP)	Monitoring period	The proposed monitoring period (in the oPMP) of five years post construction will be insufficient to capture the full extent of peatland response. Changes in peat hydrology and vegetation composition often occur over longer timescales, particularly following large-scale disturbance and reinstatement. As such, the monitoring proposals do not provide confidence that longer term impacts will be detected or addressed, nor that favourable condition of the peatland can be assured. Therefore, monitoring should continue for the full lifetime of the development.	Amber
NE140	Appendix 10-3 Outline Peat Management Plan (oPMP)	Grip blocking works	The oPMP refers to historic grip-blocking and catchment restoration works undertaken in 2014 and 2017 as part of the Walshaw Moor Estate Catchment Restoration Plan and uses these interventions to explain current peatland condition and inform expectations of future restoration. However, these grip-blocking works are not shown on the maps provided within the oPMP. Natural England advises that mapped locations of previously blocked grips should be provided to provide an indication of the extent and density of grip blocking across the site, and their relationship to current peat condition, drainage networks, and proposed infrastructure. This would enable independent verification of the extent of restoration works already undertaken. It would also improve understanding of where hydrological recovery has or has not occurred, help assess interactions between historic grip blocking and proposed works (including tracks, borrow pits, cable trenches and restoration areas), and evaluate claims regarding the effectiveness or otherwise of restoration in different parts of the site.	Amber
NE141	Appendix 10-6 Groundwater Dependent Terrestrial Ecosystem	GWDTE assessment	Natural England would welcome further explanation of the basis on which these NVC communities have been excluded as GWDTEs as absence of visible springs and the presence of peat do not necessarily preclude diffuse groundwater influence or shallow	Amber

	(GWDTE) Assessment		subsurface interactions.	
NE142	Figure 10-10 Peat Probe Depth and Core Locations	Peat depth survey points	There appears to be a discrepancy between the peat depth survey points presented in the PEIR and those provided to Natural England. For example, to the West of T26 and T03 data points have been provided to Natural England but do not appear in the PEIR. We would welcome clarification on this.	Amber
NE143	Figure 10-11 Estimated Peat Depth	Estimated peat depth	There appears to be a discrepancy between the estimated peat depths presented in the PEIR and those provided to Natural England. We would welcome clarification on this.	Amber

Out of Scope

4. Climate Change

Our comments in this section primarily relate to information provided within Chapter 11 – Carbon and Climate Change.

Although carbon calculations are not directly within Natural England's statutory remit for NSIPs, the assessment is relevant to peat and hydrology impacts, and justification of the need for the development. Therefore, we have provided the below comments on that basis.

Table 4: Natural England's detailed comments on Climate Change

NE ref	Document and section	Topic	Comment	RAG
NE182	Chapter 11 Carbon and Climate Change	Overview	Overall, Natural England advises that several elements of the climate and greenhouse gas (GHG) assessment require strengthening to ensure impacts are robustly quantified, uncertainties are transparently addressed, and climate risks—particularly those associated with peat disturbance—are not understated. While the adoption of a lifecycle GHG framework is appropriate, the overall carbon balance is highly sensitive to assumptions on peat volume, carbon density, storage, restoration effectiveness, hydrology, and electricity yield. Without further refinement and conservative scenario testing, there remains a significant risk that the assessment underestimates net emissions. Further refinement is required in line with the below advice, including conservative	Red

			scenario testing, improved peat survey data, clearer justification of methodological choices, and stronger alignment with peatland best-practice guidance. Without these improvements, it may not be possible to demonstrate with confidence that the development will deliver genuine long-term net carbon benefits.	
NE183	Chapter 11 Carbon and Climate Change	Policy and Guidance Context	Natural England highlights that EN-3 sets out the importance of peatland habitats for nature, the water environment and carbon storage. Where developments are proposed on peatland, the policy requires that disruption to ecology should be minimised and carbon balance savings should be maximised. The ES should identify how the development affects the ability of the natural environment to adapt to climate change, or act as Nature-based Solutions. The development is located on internationally protected peatland including blanket bog. Therefore, the assessment should include impacts on the vulnerability and resilience of the peat habitats affected by the development.	Amber
NE184	Chapter 11 Carbon and Climate Change	Policy and Guidance Context	The assessment does not reference the Environment Improvement Plan (EIP), which recognises peatlands as critical terrestrial carbon stores. The EIP highlights the importance of avoiding carbon loss arising from peat disturbance, which is particularly important for this proposed project given that UK peatlands store approximately 3.2 billion tonnes of carbon and that construction activities can lead to large, irreversible emissions[48]. Guidance on peat management, decommissioning and restoration[49], highlights the importance of long-term peatland recovery and carbon balance, which is directly relevant to the project lifecycle assessment. Defra and the Scottish Government are commissioning a revised carbon calculator for wind farms on peatlands, which should be used for assessing relevant projects when it is published. In the absence of an agreed carbon calculator for wind farms on peatlands at this stage, the principles and lessons learnt from the Scottish Government's previous carbon calculator should be considered in the	Amber

[48] IUCN (2021) Peatlands and climate change. Issues Brief. Gland: IUCN. Available at: https://iucn.org/sites/default/files/2022-04/iucn_issues_brief_peatlands_and_climate_change_final_nov21.pdf

[49] Scottish Government (2017) *Peat landslide hazard and risk assessments: best practice guide for proposed electricity generation developments*. 2nd edn. Edinburgh: Scottish Government. https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2017/04/peat-landslide-hazard-risk-assessments-best-practice-guide-proposed-electricity/documents/00517176-pdf/00517176-pdf/govscot%3Adocument/00517176.pdf

			assessment[50,51,52]. Key carbon sources, mitigation strategies, and restoration outcomes should be fully considered. The assessment should reflect best practice, capture the true net carbon balance of the development, and provide decision-makers with the robust evidence required to evaluate whether the project delivers genuine climate benefits without causing disproportionate harm to a nationally important carbon store.	
NE185	Chapter 11 Carbon and Climate Change	Lifecycle Greenhouse Gas Assessment	A whole-life carbon assessment has been undertaken, covering construction, operation, maintenance, and decommissioning, in line with best practice[53]. The use of ICE database values for embodied carbon is appropriate. Transport assumptions are described as realistic but conservative; however, these will require greater validation at Environmental Statement stage. This should include confirmation of: • turbine manufacturing locations; • abnormal load routes and associated road upgrades (e.g. effects of clearing of vegetation, carbon footprint of materials to upgrade roads); • ports of entry (where relevant); and • a Construction Traffic Management Plan explicitly linked to emissions modelling[54].	Amber
NE186	Chapter 11 – Carbon and Climate Change	Electricity generation figures	A key assumption requiring revision in the whole-life carbon assessment relates to electricity generation. The assessment assumes annual generation of 733 GWh, implying a capacity factor of approximately 40%. Current DESNZ statistics indicate that average onshore wind capacity factors are closer to 30%, with higher values restricted to exceptional sites. For robustness, the assessment should present sensitivity testing using conservative and typical scenarios (30–35%)	Amber

[50] Scottish Government, 2018. *Calculating potential carbon losses and savings from wind farms on Scottish peatlands: Technical Note – Version 2.10.0*. Edinburgh: Scottish Government.

[51] Scottish Government, 2022. Carbon calculator for wind farms on Scottish peatlands: factsheet. Edinburgh: Scottish Government. https://www.gov.scot/publications/carbon-calculator-for-wind-farms-on-scottish-peatlands-factsheet/

[52] Maynard, H., Maskrey, R., Bavington, A., Hurley, P. and Murray, B. (2024) *Carbon Calculator for wind farms on Scottish peatlands: an evidence assessment*. Edinburgh: AECOM. Available at: http://dx.doi.org/10.7488/era/5506

[53] Faizan, M. and Afgan, I. (2025) Life cycle assessment of wind turbine systems: A statistical synthesis approach to address greenhouse gas emissions, *Renewable and Sustainable Energy Reviews*, 205, 116429

[54] Hammond, G. and Jones, C. (2011, updated regularly) Inventory of Carbon and Energy (ICE) database. Bath: University of Bath / Circular Ecology

			rather than relying on a single optimistic assumption[55].	
NE187	Chapter 11 – Carbon and Climate Change	Peat Disturbance, Storage, and Restoration Risks	Peat disturbance represents the most significant climate risk associated with the proposal. The estimated volume of excavated peat is highly sensitive to peat depth measurement. The current reliance on probing with limited soil core verification results in low confidence in peat depth modelling, as noted by Natural England's upland specialists (see Table 2 above). The assumption of a uniform depth to the mineral layer is concerning, as it may systematically underestimate peat volumes and associated emissions. The assessment should be revised, informed by additional core verification and accounting for variability in mineral layer depth.	Red
NE188	Chapter 11 - Carbon and Climate Change	Peat handling	The proposed peat handling strategy raises additional concerns, including that the proposal to spread excavated peat over mineral soils assumes effective rewetting and stabilisation. Given site slopes of approximately 2–5%, this represents a high-risk approach with uncertain carbon, hydrological, and ecological outcomes[56]. Risks associated with high-risk approaches should be accounted for, in line with the above advice on peat handling.	Red
NE189	Chapter 11 - Carbon and Climate Change 11.4.26	Peat loss	Large volumes of peat are proposed for temporary storage, with a blanket assumption that only 10% of carbon is lost. Details of the methodology used to calculate the 10% loss should be provided. Evidence suggests losses are highly variable and dependent on peat type, moisture content, handling methods, and duration of storage[57]. Where peat is proposed for reuse using unproven techniques and timescales, we would consider that for the purposes of calculations this would represent total loss due to the uncertainty.	Red
NE190	Chapter 11 - Carbon and Climate Change	Methane emissions	Methane emissions associated with rewetted or stockpiled peat are not adequately quantified and may materially offset any claimed carbon benefits[58].	Red

[55] Department for Energy Security and Net Zero (DESNZ) (2024) UK renewable electricity capacity factors. London: DESNZ. Available at: https://www.gov.uk/government/collections/renewable-electricity-statistics
[56] Reuse of excavated peat on wind farm development sites | ClimateXChange
[57] (PDF) Calculating Carbon Budgets of Wind Farms on Scottish Peatlands
[58] (PDF) Calculating Carbon Budgets of Wind Farms on Scottish Peatlands

NE191	Chapter 11 - Carbon and Climate Change	Peat carbon density	Peat carbon density is highly variable, and the reference cited states that peat contains 40-200 kg C/m³. However, 40 kg C/m³ is used in the assessment. It would be helpful to understand the justification for using the lowest value in the range. The adoption of a lower-end value of 40 kg C/m³ risks systematically underestimating emissions. Where peat drying, oxidation, erosion, peat piping, or instability occurs due to hydrological alteration, actual emissions could be significantly higher than reported[59]. Natural England advises that a range of potential emissions should be presented in the assessment, accounting for these ranges.	Red
NE192	Chapter 11 - Carbon and Climate Change 11.4.24	Peat quality	We note that *"All peat was assessed as uniform quality. A differentiation of peat into sub qualities may be possible at ES, depending on data availability."* Natural England advises that peat quality can vary significantly across a site. Therefore, it is strongly recommended that investigation is undertaken to determine the range of variability found in the peat.	Amber
NE193	Chapter 11 - Carbon and Climate Change 11.4.26	Carbon loss during decommissioning	We note that *"At this PEIR stage, it is expected that underground elements will remain in-situ following decommissioning, and therefore peat loss in decommissioning is evaluated as zero."* However, the drainage effects of the underground elements will lead to ongoing carbon loss if left in situ. Therefore, this should be assessed.	Red
NE194	Chapter 11 - Carbon and Climate Change 11.5.5	Sphagnum cover	11.5.5 refers to minimal Sphagnum being present on site. However, 18.98% of the 6409 peat depth points identified Sphagnum as being present. This field data contradicts the statement that there is minimal Sphagnum present on site. Therefore, this assumption should not be used in the assessment.	Amber
NE195	Chapter 11 - Carbon and Climate Change 11.5.5	Buffer for peat drainage	As previously stated, Natural England does not agree with using a 30m buffer to determine the area of peat which is drained. Therefore, this assessment should be revised in line with the above advice on hydrology.	Amber
NE196	Chapter 11 - Carbon and Climate Change	Baseline GHG	Natural England has some concerns with the approach to calculating baseline	Red

[59] UK peat use has released up to 31 million tonnes of CO2 since 1990 | Berks Bucks and Oxon Wildlife Trust

	11.5.6	emissions	GHG emissions from the habitats present: • The assessment assumes the whole site is heather dominated drained modified bog. This is contradicted by the findings of the biodiversity report, which shows a mixture of vegetation covers including cotton grass and grass dominated. Therefore, the vegetation types used in the assessment should be revised in line with the baseline habitat data. • Additional hydrological data (outlined above) is required to improve understanding of the baseline, and should be incorporated into a revised assessment. It is unclear why the 'drained' category has been applied across the entire site. 'Modified bog' or 'rewetted modified bog' categories might be more appropriate in some areas.	
NE197	Chapter 11 - Carbon and Climate Change 11.5.7	Peat emissions	The statement that *"Much of the peat has already had management intervention, however it will likely take decades before the peat starts to become a net sink, rather than a net source of carbon emissions"* is contradicted by 11.5.8 *"Halting the loss of carbon emissions can be achieved relatively quickly (within years) and almost as soon as the water table has been restored to a higher annual level (Evans et al 2021)."* Therefore, this should be revised.	Amber
NE198	Chapter 11 - Carbon and Climate Change	Wildfire	Additional CO_2 losses from increased wildfire risk should be assessed.	Amber
NE199	Chapter 11 – Carbon and Climate Change	Hydrology, Stability, and Secondary Emissions	As detailed above, excavation and infrastructure installation may alter peat hydrology, increase water movement, reduce structural integrity, and elevate risks of erosion, peat translocation, and peat slide. Best-practice guidance requires integrated assessment of slope stability, dewatering impacts, track drainage design, sediment control, and long-term revegetation[60]. While these risks are acknowledged qualitatively, the potential carbon losses associated with altered hydrology and secondary degradation processes are not fully captured in the current GHG calculations. Greater integration of hydrogeological and upland habitat specialist inputs is required to adequately reflect these indirect and cumulative effects.	Red
NE200	Chapter 11 – Carbon and	Baseline and	The future baseline assumes continued peat degradation at broadly similar rates	Red

[60] Scottish Government (2017) *Peat landslide hazard and risk assessments: best practice guide for proposed electricity generation developments*.

	Climate Change	Future Carbon Assumptions	to the current baseline, even where restoration measures have been, or may be, implemented. This assumption is insufficiently justified and potentially overly conservative. See above advice on future baseline and restoration potential. The available evidence indicates that peatland restoration can reduce emissions relatively rapidly even if a return to net sequestration takes longer[61,62] As a result, the assessment may overstate the incremental carbon benefit attributable to the development by underestimating improvements that would occur without it. The assessment should be revised, accounting for scenarios with different levels of future restoration.	
NE201	Chapter 11 – Carbon and Climate Change	Fossil fuel displacement conversion factor	The conversion factor used for fossil fuel displacement appears incorrect. Well-to-tank (WTT) emissions for natural gas electricity generation are substantially lower than 0.628 kg CO_2e/kWh and are more typically around 0.05–0.06 kg CO_2e/kWh according to current DESNZ guidance[63]. Direct combustion emissions Fuel emission factor - typical UK / IPCC value:0.184 kgCO_2e per kWh (fuel energy) Adjust for power station efficiency (~55%) 0.184 x 0.55 = 0.335 kgCO_2e/kWh electricity 0.33–0.40 kgCO_2e/kWh (variation depends on efficiency 50–60%) WTT (upstream) emissions (per kWh electricity) WTT per tonne (DESNZ): 423.16 kgCO_2e/tonne gas Convert tonne to electricity Gas energy = 14,000 kWh/tonne Electricity output (55% efficiency): 14,000×0.55=7,700 kWh Divide emissions by electricity output	Amber

[61] Kustina, R.; Pilicita, J.C.; Grygoruk, M. Issues of Peatland Restoration Across Scales: A Review and Meta-Analysis. *Water* **2025**, *17*, 2428

[62] Zhang, X., Ots, M., Johnston, E., Brown, K., Doar, N. and Lynch, J. (2025) *Peatland restoration is anticipated to provide climate change mitigation over all time-scales: a UK case-study*. Environmental Research Communications, 7(11), 115011

[63] Department for Energy Security and Net Zero (2025) *2025 Government greenhouse gas conversion factors for company reporting: Major changes to the Conversion Factors*. London: DESNZ. Available at: https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2025

			423.16/7,700 = 0.055 $kgCO_2e/kWh$ <u>Combined total (lifecycle fuel-related)</u> 0.335 + 0.055 = 0.39 $kgCO_2e/kWh$ Therefore, the assessment should be revised accordingly.	

7. Legislation and Policy

Our comments in this section primarily relate to information provided within the following chapters:

- Chapter 4 – The Proposed Development (specifically Appendix 4-1: Draft Commitments Register)
- Chapter 5 – Alternatives and Design Evolution
- Chapter 6 – Legislative and Planning Policy Context

Table 7: Natural England's detailed comments on other chapters

NE ref	Document and section	Topic	Comment	RAG
NE210	Appendix 4-1 - Draft Commitments Register	All	The draft commitments should be reviewed following completion of the ES and in line with the advice provided in this letter. Additional commitments may be required where the need for additional mitigation is identified.	Grey
NE211	Appendix 4-1 - Draft Commitments Register ID 6	Habitat management and restoration	We note that *"habitat management and restoration measures will be developed under the HMCS and HMMP to reduce indirect habitat loss and degradation of rivers and will include specific enhancement measures relating to watercourses"* but no monitoring measures are proposed. We highlight that the effectiveness of any restoration used for mitigating designated site impacts should be adequately managed and monitored.	Amber
NE212	Appendix 4-1 - Draft Commitments Register ID 14	Habitat loss, alteration, disturbance and displacement	The commitment for habitat loss, alteration, disturbance and displacement during construction and decommissioning includes *"monitoring and reporting on complaints with legal, planning contract requirements."* However, it is stated in column 6 of the table that no monitoring will take place for this issue. Please clarify.	Amber
NE213	Appendix 4-1 - Draft Commitments Register ID24	Loss of peat/ carbon loss	No monitoring is proposed for the mitigation measures for the use and restoration of peat. We advise that there should be monitoring of peat quantities excavated and reinstated, to ensure activities are in line with assessed impact levels.	Amber
NE214	Appendix 4-1 - Draft Commitments Register	Flood storage	It is stated that *"If required, mitigation will include measures such as localised ground reprofiling or the creation of flood storage areas, which would be*	Amber

	ID30	areas	*incorporated into the design."* Natural England advises that the potential impacts of any proposed flood storage areas to biodiversity, ornithology or hydrology etc. should be assessed in the ES and shadow HRA, where appropriate.	
NE215	Appendix 4-1 - Draft Commitments Register ID46	Risk of fire during construction and operation	We note that no monitoring is proposed for the risk of fire during construction and operation. However, the wildfire management plan should include monitoring to enable evaluation of the measures put in place.	Amber
NE216	Chapter 5 - Alternatives and Design Evolution 5.5.5	Alternatives	Paragraph 2.12.77 of the EN-3 National Policy Statement states that applicants should rule out other locations before siting development on peatland and should avoid areas of deep peat. The information available confirms the presence of extensive areas of deep peat across the proposed order limits, including within infrastructure locations. Chapter 5 of the PEIR focuses largely on design refinement within the proposed order limits and does not provide information demonstrating how any alternative non-peatland locations have been identified or considered as part of site selection. Natural England currently considers that the absence of this information in the PEIR means that there is insufficient information available to explain how the requirements of EN-3 paragraph 2.12.77 have informed the selection of the proposed site. Although we note the PEIR indicates that a Site Selection Report will be provided at application stage.	Red
NE217	Chapter 5 - Alternatives and Design Evolution 5.5.5	Alternatives	We advise that a robust assessment of alternatives should give due weight to the sensitivity of the natural environment. Natural England has significant concerns about the proposed approach to assessment of alternatives. We note that 5.5.5 of Chapter 5 includes the 'key considerations' that will be followed in the full Site Selection Report. Natural England recommends that detailed clarification should be provided about why each of these criteria is a necessary requirement to reach the core objectives of the development. We consider some of these criteria to be unnecessarily restrictive as requirements for the site selection, and are not focused on core objectives for energy generation. We advise that the following points should be considered:	Red

			• We recommend that the geographic scope should extend beyond the north of England. It is relevant to note that government targets for clean power generation are Great Britain-wide. • It is not clear how the screening for sites using annual average wind speeds of > 7.5 m/s is consistent with the requirements of EN-3. A wind speed threshold will not allow for the full search for suitable alternative sites. • *"Ensuring 50% of the land parcel has a gradient of 20%, to accommodate the turbine layout and associated infrastructure efficiently and safely."* It is unclear why the specific land gradient is a requirement. • *"Identification of a developable area that is available, of at least 2,000ha"* will exclude smaller sites with potential for wind generation for example. The infrastructure is also not located across the whole 2,000 ha site so it is unclear why the DCO boundary needs to be this size. Peatlands are more likely to be present in large, relatively steep sites, due to the geophysical requirements for these irreplaceable habitats. Therefore, Natural England considers that alternative sites should be explored beyond these parameters. • It is also unclear how a threshold of 2km form residential areas is applicable as EN-3 clearly states these should be considered on a case-by-case basis.	
NE218	Chapter 5 - Alternatives and Design Evolution Alternative Design	Alternative Design	EN1 is clear that "*Applicants are obliged to include information about the reasonable alternatives they have studied in their ES including the main reasons for the selected option.*" Schedule 4, paragraph 2 of the EIA Regulations states: **2.** *A description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.* Therefore, micro-siting of development within the site is required to demonstrate design and technology, whereas site selection and justification is required for location, size and scale.	

			We note that the PEIR has included a number of changes to the layout of the development since submission of the Scoping Report. However, with regards to amending the proposals to avoid deeper peat in tables 5-2 and 5-3 we advise that from the information presented a number of the turbines which have been amended (for example 6, 14 and number 2) appear to be immediately adjacent to deeper peat and it is not clear how impacts can be avoided/mitigated. Furthermore, this does not address that the proposal and supporting infrastructure traverses deep peat. All impacts including indirect impacts (resulting in hydrological changes for example) must be fully assessed and addressed when reaching conclusions about the effectiveness of design changes. In addition, the site is afforded international protection as an SAC and SPA. It is not clear how this has been considered in this section.	
NE219	Chapter 5 - Alternatives and Design Evolution	Alternative solutions	With regards to the HRA derogations alternatives test, the project will need to demonstrate objectively the absence of feasible alternative solutions. All alternatives should be examined and tested against the identified objectives. Natural England advises that the scope for the consideration of alternative sites set out in the 5.5.5 is too limited and will not allow a robust search for alternative solutions, tested against the objectives.	Amber
NE220	Chapter 6 - Legislative and Planning Policy Context	Table 6-1: *Relevant parts of NPS EN-1 to the Proposed Development*	It is not clear how the specific NPS policies have been identified for inclusion in Table 6-1: Relevant parts of NPS EN-1 to the Proposed Development. This appears to omit detail of specific polices of clear importance to the project including protected sites, protected landscapes and irreplaceable habitats, for example.	Amber
NE221	Chapter 6 - Legislative and Planning Policy Context	Table 6-2: Relevant parts of NPS EN-3	Again, it is not clear how the specific policies from EN-3 have been selected for inclusion. The list is not considered comprehensive. We wish to draw attention to the peat policies 1.12.75-1.12.80 within NPS EN-3, which are relevant to this application and are not detailed in this section: *"Onshore wind farm sites within England may be proposed on peatland, however applicants should rule out other locations before siting developments on peatland. In particular, areas of deep peat, which have the highest potential for carbon*	Amber

			emissions, should be avoided." EN-3 further cites the importance of peatlands for flora, fauna water and climate adaptation, The importance of avoiding soil disturbance in peatlands through compaction, removal and alterations in the profile is highlighted and impacts on the local hydrological regime affecting biodiversity and the water environment and negative climate impacts including the release of CO_2. Natural England wishes to highlight an error in part 2.3.6 of this table. The stated policy relates to nationally designated sites. Therefore, consideration of the South Pennies Moor SPA and SAC which are international designations are not applicable to this policy.	
NE222	Chapter 6 - Legislative and Planning Policy Context	NPPF Policies	It is not clear how the listed NPPF policies have been determined. The NPPF contains a suite of policies regarding protected sites, protected landscapes irreplaceable habitats for example which are of clear relevance to the application, but are not included in the list of policies of relevance.	Amber
NE223	Chapter 6 -Legislative and Planning Policy Context	Habitats Regulations	6.1.1 should include the Conservation of Habitats and Species Regulations 2017 (as amended).	Amber

Appendix 1

Standard Advice for Air Quality Impacts in National Significant Infrastructure Projects (NSIPs)

Natural England provides the following standard advice on air pollution. This advice relates to the protection of protected sites under the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations) and the Wildlife and Countryside Act 1981 and should be taken as Natural England's formal representation. This standard advice is applicable to all stages of the NSIP process and may be used by the applicant for NSIP pre application stages, by the Examining Authority (ExA) during the statutory stages of the NSIP and by the relevant Secretary of State as the competent authority.

Protected sites are 'sites of special scientific interest' (SSSIs) and 'habitats sites' (also called 'European sites'). For the purposes of this advice, Habitats Sites are Special Areas of Conservation (SACs), possible SACs, Special Protection Areas (SPAs), Potential SPAs, Ramsar sites, and sites identified, or required, as compensatory measures for adverse effects on Habitats Sites. Although their regulatory frameworks differ, the general principles and approach for air pollution assessment outlined for Habitats Sites are also relevant for SSSIs. Where the following advice applies to both, we use the term protected sites. Where the advice or approach differs, the individual terms are used.

This includes advice on information that is required to assess this and how to interpret the results of air quality modelling for the decision maker to conclude whether air quality impacts would have an adverse effect on the integrity of a Habitat site or a SSSI. You should also consider any relevant caselaw that could affect how you carry out any air quality assessments.

Air pollutants

This advice covers the following air pollutants from the construction, operation and decommissioning phases of a proposal

- ammonia (NH3)
- nitrogen oxides (NO, NO2 or NOx)
- nitrogen deposition
- acid deposition
- sulphur dioxide (SO2)

Standing advice on air pollution and development is also available here: https://www.gov.uk/guidance/air-pollution-and-development-advice-for-local-authorities

Whilst the standing advice does not cover NSIPs, it does include additional technical advice which may prove useful. However, in summary, Table 1 provides the steps that we advise should be taken to assess air quality impacts on protected sites. The applicant should provide their own assessment containing the information and detailed modelling you need. You need to review this and make your own conclusion.

Table 1: Sequential approach to air quality assessments

Stage	Step		Supplemental evidence/ basis for judgment
Initial screening for credible risk of an effect	**1**	Check Distance criteria - could significant emissions reach a protected site? Yes = move to Step 2 No = no further HRA required	The Air Pollution Information System (APIS) includes an introduction to air pollution. APIS provides site specific information on the interest features of individual protected sites and the sensitivity to air quality impacts of those features.

			Please see Table 2 for industrial air pollution screening distances. For road traffic impacts, roads on the affected road network that lie within 200m of a designated site should be considered. Use Magic Map to check the location of designated sites. Search for the location then select the 'Designations' option.
	2	Check if the qualifying habitats or supporting habitat of qualifying species are sensitive to air quality impacts. Yes = move to Step 3 No = no further HRA required APIS Site relevant Critical Loads and Levels (based on literature and professional judgement) http://www.apis.ac.uk/srcl Some habitats may not have a critical load because there is not enough data. In these cases, you should find the critical load for a similar habitat type or feature.	The qualifying features of Habitats Sites can be identified in the relevant Site Conservation Objectives and Supplementary advice packages, which include a definitive list of legally qualifying features. These objectives are available here. Alternatively, a list of qualifying features can also be found by searching for the Habitats Site and SSSIs on Designated Sites View , alongside Conservation Objectives and Supplementary Advice for Habitats Sites. The above links will also show whether any of the qualifying features for Habitats Sites have a Restore or Maintain Conservation Objective in relation to air quality thresholds (critical levels or loads). If the site is a SPA or an SAC/SSSI designated for an animal species (as opposed to a habitat), determine whether the predicted pollution effects on the supporting habitat will have a negative effect on the notified species.
Detailed AQ modelling	**3**	Undertake detailed modelling using a recognised dispersal model – i.e. Atmospheric Dispersion Modelling System (ADMS) Unless robust site-specific evidence is provided, we advise the lower range of the critical load should be used in modelling. If there are site specific reasons why it is more appropriate to use the higher end of the range, then this should be clearly evidenced.	Air Quality modelling should include relevant scenarios that are clearly identified. One such example of scenarios is a baseline plus future forecasts as follows: Baseline, a construction year, and future operational year(s), do nothing (without proposal), do something (with proposal); taking into account background trends for each pollutant). For proposals that will emit pollutants from a point source, it is helpful to provide isopleths of the dispersion modelling results, showing the predicted contours of pollutant concentration and deposition of the development. These may be assessed against the locations of protected sites and sensitive features within those sites. At least 3 years of meteorological data should be included within the AQ modelling for sources other than for road transport modelling The Institute of Air Quality Management (IAQM) has produced the following document to assist its members in the assessment of the air quality impacts of development on designated nature conservation sites: air-quality-impacts-on-nature-sites-2020.pdf
Applying screening thresholds	**4a**	Apply Screening Threshold Alone If below threshold alone, move to step 4b. If above = move straight to step 5	Ascertain the Process Contribution (PC) from the plan or project (emissions and predicted deposition). Apply Screening threshold (1% of critical level or load) alone using the annual averages.

			If the process contribution is less than 1% of the relevant long-term benchmark (Environmental Assessment Level, Critical Level or Critical Load), the emission is not likely to have a significant effect alone irrespective of the background levels.
	4b	Apply Screening Threshold In-combination. If below threshold in-combination = no LSE/significant risk of damage etc and no further assessment required. If above = move straight to step 5 Applicants might use the Joint Nature Conservation Committee (JNCC) 'decision-making thresholds' as a reason for not completing an in-combination assessment. If so, you should check they have correctly followed the JNCC guidance on decision-making thresholds. If this guidance shows they do not need to complete an in-combination assessment, continue to step 5. If applicants have not used the decision-making thresholds, or have not followed them correctly, they will need to provide an in-combination assessment.	Use information from competent authorities (Planning Portal, PINS NSIP register or Environmental Permitting register) to determine if there are plans or projects in the pipeline (not included in the current baseline) that should be considered in-combination If the combined process contribution is less than 1% of the relevant long-term benchmark (Environmental Assessment Level, Critical Level or Critical Load), the emission is not likely to have a significant effect in-combination irrespective of background levels.
Detailed Assessment of ecological impacts	**5**	This step is to consider the ecological impacts of AQ on the interest features of the designated site and is not based only on numerical figures. If it is not certain whether sensitive features are located within the areas to be impacted, a site visit may be helpful to determine this. For SSSIs, this step should provide all the information necessary, including any required mitigation, for the decision maker to determine if there would be an adverse effect on a SSSI. If Habitats Sites are impacted by the proposals, move to Step 6.	The following information is likely to be helpful for the decision maker: Is the sensitive feature(s) located within the pollution footprint? Should it be there for the site to meet its Conservation Objectives or is there some other, natural reason (e.g. hydrology), why the sensitive feature(s) would not be expected to occur there? Check APIS Trends Tab for reasonable expectation on whether background pollution may be decreasing or not. Habitats that have already been subject to high background nitrogen deposition can develop tolerance to further deposition. This cannot be used to justify further exceedance as it would undermine conservation objectives to reverse decline. You should consider predicted effects on the species richness of a habitat against the site's conservation objectives.
Appropriate Assessment (AA) for habitats sites	**6**	The competent authority to undertake their AA to conclude whether or not there will be an adverse effect on integrity (AEOI) of habitats sites. Any mitigation proposed should also be assessed at this point. Should the AA conclude that the proposal would have an AEOI that cannot be excluded with mitigation measures, consider the derogation route of the HRA process.	Where mitigation is required to enable a conclusion of no adverse effect on integrity to be reached the AA must be able to show that mitigation measures can be relied upon to avoid adverse effects over the full lifetime of the project (ie construction, operation and decommissioning where relevant). To be viable, such measures should be **effective, reliable, timely, guaranteed** and of **sufficient duration**. The assessment of such measures should be supported by evidence. When deciding on whether the proposals set out in the NSIP will have an adverse effect on

		Should compensation measures be required under derogation, please contact Natural England for specific advice. Note: If an AA has been undertaken of the proposals alone and concluded that there will not be an adverse effect on integrity, if there are residual impacts that are not fully mitigated, these will need to be considered in combination with other plans or projects	Integrity on a Habitats Site, the Conservation Objectives and any supplementary advice should be taken into account. Including whether the site is already exceeding the environmental thresholds for ammonia, nitrogen oxides and nitrogen deposition and has a restore conservation objective.

Mitigation measures

If you cannot conclude there is no adverse effect, the applicant will need to apply mitigation measures. Measures will only be appropriate if you can quantify their effectiveness in reducing emissions on the protected site. You should check that mitigation measures are in place to avoid adverse effects on site integrity over the lifetime of the project.

Mitigation may include measures that:

- the applicant volunteers
- you impose through formal conditions or restrictions in any permission or authorisation – these may be different or stricter measures than ones proposed by the applicant

Examples could include:

- relocation or redesign of developments to avoid impacts on protected sites
- control of other emissions of the same pollutants with an overlapping effect
- a change in stack height for industrial processes
- Euro 6 standards for construction machinery
- adding wooded shelterbelts, trees, green walls and hedges to limit dispersal of emissions, as long as these measures in themselves would not negatively impact the protected site

Table 2: Industrial air pollution screening distances

Emission source	Distance for SSSIs	Distance for habitats sites
Industrial developments	2km	5km
General combustion processes (under 20MW energy input)	500m	500m
General combustion processes (20MW to 50MW energy input)	2km	2km
General combustion processes (over 50MW energy input)	2km	10km
Mechanical and biological waste treatment	500m	500m
Landfill waste	2km	2km
Compost (under 500 tonnes maximum annual operational throughput)	500m	500m
Compost (500 to 75,000 tonnes maximum annual operational throughput)	1km	1km
Compost (over 75,000 tonnes maximum annual operational throughput)	2km	2km

Airports, helipads and other aviation proposals	5km	5km
Oil and gas exploration and extraction	500m	500m
Quarries	200m	200m
Other industrial developments causing air pollution	500m	500m

Additional advice

Common Standards Monitoring[64] is used to define the ecological condition of a protected site. It is undertaken on a broader level and does not currently consider air quality impacts. The relevant benchmark for assessing impacts is the critical thresholds. Therefore, the existing status of a designated site should not be the sole reason for judgement on potential impact.

For many protected sites, the current background pollution may already be exceeding the relevant critical load/level from a different source type to the project being assessed (e.g. where the main source of background exceedance is due to agriculture, but the proposal is an industrial project). Proposals must consider their own impacts against the relevant environmental thresholds. There are many reasons why background levels are high, but the conservation objective is to 'maintain or restore' air pollutants to within these benchmarks. The objective would be undermined by proposals that add further emissions, including if it compromises any strategic initiatives to reduce air pollution levels.

You must determine if there is evidence that the increased emissions represent a measurable risk and could compromise the strategic initiatives. You would need to consider information on:

- the extent to which any declining national trends in air pollution, or strategic initiatives to tackle emissions affecting the site more locally, might otherwise lead to improvements
- the rate at which such improvements are anticipated
- the extent of the impacts of a plan or project, and whether those impacts can properly be considered temporary and reversible

If the affected area is small, consider the risk to site integrity proportionally. For example, how important is the area in terms of rarity, location, distribution, vulnerability to change and ecological structure. If it is a supporting habitat, consider its importance to the designated species on the site. Consider any site survey information that may provide evidence of existing impacts.

Emissions from road transport (if applicable):
Emissions from road transport may be an operational impact or be limited to the construction phase of proposals. Roads on the affected road network that lie within 200m of a designated site should be considered. If all affected roads are further than 200m from a protected site, then there is no likely significant effect (habitats sites) or no impact (SSSIs) on protected sites from air pollution

Improvements in vehicle technology and a move to further electrification of the vehicle fleet will, over time, result in lower background levels of nitrogen deposition and nitrogen oxide pollution near to roads. As most sites are currently over the relevant thresholds and have a "restore" objective, this should be noted as a "retardation" of the restore objective and expressed in months and years. Retardation of less than one year is acceptable as air quality is considered against an annual average. Please note that ammonia impacts cannot be assessed in this manner as there is no certainty of a declining trend.

Defra Emissions Factor Toolkit

[64] HYPERLINK "https://jncc.gov.uk/our-work/common-standards-monitoring/"Common Standards Monitoring | JNCC - Adviser to Government on Nature Conservation

The Defra Emission Factor Toolkit (EFT) allows for gradual introduction of electric vehicles into the fleet (cars and LGVs) up to 2050. These are the emission factors we advise that NSIPs should be using (which we advise should also consider ammonia emissions as well as NOx – using one of three sets of emission factors available). However, the User Guide to the EFT highlights that calculation tools only support assessment years 2018 up to 2030, reflecting that predictions and assumptions beyond then become less certain. Where EFT calculated emissions are to be used after 2030 to inform air quality assessments, the EFT indicates that appropriate caveats around the limitations of the analysis must be included to accompany the assessment. We therefore advise that emission factors no later than 2030 are used for HRAs– which would mean percentages of EVs are at predicted 2030 levels. A key concern is that, although EVs themselves have no tailpipe emissions, and the percentage of them will increase, the remaining combustion engine vehicles on the road may become more polluting as they age as selective catalytic reduction technology may create 'ammonia slip' over time. Ammonia slip is the unreacted ammonia (NH_3) that escapes from a selective catalytic reduction (SCR) or selective non-catalytic reduction (SNCR) system used to reduce NOx in exhaust gases.

Motorways within the affected road network

There is potentially an added complexity to the need for in-combination assessments when considering traffic on motorways, as including these roads can mean that the assessment takes account of traffic growth related to strategic factors or long range (external) trips that are independent of the specific plan or project and neighbouring plans or projects. These roads are strategically important and tend to have high volumes of traffic as well as being well represented in traffic models. The air quality assessment should therefore include traffic flows on these roads, but the external trips can be excluded from the initial screening assessment. A justification and explanation of which journeys are included and excluded in the traffic model should be provided. The conclusions reached on the air pollution impacts of the HRA must be incorporated into the wider HRA conclusions for other impact pathways identified for the proposals.

How to Use this Advice in Decision Making

Provided you have followed the above advice and have been able to conclude there would be no adverse effects on any protected sites we would be able to agree with your decision to authorise the project.

Appendix 2

Applying the 1% ‘rule of thumb’ on the South Pennine Moors SPA – summary of Natural England’s current approach (November 2025)

Loss of functionally linked land

Natural England recognises that calculating 1% of SPA populations has historically been used as a ‘threshold’ to determine likely significant effects from loss of functionally linked land (FLL).

However, this approach was intended to provide a ‘rule of thumb’ for assessments in certain cases and does not take into account other factors such as regularity of usage, species diversity, SPA conservation objectives, population declines, and existing pressures on relevant species. Due to these limitations, Natural England does not consider that using 1% ‘rule of thumb’ alone is suitably precautionary to define important areas of FLL around the South Pennine Moors.

Assessment of likely significant effect

We advise that the assessment of likely significant effect should be based on site characteristics of the proposed development site and suitability for SPA birds, including proximity to the SPA, habitat suitability, and size of the site, in addition to local ecological knowledge and previous bird records.

If it is concluded that the proposal could have a likely significant effect, Natural England advises that non-breeding bird surveys should be carried out in line with the relevant guidance.

If the proposal is identified as not likely to have a significant effect on SPA birds ‘alone’ due to loss of FLL, then other projects in the area should be considered ‘in combination’.

Appropriate assessment

Bird survey data should be assessed at the appropriate assessment stage. Natural England advises that any area of supporting habitat used by SPA birds is, by definition, FLL. The appropriate assessment should evaluate the importance of the site for SPA species and determine whether mitigation is required.

We advise that the following factors should be considered in the assessment:

- Number of birds recorded on the development site (peak count) compared to SPA population. Sites which support over 1% of the SPA population are likely to provide important FLL and require mitigation.
- Diversity of species recorded using the site: sites which support more than one SPA species in numbers below 1% (for each species) may provide important FLL.
- Frequency of usage: sites which regularly support SPA species in numbers below 1% may provide important FLL.
- Population trends and declines for relevant species. Declining species may be more vulnerable to loss of FLL, due to existing pressures. Consideration should be given to trends in the local, regional and national population of relevant species.
- Supplementary Advice for South Pennine Moors Phase 2 SPA, available at: Designated Sites View to identify whether existing pressures have been identified for relevant species and if targets for supporting habitat are set to ‘restore’ or ‘maintain’. For example, the target for golden plover supporting habitat is to *‘Restore the extent, distribution and availability of suitable breeding habitat which supports breeding Golden Plover for all necessary stages of its breeding cycle.’* Therefore, loss of FLL may make reaching this target more difficult.

- In-combination effects – if there is more than one development proposed in the area which will lead to loss of FLL an 'in combination' assessment should be carried out. Mitigation may be required for developments in-combination where SPA birds are using multiple sites that are proposed for development.

In terms of assessing the potential impact on species from the proposed development, Natural England has not defined an alternative 'threshold' for the peak count and/or regularity of species recorded. We advise that professional judgement should be used, informed by the survey data and other available information (such as the sources referred to above) to assess the ecological importance of the site.

Loss of SPA habitat within the designated site boundary

In relation to loss of SPA supporting habitat within the designated site boundary, Natural England advises that it is not appropriate to apply a 'threshold' of bird numbers to rule out likely significant effects. SPA birds are highly mobile and will use different parts of the SPA at different times of year and under different conditions. The entire SPA is designated to provide supporting habitat to the relevant species, and there are 'restore' objectives for site attributes including hydrology and extent of supporting habitat within the SPA.

Natural England advises that if a plan/project involves permanent habitat loss, then there is a credible risk that the plan or project might undermine the conservation objectives of a European site, i.e. likely significant effects cannot be ruled out, and the habitat loss should be assessed further in an appropriate assessment.

Natural England will normally advise that a lasting and irreparable loss of European Site habitat will prevent a conclusion of no adverse effect on site integrity being reached unless an appropriate assessment can clearly ascertain otherwise.

Noise/visual disturbance

New development can result in impacts to SPA birds from noise and/or visual disturbance. Both the construction and operational periods should be considered in the assessment.

The screening assessment for potential construction and operational noise and visual disturbance effects on birds from new proposals should first consider whether the resulting disturbance could impact birds. This should be based on:

1. Type of activity and whether there is an associated increase in noise or visual disturbance levels, including the introduction of additional lighting.
2. Timing of the activity likely to cause disturbance (time of day/night, season, state of tide where relevant).
3. Duration of the activity which is likely to cause disturbance.
4. Proximity to areas used by SPA birds, both within the designated site boundary and/ or within functionally linked land.

Where it is not clear that the proposed development will not lead to significant disturbance impacts to SPA birds, a more detailed assessment should be carried out in the appropriate assessment.

The appropriate assessment should consider:

1. Predicted noise levels (including detailed noise assessments, where relevant).
2. The existing noise levels and other sources of acoustic and visual disturbance at the site. Prediction of the baseline may incorporate data from other relevant projects in the area, alongside any relevant sources of information around standard industrial noise levels.

3. The type of potential effect (masking of acoustic signals by road noise, adverse behavioural changes such as disturbance to feeding and displacement from important habitats due to loud, sporadic noises, etc.).
4. The number of birds present in proximity to the works and potential sensitivity of the receptor birds depending on their activities (breeding, foraging, roosting), numbers, species etc. This should be informed by suitable data, such as site-specific bird surveys to assess the relative importance of the area.
5. Visual disturbance, including machinery and personnel. Visual disturbance combined with increased noise levels can increase risk of disturbance.
6. Lighting impacts, including whether additional lighting will be introduced into previously unlit areas, predicted levels of light spill and potential interaction with areas used by significant numbers of birds.

The 1% ‘rule of thumb’ can form part of the assessment of bird numbers but should not be relied upon alone to reach a conclusion.