PEN MARCH WIND FARM

RWE RENEWABLES UK SWINDON LTD

REF. DNS/3253147

REGULATION 15(2) RESPONSE

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General notes

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1 Introduction

1.1.1 This document is prepared on behalf of RWE Renewables UK Swindon Ltd. (hereafter 'the Applicant') in relation to its planning application for a Development of National Significance (DNS) for the Pen March Wind Farm (hereafter 'the Proposed Scheme') situated on land north of the A465 Heads of the Valleys road, north-west of the small town of Rhymney and north-east of Merthyr Tydfil.

1.1.2 The information in this document is submitted in response to the letter dated 20th December 2023, from PEDW, on behalf of the appointed Inspector, requesting further information is required under Regulation 15(2) of the Developments of National Significance (Wales) Regulations 2016 (as amended) and Regulation 24 of the EIA Regulations.

1.1.3 The letter made it clear that some of the information sought of the Applicant included 'further information' to the Environmental Statement (ES) under Regulation 24 of the EIA Regulations.

1.1.4 Annex A of PEDW's formal request for further information presented six topic areas for the Applicant to respond to:

- Topic 1: Landscape and visual.
- Topic 2: Biodiversity and ecological matters.
- Topic 3: Cultural and historic heritage.
- Topic 4: Noise.
- Topic 5: Utilities and telecommunications.
- Topic 6: Planning obligations and conditions.

1.1.5 The Applicant's response to these is included in Part 1 of this document.

1.1.6 The letter also asks for a response in respect of matters raised in consultation responses on the common land applications. These are set out in Part 2.

1.1.7 The further information provided in Part 1 also has implications for the consideration of the project when considered in light of the planning policy. In addition, there have also been updates to the policy background since the submission of the application. Therefore, the Applicant has also included in Part 3 an updated planning policy assessment which should be read in conjunction with the planning statement submitted with the application.

PART 1: DNS

2 Topic 1: Landscape and Visual Impacts

2.1 Introduction

2.1.1 Annex A of PEDW's formal request for further information describes the requirement of Topic 1: Landscape and Visual Impact as follows: 'Natural Resources Wales (NRW), Caerphilly CBC, Merthyr Tydfil CBC and others have raised concerns regarding the landscape and visual impacts of the proposed development. The applicant is invited to submit a rebuttal to the principal concerns raised, with a view to narrowing the issues to be discussed at the Hearings.'

2.1.2 This section of the report therefore sets out the applicant's response to the principal concerns raised by NRW, CCBC and MTCBC.

2.2 NRW Response

2.2.1 In its letter dated 24th November 2023, NRW has objected to the Proposed Scheme. Its reasons for objection are provided in a summary section on Page 2 of the letter as follows –

- '*The proposal is for six wind turbines with a maximum blade tip height of 180m and ancillary development. The proposed turbines are not located within a Pre-Assessed Area (PAA) for Wind Energy in Future Wales (FW). They are located within the immediate setting of the BBNP. The nearest turbine is located 160m from the BBNP boundary, but all turbines could be moved up to 50m as part of the proposed micro-siting tolerance (ES Volume 2 Chapter 3, paragraph 3.3.4).*
- *The proposal fails to accord with FW Policy 18 (1) as the proposals would have an unacceptable adverse impact on the surrounding landscape, particularly on the setting of the BBNP. We consider the proposal would result in significant adverse effects on the BBNP and would conflict with the statutory purpose to conserve and enhance natural beauty within National Parks as set out in Planning Policy Wales (PPW). We therefore recommend the application is refused on the grounds of unacceptable harm to the BBNP.*'

2.2.2 NRW has highlighted on page 2 of the letter its previous comments in relation to the Proposed Scheme as follows -

- '*We previously provided detailed comments in relation to this application during the EIA scoping consultation and statutory pre-application consultation. During EIA scoping we advised: 'We anticipate at this location, a proposal of this scale and nature would result in significant adverse effects on the National Park and we do not believe that it could comply with policy...However, progression of the proposal is a matter for the Applicants' consideration.*
- *During the statutory pre-application we advised: 'We consider the resultant significant adverse effects of the proposed development on the BBNP are unacceptable. Overall, we consider the significant adverse effects on the BBNP cannot be mitigated except by relocation of the development away from this site' and concluded that 'we would recommend the application should be refused.*
- *The proposals formally submitted for determination are materially unchanged since the pre-application submission and therefore our advice remains applicable. Our comments below*

focus on issues raised in the applicant's PAC Report, which we consider may have led the applicant to underestimate the effects on the BBNP and their overall importance, and to reach a different conclusion regarding the acceptability of these effects.'

2.2.3 The Applicant notes that NRWs comments to date have focussed on their view that the site is too close to the BBNP and a detailed response to this was provided in the Pre-Application Consultation (PAC) report (2023-07-31-APP-Pen March Wind Farm PAC Report).

2.2.4 This response focusses on the reasons for objection within the NRW letter dated 24th November 2023 and specifically the 'Detailed Advice' provided, which as NRW have highlighted *'focus on issues raised in the applicant's PAC Report, which we consider may have led the applicant to underestimate the effects on the BBNP and their overall importance, and to reach a different conclusion regarding the acceptability of these effects.'*

2.2.5 Specifically, the NRW 'Detailed Advice' as referred to at paragraph on page 4 of the NRW response in the PAC report Appendix I, has underlined certain sections of this paragraph for emphasis and then used these underlined sections as the focus of its comments, as follows:

- ''Appendix 5.3 considers that there may be some perceived diminishment of the Special Qualities of 'SQ1 peace and tranquillity' and 'SQ5 sweeping grandeur and outstanding natural beauty' <u>but such effects are not considered to be significant for the majority of the BBNP</u>, including <u>within its core area in the Central Beacons</u> and <u>where effects on SQs are significant these are localised to an area of broad upland at the southern edges of the BBNP</u>. It is therefore considered that whilst the Proposed Scheme is at a closer proximity to the BBNP than the Pre-Assessed areas, <u>the SQs would not be diminished to such a degree by the Proposed Scheme that it would affect the overall integrity of the BBNP</u> or its inherent natural beauty and it would occur within a context and understanding of the need for change including accommodating alternative energy, <u>such as within the nearby Pre-Assessed areas.</u>'' [NRW emphasis]

2.2.6 The following table provides the Applicant's response to these further comments. For ease of reference, this response has been structured in line with the main issues raised by NRW, reproducing text from NRW's letter in the left-hand column and with the Applicant's response to further points raised in the right-hand column.

Table 3-1: NRW Responses

Row Ref	NRW Comment	Applicant Response
1	*'The BBNP covers an area of 1347 square km (520 square miles). It is unlikely that any scheme would have an effect that was 'significant for the majority of the BBNP'.*	In consultation with NRW, the assessment of BBNP special qualities presented in Appendix 5.3 of the ES follows the NatureScot draft Methodology 'Guidance for Assessing the Effects on Special Landscape Qualities' (November 2018) and the proforma in 'Annex 1' of this guidance (January 2019). This guidance recommends a 4 step process and in relation to the Step 4 assessment 'Summary of Impacts on the special qualities', Appendix 5.3 states that '*This will include a summary of the effects on the relevant special qualities of the BBNP, noting the geographical extent of effects and implications for the BBNP.'* This is based on the final paragraphs of the NatureScot SQ guidance which states *'a statement of effect should be produced: Significant effects have been identified on the following SLQs…..[list]; What does this mean for the study area? This means that …. in the study area the SLQs will/will no longer be represented or experienced?; and What does this mean for the wider designated area?'* Appendix 5.3 provides such a statement in section 5.7. This statement draws together the assessment of effects on each of the BBNP LCAs and their special qualities. The LVIA and the assessment of Special Qualities provides a detailed assessment which is focussed on the BBNP LCAs that have potential for a significant effect and to clarify, the assessment in Appendix 5.3 is not diluted in any way by the large geographic area of other BBNP LCAs where the potential for significant effects has not been found to require a more detailed assessment. It is agreed that it is unlikely that 'any scheme would have an effect that was 'significant for the majority of the BBNP'', however, what is important about the Step 4 judgement is whether the extent or severity of effect (where these effects are found) would undermine the overall integrity of the BBNP as represented through its special qualities. It also stands therefore that when special qualities are more acutely experienced in certain BBNP LCAs (such as SQ5 'sweeping grandeur and outstanding natural beauty' in the context of the Central Beacons) that the effect on special qualities is not found to be significant. In addition, and as the text in the PAC response goes on to say, *'where effects on SQs are significant these are localised to an area of broad upland at the southern edges of the BBNP' (2023-07-31-APP-Pen March Wind Farm PAC Report Supporting Appendices, Appendix I page)*
2	*'In the extract above, the applicant refers to the 'core' and 'southern edges' of the BBNP and in ES Appendix 5.3 the applicant asserts that 'The value of the BBNP is considered to be highest in the core of the Bannau Brycheiniog and lower at the edges of the BBNP boundary where the special scenic value is less acutely experienced' (Paragraph 5.6.4).* *The applicant's view is that within the BBNP there are high value 'core' areas and lower value 'edge' areas, and the implication appears to be that effects on edge areas are of lesser importance. We do not accept this view and advise there is nothing in statute nor*	For the LCAs within BBNP the value judgements within the landscape character assessment have considered the LANDMAP evaluation of the underlying visual and sensory and historic landscape LANDMAP aspect areas. LANDMAP Methodology Overview (NRW 2017) describes LANDMAP evaluation ratings as follows - *'Outstanding - nationally important; High - regional or county importance; Moderate - local importance; and Low - little or no importance'.* As explained in Appendix 5.2 LANDMAP para 5.1.4, *'It should be noted that in the LVIA methodology for this assessment, a 'High' value is the highest rating for value which is unlike the LANDMAP evaluation which includes an 'outstanding' rating above its 'high' rating. Following the LVIA methodology for instance,*

Row Ref	NRW Comment	Applicant Response
	planning policy that supports categorisation of core and edges to a National Park[1]. *National planning policy and statute give equal protection to all parts of the BBNP, reflecting the fact that all parts which have been designated have been deemed worthy of protection. While the character of the BBNP and its natural beauty inevitably varies across the National Park, and effects will vary, the importance of effects on the BBNP are not diminished because they occur on the 'edge' of the National Park.* *[1] We advise the term 'core' is only used in relation to the specific matter of dark skies in the Bannau Brycheiniog Landscape Character Assessment (2012). The term is not used to define any part of the BBNP landscape in the National Park Management Plan.'*	*a nationally important landscape is likely to have a High value rating and a regionally important landscape is likely to have a Medium-High value rating.'* For BBNP LCA7 value has been assessed as high which reflects the LANDMAP evaluation of largely outstanding (nationally important) with smaller areas of high. For BBNP LCA8 and BBNP LCA9 value has been assessed as medium-high which reflects the LANDMAP evaluation of largely high (regionally important) with smaller areas of outstanding and moderate. It is very clear in the LANDMAP analysis of visual and sensory aspects that there are higher value areas of the BBNP within the central or 'core' areas of the BBNP (including BBNP LCA7) when compared to areas at the southern edges of the BBNP (including BBNP LCA 8 & 9). The term 'core' has been used in the LVIA to help distinguish between the higher elevated more 'iconic landscape which forms the centre of the Bannau Brycheiniog National Park' and to help describe the subtle differences in value apparent when considering the current baseline and as reflected in LANDMAP. The use of term therefore does not in any way reflect the Applicant's view that the edges of the BBNP are of 'lesser importance' as suggested by NRW, but simply that the landscape value varies across the BBNP as defined in LANDMAP. It is understood that the term 'core' is not specifically used in the current 2022 – 2027 BBNP Management Plan[1]. Whilst it is accepted that previous BBNP management plans no longer form part of current BBNP Policy, it is interesting to note that BBNPA had previously used the term core in a similar way to describe the various areas of the BBNP. For instance, the 2010 – 2015 Management Plan[2] uses the term 'core' in relation to topographical distinction which states '*The uplands are the core of the National Park's character and form the most southerly area of extensive uplands within Great Britain.'* Furthermore, the 2000 - 2005 BBNP Management Plan[3] uses this term in its description of the Management Plan Areas and specifically 'Area 6: Brecon Beacons and Fforest Fawr', which states '*This is the core of the National Park, with its distinctive escarpment of Old Red Sandstone running west to east from Fan Gihirych to Tor y Foel through Pen-y-Fan, the highest point in the Park at 886m.'*

[1] The Management Plan for the Bannau Brycheiniog National Park 2022-2027, BBNPA Consultation Draft, October 2021.

[2] Bannau Brycheiniog National Park Management Plan, 2010 – 2015, BBNPA Draft Version 2 – June 2009. Page 102, section 7.1.14. Uplands Management

[3] Bannau Brycheiniog National Park Management Plan, 2000 – 2005, BBNPA 2000. Page 59.

Row Ref	NRW Comment	Applicant Response
		As described in Appendix 5.3, the Special Qualities of each of the LCA's (LCASQs) are described in the Bannau Brycheiniog Landscape Character Assessment (BBLCA) (add ref). The BBLCA states on page 6 that '*Some of these special qualities occur across the National Park whereas others are more place-specific.'* The LCASQ for 'Scenic quality and Sense of place' for LCA 7 Central Beacons is described as '*An iconic landscape which forms the centre of the Brecon Beacons National Park. It has exceptionally high scenic quality and a strong sense of place resulting from its elevation, dramatic and distinctive topography, and panoramic views.'* In addition to this, the BBLCA refers to this central or 'core' area within the assessments of LCAs found at the edges of the BBNP. For ref the LCASQ for 'Scenic quality and Sense of place' is noted below for LCAs 8 and 9, assessed in Appendix 5.3 – LCA 8 – *'Waterbodies, forests and landform combine to create a distinctive character, high scenic quality and strong sense of place, which is heightened by views to the Central Bannau Brycheiniog and other high land on the horizons.'* LCA 9 – '*Scenic quality and sense of place resulting from combination of openness, landform, moorland vegetation, archaeology and views to distinctive skylines in other LCAs (e.g. profile of Central Beacons).'* These specific references show that whilst the term 'core' and indeed the concept of there being a core area is not specifically mentioned in the current BBNP management plan there is nevertheless a history of this language within previous management plans. The varying sensitivity across the BBNP is evident within LANDMAP and references to the special qualities those LCAs at the southern edges of the BBNP (LCAs 8 & 9) highlight the emphasis of SQ5 'The Park's sweeping grandeur and outstanding natural beauty' as having a particular sensitivity to views towards the Central Beacons, or core area of the BBNP as reported in Appendix 5.3 and that the BBNP has a central or 'core' area which is of higher sensitivity.
3	*'In the extract above and in ES Appendix 5.3, the applicant describes the extent of significant effects on special qualities of the BBNP as 'localised'. By localised we understand the applicant means the area of BBNP LCA 9 (Mynyddoed Llangatwg and Llangynidr) within 3km of the northernmost proposed turbine (ES Appendix 5.3 pages 5-12 to 5-13). We do not accept that significant effects would be confined to within 3km of the northernmost proposed turbine (Turbines 1 and 2). As set out in our previous comments, dated 21/12/2022, we consider significant effects on special qualities of the BBNP would extend as far as 12km (Pen-y-Fan) to the north, 10km (Mynydd Llangatwg) to the east, and 6km (Garn Ddu) to the west. Special qualities[2] of the BBNP would be harmed across a substantial, not localised area of the BBNP. Harm would be experienced across different landscape character areas,*	It is not agreed that significant effects on special qualities would '*extend as far as 12km (Pen-y-Fan) to the north, 10km (Mynydd Llangatwg) to the east, and 6km (Garn Ddu) to the west.'* Appendix 5.3 concludes in paragraph 5.7.5 that *'In the central area of the BBNP where the Special Qualities are more sensitive to changes proposed, the Proposed Scheme would have the potential to introduce or intensify some adverse effects on some of the Special Qualities. However, following the detailed assessment of Special Qualities within this area, the effects are considered to be of a Medium-Low level of magnitude and the overall effect of the Proposed Scheme on the BBNP and its special qualities is considered to be not significant for the majority of the BBNP LCAs. The exception to this is for an area of approximately 3km at the southern edges of the BBNP within BBNP LCA9 - Mynyddoed Llangatwg and Llangynidr which would experience Moderate level Significant effects due to the closer proximity of the Proposed Scheme.'* Other aspects of the LVIA also support these findings including the landscape character and viewpoint assessments carried out at similar distances, as follows:

Row Ref	NRW Comment	Applicant Response
	including LCAs 7, 8 and 9, numerous viewpoints within the BBNP, including viewpoints along promoted walking routes such as the Brecon Beacons Way, iconic summits such as Pen y Fan, and from open and exposed landscapes valued for their tranquillity e.g., LCA 9. *[2] Primarily its sweeping grandeur and outstanding natural beauty; rugged, remote and challenging landscapes; and its peace and tranquillity.'*	• The LVIA concludes a moderate and not significant effect for BBNP LCA 7 – Central Beacons (where Pen Y Fan is located), largely as a result of distance, the underlying broad upland context of the receiving landscape and the extensive operational wind energy context to the south of the BBNP (Chapter 5 para 5.11.10). The LVIA also finds that the visual effect from VP 24 Pen Y Fan is not significant. Table 5.38: Viewpoint – 24 Pen Y Fan in the LVIA highlights that – '*The effect on hill walkers at this viewpoint is considered to be Moderate - Minor and Not Significant. Whilst the viewpoint is within the BBNP and has a High sensitivity, the magnitude of change is considered to be at a low level. This is largely due to distance and the underlying broad upland context of the receiving landscape in the view south within an extensive operational wind energy context to the south of the BBNP.*' • The LVIA concludes a minor not significant effect for BBNP LCA 8 - Talybont and Taff Reservoir Valleys (where Garn Ddu is located), as a result of limited visibility within the valleys of Taff and Talybont Reservoir and the position of the Proposed Scheme above a quarry scared upland ridgeline away from the more distinct backdrop of the Central Beacons to the north (Chapter 5 paras 5.11.21 – 5.11.25). Whilst the LVIA finds no significant landscape character effect in this area, the visual effect at VP15, Garn Ddu is assessed to be at a moderate level and found to be significant due to its location within the BBNP and higher sensitivity. Table 5.30: Viewpoint – 15 Garn Ddu in the LVIA highlights that - *'The effect is of borderline significance due to the cumulative context of the view and the site area appearing as a broad and large scale upland landscape which forms a suitable receiving landscape for the Proposed Scheme.'* • In Chapter 5 paras 5.11.36 – 5.11.39 the LVIA concludes a localised moderate-major significant effect for BBNP LCA 9 (within 3km) and a moderate not significant effect for other affected parts of this LCA which are found to the west from Mynydd Llangynidr (approximately 5-10km to the west where (Mynydd Llangatwg is located). As described in the PAC response, it is acknowledged that there would be significant adverse effects to BBNP SQs within BBNP LCA 9, however, these effects are considered localised in extent.
4	*'The LVIA has also underestimated the number of receptors that would be significantly affected. For example, the LVIA reasons that there would be no significant effects on the 'Park's sweeping grandeur and outstanding natural beauty' within LCA 9, primarily because views of the 'Central Beacons' would be unaffected (Page 5-13). We advise the scenic quality of LCA 9 is not confined to views of the Central Beacons but relates to the combination of 'openness, landform, moorland vegetation, and views to distinctive skylines in other LCAs'. While the Central Beacons are referenced as an example of a distinctive skyline, views southwards to land outside the National Park are also specifically highlighted as a feature to be protected in the management guidelines and these views also represent the combination of other elements which contribute to scenic quality. Views southwards are also specifically highlighted for*	The LVIA assesses a localised significant effect on LCA 9 which primarily relates to the effect of the Proposed Scheme in close proximity views to the south from the western part of this LCA. The affected view to the south is across the extensive moorland plateau of this and neighbouring 'host' LCA HOV 17 'Upland north of the Heads of the Valleys corridor' and towards the settled valleys landscape. This effect is also illustrated at Viewpoint 8 Cefn yr Ystrad which shows the effect of the Proposed Scheme in close proximity from an elevated position within the western part of LCA 9. The significant effect reported in the LVIA for both Viewpoint 8 and LCA 9 therefore acknowledges the effect on 'views southward', including the references in LANDMAP. The BBLCA includes a section titled 'Key Views' for each of the LCAs assessed. For LCA 9 this reads *'Key views include prehistoric sites, views northwards across the Usk Valley and the hills beyond, and views across to the Central Beacons. This LCA also forms the horizon in views from the Usk Valley and from high land including the Central Beacons and the western part of the Black Mountains.'* Whilst it accepted therefore that the 'profile of Central Beacons' is provided as an example in the LCASQ

Row Ref	NRW Comment	Applicant Response
	their attractiveness in LANDMAP despite the presence of detractors. The six 180m tall wind turbines would dominate views from LCA 9 (e.g. at LVIA viewpoint 8), eroding the sense of openness and the overall quality of views, resulting in a significant adverse effect on the Park's sweeping grandeur and outstanding natural beauty. *Similarly, the diminishment of special qualities within LCA 8 (Talybont And Taff Reservoir Valleys) has not been recognised in the LVIA. For example, it is difficult to reconcile the LVIA's conclusion that there would be a 'negligible magnitude of change' on the Park's sweeping grandeur and outstanding natural beauty with the impact represented in the photomontage from LVIA viewpoint 15 (Garn Ddu). At this location the turbines would dominate high land on the horizon and diminish the open qualities of long views to the east. On account of the scale and proximity of the turbines, the scheme would erode the high scenic quality and strong sense of place experienced at Garn Ddu.'*	description, there is no mention in the LCA description of views to the south as key views or as contributing to the SQ5 'The Park's sweeping grandeur and outstanding natural beauty'. It is agreed therefore that the Proposed Scheme would have an effect on the 'sense of openness' in views to the south from Viewpoint 8 and LCA 9, however, it is not agreed that this effect would have a significant effect on the 'Park's sweeping grandeur and outstanding natural beauty' as this is not considered to be a special quality experienced in views to the south. The conclusions of the assessment of SQ5 within LCA 9 are therefore considered accurate, accepting that this differs from the assessment of landscape characteristics for this area which would experience localised significant effects.
5	*'In the extract above the applicant states 'the SQs would not be diminished to such a degree by the Proposed Scheme that it would affect the overall integrity of the BBNP'. Similarly at page 3 of Appendix I to the PAC Report, the applicant states, 'A key question, therefore, in terms of the Statutory Purpose of the BBNP is - could the Proposed Scheme 'compromise the integrity' of the BBNP and its Special Qualities such that it could no longer be considered to meet the objectives of a National Park?'. These questions or tests relating to the overall integrity of the BBNP are not reflected in statute, policy, or guidance. They are tests entirely of the applicant's own making.* *We understand the applicant's consideration of 'integrity' is based on a reference to Paragraph 1.1.3 of the BBNP Landscape and Development Supplementary Planning Guidance (SPG) 2014. This states how the National Park Authority (NPA) will scrutinise development proposals, including their siting and position within the landscape, to 'ensure no development occurs which could compromise the integrity of the area's natural beauty'.* *We advise the scheme would compromise the integrity of the surrounding area's natural beauty. This would be compromised by the scale and proximity of the turbines to the BBNP and the rotation of blades which would attract attention. Due to their scale and siting, the turbines would form a dominant detractor in views which*	Notwithstanding the apparent disagreement with NRW expressed here in relation to the use of the term 'integrity' it does as they have acknowledged form part of the NPA consideration of how a development within the National Park *'could compromise the integrity of the area's natural beauty'.* As described in the PAC response Paragraph 5.7.3 summarises the limited level of effect on the affected BBNP SQs. Paragraphs 5.7.4 and 5.7.5 summarise the significance of effect as follows – *'The Special Qualities for the majority of the BBNP area to the east and west of the core area would be relatively unaffected by the Proposed Scheme. This is due to a range of factors including - the intervening topography which creates a limited and patchy extent of potential visibility across the wider BBNP; further restricted visibility within valleys due to woodland / forestry screening; distance between areas of potential visibility and the Proposed Scheme; and the existing context of wind farm development either as a backdrop or as closer developed context relative to views towards the site from the BBNP.* *In the central area of the BBNP where the Special Qualities are more sensitive to changes proposed, the Proposed Scheme would have the potential to introduce or intensify some adverse effects on some of the Special Qualities. However, following the detailed assessment of Special Qualities within this area, the effects are considered to be of a Medium-Low level of magnitude and the overall effect of the Proposed Scheme on the BBNP and its special qualities is considered to be not significant for the majority of the BBNP LCAs. The exception to this is for an area of approximately 3km at the southern edges of the BBNP within BBNP LCA9 - Mynyddoed Llangatwg and Llangynidr which would experience Moderate level Significant effects due to the closer proximity of the Proposed Scheme.'*

Row Ref	NRW Comment	Applicant Response
	currently allow the natural beauty of the area to be easily appreciated (e.g. LVIA viewpoints 8 and 18).'	It is not agreed therefore that the Proposed Scheme would 'compromise the integrity of the surrounding area's natural beauty' as NRW have suggested, accepting that Significant visual effects would occur at viewpoints 8 and 18, as acknowledged and reported in the LVIA.
6	*'In the extract above the applicant refers to the effects on special qualities of the BBNP occurring 'within a context and understanding of the need for change including accommodating alternative energy, such as within the nearby Pre-Assessed areas'. Additional text on Page 4 of Appendix I to the PAC Report refers to the policy context of FW and 'suggests there is a recognition that whilst there will be change to the current landscape baseline within close context to the BBNP through development progressed at its periphery, that this change will generally be considered acceptable'.* *PAAs should not be used to justify large scale wind turbine development in this location. In identifying 'priority areas for wind' – the areas which became PAAs – Welsh Government deliberately avoided including land near the boundary of the BBNP in this location.* *This was in part due to it having high levels of intervisibility with the BBNP[3]. PAA 10 is the closest PAA to the site. At its nearest point, PAA 10 is almost 8km southeast of Turbine 1. The vast majority of PAA 10 relates to land which is considerably further south of the scheme and the BBNP. While the wider setting to the BBNP is expected to change due to wind turbine developments coming forward within PAA 10 and other areas, the immediate proximity of the proposed turbines to the BBNP boundary means their prominence and impacts within the BBNP would exceed those of similarly sized turbines located within PAA 10. Even within PAAs, FW still requires all proposals to demonstrate that they would not*	The Applicant 's comments in the PAC response were made to highlight that whilst the creation and subsequent selection of Pre-Assessed areas for Wind Energy (PAAs) included the BBNP as a key constraint, PAAs are nevertheless found in close proximity to the edges of the BBNP. As shown on Figure 5.22a of the ES, PAA 10 is the closest PAA to the Proposed Scheme site at around 5km to the southeast, the western part of PAA 10 is approximately 3km from the edges of the BBNP and the eastern part of PAA 10 is around 5km from the edges of the BBNP. The Welsh Government Stage 2 report 'Refinement of Priority Areas for Wind and Solar Energy' states that '*wind turbines up to 150m and up to 250m blade tip height in the Priority Areas for Refinement'* were considered in relation to the *'Visual setting of nationally designated landscapes'*[4] As NRW has indicated, the Stage 2 report goes on to exclude the area in which the site is located. It would appear that the Proposed Scheme site area has been removed on the basis of proximity to the BBNP boundary as stated on Page 49 of the Stage 2 report –*'The boundary for wind development in the north of this Priority Area for Wind and Solar Energy has been refined in line with TAN 8, SSAs E and F to avoid wind development right up to the boundary of the Brecon Beacons National Park. This removes centres of population and areas of higher visibility.'* Appendix C1 of the Stage 2 report includes a series of 'intervisibility maps' for each of the priority areas (the closest priority area in the study to the site is area 14). In relation to this intervisibility mapping, Page 49 states that: '*Areas with more than 50% visibility from the Brecon Beacons National Park have been removed from this Priority Area for Wind and Solar Energy for wind development resulting in two key areas available for wind development.'* It should also be noted that the areas with more than 50% intervisibility are only found for the 250m tip turbines as shown on Drawing No 3.50. Given that the Proposed Scheme site area lies outside of area 14 assessed on these intervisibility maps, there is no evidence therefore in the Stage 2 report that the Proposed Scheme site area has 'high levels of intervisibility' as NRW has suggested. The southern parts of the Proposed Scheme site area are within

[4] The Welsh Government Assessment of onshore wind and solar energy potential in Wales Stage 2 - Refinement of Priority Areas for Wind and Solar Energy, Arup 20 June 2019. Page 12.'

Row Ref	NRW Comment	Applicant Response
	have an unacceptable adverse impact on the environment. Not all schemes within PAAs will necessarily be acceptable in landscape and visual terms. *[3] The Welsh Government Assessment of onshore wind and solar energy potential in Wales Stage 2 - Refinement of Priority Areas for Wind and Solar Energy, Prepared by Arup, 20 June 2019. Page 49.'*	area 14 which is shown to have 1 - 25% intervisibility for a 250m tip turbine on Drawing No 3.50. The Proposed Scheme is for turbines which are also more than 20% shorter at 180m to tip. It is also notable that the areas identified as having more than 50% intervisibility with BBNP (and therefore excluded from the PAAs) are approximately 15km to the west of the Proposed Scheme site area and are the same upland areas in which large wind farm developments are operating including Mynydd Bwllfa, Pen y Cymoedd and Maesgwyn. The Applicant's comments in the PAC response were made to highlight that whilst the creation and subsequent selection of Pre-Assessed areas for Wind Energy (PAAs) included the BBNP as a key constraint, PAAs are nevertheless found in close proximity to the edges of the BBNP. It is maintained by the Applicant that this demonstrates that BBNPA has found that (as suggested by the Applicant in the PAC response) *'whilst there will be change to the current landscape baseline within close context to the BBNP through development progressed at its periphery, that this change will generally be considered acceptable',* acknowledging that the Proposed Scheme does not lie within one of these PAAs. Furthermore, in Future Wales there is no restriction to bringing forward sites outside of PAAs.
7	*'At this location, within the immediate setting of the BBNP, the scale and nature of the proposal means that it would result in significant harm to National Park purposes. Although the LVIA has identified significant adverse effects on landscape character, visual amenity, and special qualities within the BBNP, these effects and their overall importance has been underestimated.* *Crucially, we do not accept the applicant's conclusion that significant harm to special qualities of the BBNP would be limited to an area within 3km of the scheme. It would instead be experienced across a substantial area of the BBNP, including different landscape character areas and numerous viewpoints, including viewpoints along promoted walking routes, iconic summits such as Pen y Fan, and from open and exposed landscapes valued for their tranquillity. We therefore maintain our recommendation that the application should be refused on grounds of causing unacceptable harm to the BBNP.'*	The LVIA identifies that the Proposed Scheme would be viewed and experienced within the study area and BBNP across differing landscape character areas, viewpoints, walking routes, hill summits and exposed uplands. However, the LVIA has also shown that significant effects to these wide-ranging receptors are limited by a range of moderating factors that include – limited visibility, intervening topography, distance, the influence of operational wind energy to the south of the BBNP and the large scale of the underlying broad upland context of the receiving landscape. In conclusion, it is considered that the LVIA has not underestimated the effects on the BBNP for the reasons set out above.

2.3 Merthyr Tydfil County Borough Council response

2.3.1 Section 7 of the Merthyr Tydfil County Borough Council (MTCBC) Local Impact Report (LIR) contains a section on 'Landscape' on pages 14-15 and a section on Residential Visual Amenity Assessment' on page 16. The key concerns of MTCBC are understood to be limited to the height of the proposed turbines, as described in the LIR conclusions: '*In conclusion it is considered that the proposed development will have a significant negative impact upon the visual and landscape character of the area. It is accepted that the site is capable of accommodating wind farm development however it is considered that smaller turbines would result in a significantly lesser impact.'* Note a similar comment was made by CCBC.

2.3.2 Chapter 2 – Site Selection and Design Evolution of the ES sets out the design evolution of the scheme including the height of the turbines. The landscape and visual resource was tested against a shorter rotor diameter than the current 133m candidate for Layout D. Tip heights of Layout D were also explored at this stage, particularly in relation to aviation lighting. Whilst it is accepted that reducing turbines heights often has a direct relationship with reduced visual effects, it is considered that in order to '*result in a significantly lesser impact'* as MTCBC have suggested, that the reduction in turbine height would have to also be significant, which would also have materially affected the energy yield of the Proposed Scheme and so was discounted by the Applicant.

2.4 Caerphilly County Borough Council response

2.4.1 The Caerphilly County Borough Council (CCBC) Local Impact Report (LIR) contains a detailed 'Review of Landscape and Visual Impact Assessment' (CCBC Landscape response) as an appendix to the response. It was written by Richard Bryan CMLI. This review contains the detailed analysis of 'principal concerns' of CCBC on which the Inspector is seeking further clarification. Therefore, this section of the report provides a response to the comments made in the CCBC Landscape Response.

2.4.2 The principal concerns of CCBC are therefore understood to relate to differences of opinion surrounding the effects on the following receptors within CCBC and close to its boundary:

- HOV LCA13 - Upland moorland between Taff and Rhymney Valleys.
- HOV LCA18 – Mynydd Bedwellte and associated upland.
- SLA 23 - Upper Rhymney Valley.
- Viewpoint - 2 A465 / Heads of the Valleys Road.
- Viewpoint - 7 Rhymney.
- Viewpoint - 9 Rhymney Common.
- Viewpoint – 13 Fochriw.
- Rhymney Valley Ridgeway Footpath sequential assessment.

2.4.3 The CCBC Landscape Review provides detailed comments for each receptor and Table 3.2 below provides the Applicant's response to these detailed comments. For ease of reference, the response is structured in the same order as pages 10-25 of 28 in the CCBC Landscape Review.

2.4.4 The CCBC Landscape Review also provides some further points of difference in its conclusions in relation to turbine height, Pre-assessed areas for wind energy and the CCBC 2015 SPG

Smaller Scale Wind Turbine Development Landscape Sensitivity and Capacity Study (the CCBC Capacity Study). These are responded to in turn here –

Turbine height

2.4.5 CCBC state in the conclusions that 'it's accepted that in landscape and visual terms, it is considered that there is scope for wind farm development within the broad upland landscape of the HOV LCA 17 Upland north of the Heads of the Valleys corridor, although the current proposed 180m maximum height for turbines could be considered to be too large, smaller turbines below 150m maximum tip height, would most likely reduce both landscape and visual effects from a CCB perspective.' Note a similar comment was also made by MTCBC, please see the response at paragraph 2.3.2 above.

Pre-Assessed Areas for Wind Energy (PAAs)

2.4.6 It is the Applicant's position that whilst the creation and subsequent selection of Pre-Assessed areas for Wind Energy (PAAs) included the BBNP as a key constraint, PAAs are nevertheless found in close proximity to the edges of the BBNP. PAA 10 is the closest PAA to the Proposed Scheme site at around 5km to the southeast, the western part of PAA 10 is approximately 3km from the edges of the BBNP and the eastern part of PAA 10 is around 5km from the edges of the BBNP.

2.4.7 The creation and selection of these PAAs was carried out through constraints analysis as can be found in the Welsh Government Stage 2 report '*Refinement of Priority Areas for Wind and Solar Energy'* states that *'wind turbines up to 150m and up to 250m blade tip height in the Priority Areas for Refinement'* were considered in relation to the '*Visual setting of nationally designated landscapes'*.

2.4.8 The Stage 2 report goes on to identify a series of priority areas based on constraints analysis, which in relation to the BBNP, excluded a strip of landscape around the BBNP boundary, widening where it coincided with key settlements. It would appear that the northern parts of the Proposed Scheme site area were removed on this precautionary basis of proximity to the BBNP boundary as stated on Page 49 of the Stage 2 report –'*The boundary for wind development in the north of this Priority Area for Wind and Solar Energy has been refined in line with TAN 8, SSAs E and F to avoid wind development right up to the boundary of the Brecon Beacons National Park. This removes centres of population and areas of higher visibility.'*

2.4.9 Appendix C1 of the Stage 2 report includes a series of 'intervisibility maps' for each of the priority areas (the closest priority area in the study to the site is area 14). In relation to this intervisibility mapping, Page 49 states that: '*Areas with more than 50% visibility from the Brecon Beacons National Park have been removed from this Priority Area for Wind and Solar Energy for wind development resulting in two key areas available for wind development.'*

2.4.10 The Proposed Scheme site area lies outside of area 14 assessed on these intervisibility maps, and there is no evidence therefore in the Stage 2 report that the Proposed Scheme site area would have more than 50% intervisibility. Note that the southern parts of the Proposed Scheme site area are within area 14 which is shown to have 1 - 25% intervisibility for a 250m tip turbine on Drawing No 3.50.

2.4.11 It should be noted that the areas with more than 50% intervisibility are only found for the 250m tip turbines as shown on Drawing No 3.50. It is also notable that the areas identified as having more than 50% intervisibility with BBNP (and therefore excluded from the PAAs) are approximately 15km to the west of the Proposed Scheme site area and are the same upland areas in which large wind farm developments are operating including Mynydd Bwllfa, Pen y Cymoedd and Maesgwyn.

2.4.12 Policy 17 of Future Wales states that – 'In Pre-Assessed Areas for Wind Energy the Welsh Government has already modelled the likely impact on the landscape and has found them to be capable of accommodating development in an acceptable way. There is a presumption in favour of large-scale wind energy development (including repowering) in these areas, subject to the criteria in policy 18.' This suggests there is a recognition that whilst there will be change to the current landscape baseline within close context to the BBNP through development progressed at its periphery, that this change will generally be considered acceptable.

2.4.13 Policy 18 of Future Wales states that Developments of National Significance will be permitted subject to policy 17 and 'outside of the Pre-Assessed Areas for wind developments and everywhere for all other technologies, the proposal does not have an unacceptable adverse impact on the surrounding landscape (particularly on the setting of National Parks and Areas of Outstanding Natural Beauty)'

2.4.14 Appendix 5.3 considers that there may be some perceived diminishment of the Special Qualities of 'SQ1 peace and tranquillity' and 'SQ5 sweeping grandeur and outstanding natural beauty' but such effects are not considered to be significant for the majority of the BBNP, including within its core area in the Central Beacons. Where effects on SQs are significant, these are localised to an area of broad upland at the southern edges of the BBNP. It is therefore considered that whilst the Proposed Scheme is at a closer proximity to the BBNP than the Pre-Assessed areas, the SQs would not be diminished to such a degree by the Proposed Scheme that it would affect the overall integrity of the BBNP, or its inherent natural beauty, and it would occur within a context and understanding of the need for change including accommodating alternative energy, such as within the nearby Pre-Assessed areas.

CCBC Capacity Study

2.4.15 CCBC states in the conclusions that the Proposed Scheme is 'at odds with the 2015 SPG Smaller Scale Wind Turbine Development Landscape Sensitivity and Capacity Study, undertaken by Gillespies Landscape Architects, who found despite the vast large scale landscape that there is limited capacity for large scale development in this area due to the presence of the BBNP.'

2.4.16 The CCBC Capacity Study is strategic level, broad-brush, guidance that informs the assessment of site-specific proposals. It provides an initial overview in the assessment of a wind farm proposal, but it is not a substitute for a detailed landscape and visual impact assessment, of the type that has been undertaken for the Proposed Scheme.

2.4.17 This point is confirmed in section 1 page 4 of the CCBC Capacity Study 'This is a strategic study and is not prescriptive at an individual site level. It does not replace the need for the local authorities to assess individual planning application or for developers to prepare specific local landscape and visual assessment as part of a planning application.'

2.4.18 The CCBC Capacity Study identifies sensitivity to smaller scale wind energy development, the range of turbine sizes include 25m (Micro) up to 109m (which is described as Large). The CCBC Capacity Study also identifies sensitivity for Very Large turbines which are 109m or greater but does not qualify an upper limit to the findings for this category. The Proposed Scheme site area lies within HOV LCA 17 Upland north of the Heads of the Valleys corridor. HOV LCA 17 has been identified as having an overall High sensitivity to the Very Large turbine scale (>109m).

2.4.19 Individual sensitivity ratings are provided for a range of criteria for each of the HOV LCAs assessed covering the main themes of Landscape; Visual; Aesthetic, perceptual and experiential; and Value.

2.4.20 For 'Landscape', the criteria of 'Landform' and 'Built Environment' score High sensitivity for HOV LCA 17. In terms of 'Landform' it is difficult to understand why this LCA scores a 'high' rating. It is agreed that HOV LCA 17 has a 'varied upland topography with rolling undulating landform' when describing this attribute, however, it should also be acknowledged that the upland undulations are most often read together, contributing to its overall 'large to vast' scale and often appearing as a smooth and uniform upland moorland. The landscape of this LCA also has large areas where the landform has been disturbed by historic mining activities. The methodology on Page 11 of the Capacity Study considers that these are characteristics that are likely to be less susceptible to change. In terms of 'Built Environment' the description of this criteria for HOV LCA 17 largely focuses on the presence of settlement or not. It is accepted that the LCA itself is sparsely settled however there is no mention of the influence of historic and contemporary mining activities, power lines and neighbouring large scale settled areas at the edges of this LCA which would reduce the sensitivity rating, according to the methodology presented on Page 11.

2.4.21 For 'Visual', the criteria of 'Skylines and settings'; 'Visibility, key views, vistas'; and 'Views to / from landscape and cultural heritage features' score High sensitivity for HOV LCA 17. It is clear from the CCBC Capacity Study that the principal reason for its higher 'visual' sensitivity to Very Large wind energy developments within HOV LCA 17 is due to the proximity to the BBNP boundary. This is largely accepted and follows the Capacity Study methodology which states '*Where adjoining landscapes are intervisible and are of higher susceptibility this increases the susceptibility of the landscape unit. The setting of designated landscapes may be more susceptible where the setting contributes to the overall scenic quality of the designated landscape.'*

2.4.22 For 'Aesthetic, perceptual and experiential', the criteria of 'Scenic quality and character' scores High sensitivity for HOV LCA 17. There is no reasoning in this category within the HOV LCA 17 assessment and the 'high' rating appears to be entirely based on the VS aspect area scoring in LANDMAP (VS46 Scenic Quality; VS47 Integrity; and VS48 Character). It should be noted, however, that the two underlying aspect areas for the western half of the LCA where the Proposed Scheme is located are evaluated much lower in LANDMAP. For MRTHRVS313 - VS46 Scenic Quality is Moderate; VS47 Integrity is Low; and VS48 Character is Moderate. For CYNONVS361 - VS46 Scenic Quality is High; VS47 Integrity is Low; and VS48 Character is Moderate. The detractors are noted within LANDMAP to include pylons and past industrial works. It is unclear therefore why the scenic quality and character scores such a high rating

unless it is assumed that this judgement was made within relation to the scenic quality and character of the eastern part of HOV LCA 17 only which does not contain the detractors.

2.4.23 For 'Value', the criteria of 'Landscape value' and 'Historic Value' score High sensitivity for HOV LCA 17. HOV LCA 17 encompasses several LANDMAP aspect areas both in terms of visual and sensory and historic landscape. The majority of HOV LCA 17 contains visual and sensory aspect areas with an evaluation of moderate value with only a few areas of high value. The evaluation of historic landscape aspect areas across HOV LCA 17 is a mixture of moderate and high (the part of the site area within Caerphilly has a moderate value). The LVIA assesses the value of HOV LCA 17 as Medium-High as whilst the LANDMAP evaluation is largely Moderate the area is also designated as an SLA which influences the value. It is considered that both the landscape and historic value attributed to HOV LCA 17 in the CCBC Capacity Study is overvalued and is not consistent with LANDMAP in its evaluation.

2.4.24 Whilst it is clear from the CCBC Capacity Study that the principal reason for its higher sensitivity to Very Large wind energy developments within HOV LCA 17 is due to the proximity to the BBNP boundary, and that for the 'visual' category that this seems justified, several of the other sensitivities arguably should not have been given a rating of 'high' for the reasons detailed above. Consequently, the Applicant consider that the overall sensitivity applied to HOV LCA 17 should be at a lower level within the study.

2.4.25 It should also be noted that in terms of the 'visual' category of HOV LCA 17 the detailed assessment within the LVIA has found that whilst it is appreciated that there are views from the BBNP towards the Proposed Scheme turbines, the views of the Proposed Scheme site area are more limited from within the BBNP and are largely experienced from other parts of the same upland plateau. This provides a degree of visual separation for receptors within other BBNP LCAs that reduces the magnitude to change when considering the Proposed Scheme.

2.4.26 In relation to views towards the BBNP from the surrounding landscape, Appendix 5.3 Table 5.2: BBNP LVA7 – Central beacons states that - *'In terms of views towards the Central Beacons from surrounding areas the LVIA has assessed a large number of viewpoints that have views towards the BBNP, particularly from the valleys landscape to the south. The LVIA has found that whilst there may be views of the towards the Proposed Scheme within the context of the southern edges of the BBNP and its broad upland plateau landscape character, views of the Central Beacons are either not experienced in these views due to the intervening upland of southern BBNP or are in a different part of the panorama than the Proposed Scheme. On balance therefore the view of the Central Beacons would not be interrupted from the vast majority of receptors outwith the BBNP area.'* This also provides visual separation for receptors out-with the BBNP area in relation to the severity of visual effects on views of the recognisable Central Beacons and their wider setting within the context of the South Wales valleys landscape.

2.4.27 In conclusion it is considered that whilst some of the 'high' sensitivities attributed to HOV LCA 17 appear justified, several of them as described above should not have been given a rating of high.

CCBC Decarbonisation Strategy

2.4.28 Given the location of the Proposed Scheme site in relation to the Heads of the Valleys corridor, it is considered that this strategy is particularly relevant to the Proposed Scheme and its location.

2.4.29 The CCBC Decarbonisation action plan[5] identifies opportunities in ref P8 'Take a commercial interest in private sector on-shore wind developments within and outside of the county borough where opportunity presents itself' and in ref P10 'Explore opportunities to invest in large scale renewable energy opportunities, including offshore opportunities.'

2.4.30 Page 7 of the CCBC Energy Prospectus[6] reads 'The authority's recent land asset review does identify some opportunities although there are no obvious sites for Wind Turbine generation. The Council is investigating opportunities to work collaboratively with private sector providers, particularly at the Heads of the Valleys - a corridor following the alignment of the road may provide suitable opportunity for an energy belt to feed the grid and local industry. Large wind turbines have the potential for good power generation and therefore revenue generation, they require a smaller footprint than solar farms and are easier to safeguard against vandalism.'

2.4.31 This is a key part of the CCBC decarbonisation strategy and whilst it is clear that this investigative work has not presented 'obvious sites' to CCBC for wind generation, it is also clear that a particular interest is focussed on an 'energy belt' at the Heads of the Valleys.

2.4.32 Whilst the 2015 CCBC Capacity Study identifies the lowest sensitivity to Large and Very Large scale wind energy development within HOV LCAs 1-5 this has not provided a strategic guide to the more recently produced 2020 Decarbonisation Strategy. On this basis, it is considered that the CCBC Capacity Study is not consistent with the objectives presented in the Decarbonisation Strategy. For the strategy of a 'Heads of the Valleys energy belt' including 'large scale turbines' to succeed, large scale development must be located within this corridor. However, the CCBC Capacity Study identifies no scope for such development with 'high' sensitivity assessed for all HOV LCAs within the Heads of the Valleys corridor. It needs to be recognised that landscape 'capacity studies' are not however determinative in themselves and should not be used as such in development management. Greater weight should be placed on the findings of a project specific landscape and visual impact assessment.

2.4.33 Given that the localised nature of effects are accepted by CCBC ['overall, it's accepted that significant landscape and visual effects are relatively limited in geographic extent, being locally contained, from a Caerphilly landscape and visual perspective'] it is considered that this site and Proposed Scheme represents such a 'suitable opportunity' for further wind energy development within the Heads of the Valleys corridor, that the Decarbonisation Strategy describes.

[5] DECARBONISATION ACTION PLAN, (2020), Caerphilly County Borough Council

[6] DECARBONISATION STRATEGY: REDUCE-PRODUCE-OFFSET-BUY, (2020), Caerphilly County Borough Council

Table 3-2: CCBC responses

Row Ref	CCBC Comment	Applicant Response
1	CCBC has disagreed with the magnitude assessment for HOV LCA13 - Upland moorland between Taff and Rhymney Valleys, as follows: *'On balance with exception for taking issue with existing tall structures, which is said to decreasing magnitude, I would argue that these existing tall structures are small elements, in the broadly horizontal midground, on the fringes of the dominate views north, which is focussed on the undeveloped upland landscape and its dramatic skyline. The existing pylons also do not dominate the view, do not break the skyline and could be seen to be associated with the lower lying linear road corridor, when viewed from this upland character area. This is in contrast with the 6 dynamically moving turbines of the proposed large scale wind farm, which will break the skyline and occupy a large proportion of the views north from this character area.* *Taking this into account, the experience of the key characteristics of the LCA would increase the likelihood that the magnitude of change to be higher at Medium where visibility is experienced from the northern section.* *Consequently, on balance, taking the above into account the value of Moderate-Minor and Not Significant offered does not fully reflect the whole of the character area and a more accurate value would be Moderate and Significant for the norther part of this area, where visibility is afforded.* *It's accepted however, that the cumulative effect would not be significant on this LCA.'*	Section 5.11.52 of the LVIA includes reference to the existing pylons as a factor that moderates the magnitude of change for this LCA as these structures combine with other elements, including wind turbines, to create a developed landscape context. In the northern section of the LCA one of the key characteristics within HOVSCS is noted to be that '*The northern end of the unit is particularly affected by extraction.'* The LVIA also acknowledges this as a factor that moderates magnitude, stating that – *'where visibility occurs, the Proposed Scheme would be seen beyond the large scale industrial activity of the opencast workings and quarries which forms an industrial context to this LCA, which is often experienced at close range in areas to the north'.* Other factors noted in the LVIA which decrease magnitude for this LCA include: *'The change to key characteristics would be minimal from areas of the LCA to the south where theoretical visibility is of lesser extent.* *The Proposed Scheme would appear to sit clearly within the larger upland landscape to the north which is of a relatively simple broad upland landscape form.* *Whilst the Proposed Scheme would appear on the same skyline as the more distant Brecon hills and mountains from this LCA, the distinctive Corn Du and Pen y Fan scalloped ridges and jagged summits would not encroach on their distinct form as they appear in a different part of the skyline.'* It is a combination of factors which inform the assessment of magnitude of change which have resulted in the Medium-Low magnitude, and these detracting influences are a part of the reason for this judgement. On this basis it is not accepted that the magnitude of change should be higher for this LCA and the Moderate-Minor and Not Significant effect is considered accurate.
2	CCBC has disagreed with the magnitude assessment for HOV LCA18 – Mynydd Bedwellte and associated upland, as follows: *'It's accepted that the magnitude of change is predicted to be Medium-Low for the area as a whole for the LCA. However, this is not accurate for the northern and closest area of the LCA at Rhymney Common which s afforded uninterrupted elevated and direct views down onto the proposed site of the wind farm with tracks and ancillary structures also evident. This would increase the*	For clarity, this LCA is at a slightly lower elevation (approx. 400m to 457m AOD) than the Proposed Scheme site area which rises to approx. 535m AOD). The view from the northern part of the LCA is therefore at a similar level or lower than the Proposed Scheme turbines and so would not 'look down onto the proposed site' as suggested by CCBC. Whilst it is agreed that the from the northwestern parts of this LCA that there are clear and elevated views towards the Proposed Scheme with tracks and infrastructure evident, the key characteristics of this area are already substantially influenced by the presence of the Pen Bryn Oer turbines which are located in the northern part of this LCA. The effect of the Proposed Scheme on the 'distinctive open skyline' and 'panoramic views' key characteristics of this LCA is therefore also diminished by the Pen Bryn Oer turbines which are consistently viewed from the narrow northern part of this LCA as

Row Ref	CCBC Comment	Applicant Response
	magnitude to Medium for this northerly section of the character area where views area afforded. *It's not accepted that the effect for this LCA resulting from the introduction of the wind farm is considered to be Moderate and Not Significant for the LCA within Caerphilly Borough at Rhymney Common, which given its proximity, elevated direct views and character type, the effect would be considered as Moderate and Significant.* *On balance, It's accepted, that the cumulative effect would not be significant on this LCA.'*	prominent features due to their close proximity. On this basis it is not accepted that the magnitude of change should be higher for this LCA and the Moderate and Not Significant effect is considered accurate.
3	CCBC has disagreed with the magnitude assessment for SLA - 23. Upper Rhymney Valley, as follows*:* *'Extent of change to the landscape character of the SLA as a result of the addition of large scale wind turbines and associated infrastructure the proposed wind farm would not only increase the influence of wind energy but dominate the majority of the SLA northern half, changing it to one associated with a windfarm landscape, albeit reversable in the long term.* *The level of Proposed Scheme construction activity experienced within this SLA would also significantly increase given its current limited to only the overhead powerline running parallel with the A465 and no 21st Century Infrastructure within the SLA to the norther of the A465.* *Taking these factors into account the magnitude of change for this SLA is considered to be too low at Medium-High locally and more accurately magnitude of High locally (the area of SLA to the north of the A465 road corridor) would be more appropriate. It's accepted the magnitude would reduce to Medium in other parts of this SLA to the south of the A465 that have visibility.'* *The effect for this character area resulting from the introduction of the proposed wind farm is considered to be Major and significant for the SLA effect for northern sector of the SLA (around 1km radii) from the site boundary and acquiesces effect and a Moderate and Significant effect in other areas of this SLA that are afforded visibility, reducing to not significant to the south of the SLA where visibility is limited.*	Section 5.11.139 of the LVIA notes the 'reduction in open moorland character within the SLA' as a factor that increases the magnitude of change. In relation to the developed context of the landscape within and at the edges of this SLA, the LVIA notes the following factors that decrease the magnitude of change when considering the Proposed Scheme – *'the presence of existing wind turbines within the southern part of the SLA and in close context to the northern part means that the Proposed Scheme would not be introducing elements that are entirely uncharacteristic, albeit at a larger scale than currently experienced; and the presence of existing tall structures to the south of the upland plateau such as the electricity lines, industrial units and turbines that align with the A465 road corridor, creates a developed landscape context that moderates the influence that the Proposed Scheme would bring to views from this area of SLA.'* Given the compact nature of the Proposed Scheme, it is not considered that it would result in 'windfarm landscape' as CCBC has suggested but that it would result in a landscape with wind turbines character type (that includes the other existing wind energy development found along the Heads of the Valley Corridor). This is supported in the LVIA conclusions which state '*In landscape and visual terms, it is considered that there is scope for wind farm development within the broad upland landscape of the HOV LCA 17 Upland north of the Heads of the Valleys corridor',* for which the northern part of SLA 23 is a part of. It should also be noted that the 'Medium-High' magnitude of change assessed for HOV LCA 17 Upland north of the Heads of the Valleys corridor, which shares some of the same geographic area as the northern part of the SLA (north of the A465) has been accepted by CCBC in their review.

Row Ref	CCBC Comment	Applicant Response
4	CCBC has disagreed with the magnitude assessment for Viewpoint - 2 A465 / Heads of the Valleys Road as follows: *'The magnitude of change for the Proposed Scheme is considered to be Medium-High. Given that there are no detractors actually within the view north and the close range with all turbines, including hubs visible and that they will be moving, I would consider a magnitude of High to be more appropriate.* *However, the effect on recreational receptors the value considered of Moderate and Significant is too low, given the scale of change and sensitivity of the receptor, It's considered that a more accurate assessment would be that of Moderate-Major and Significant.'*	As described in Table 5.17: Viewpoint - 2 A465 / Heads of the Valleys Road in the LVIA, the intervening landform results in a limited view of some of the Proposed Scheme turbines and so whilst all proposed turbines would be visible, their influence on the view varies and the intervening landform creates a sense of the turbines being set back from the immediate context of the A465 Heads of the Valley at this location. It is a combination of factors which increase and decrease the magnitude of change which have resulted in the Medium-High magnitude. Other factors noted in the LVIA which decrease magnitude at this viewpoint include: '*The view to the north from this location is unremarkable with the Site containing few landscape features and an overall simple and gently domed horizon;* *The rougher textured moorland landcover of the view north towards the Proposed Scheme provides a larger scale upland landscape context considered suitable for wind energy development of the type proposed;* *Whilst varied in the amount of tower visibility, the overall layout appears to form a cohesive group of turbines that follows the overall shape of the upland landform of the Site;* *The more scenic view south-east along the Rhymney Valley would be unaffected by the Proposed Scheme; and* *Existing tall structures such as electricity pylons and wind turbines within close visual context, moderate the effect of the Proposed Scheme as it would not be entirely uncharacteristic in this view.'* On this basis it is not accepted that the magnitude of change should be higher for this viewpoint and the Moderate and Significant effect is considered accurate.
5	CCBC has disagreed with the magnitude assessment for Viewpoint - 4 A469 / Bute Town (NCN 468) as follows: *'The assessment considers the magnitude of change for the Proposed Scheme to be Medium. Although there are low level detractors in the view, given that the view northwest is under 2km with all large scale turbines and hubs visible including overlapping turbines, cluttering the view, with the added fact that they will be visible dynamic moving element, I would consider a magnitude of Medium-High to be more appropriate.'* *It's considered however, that the significance of effect for residents would increase to Major and Significant.'*	It should be noted that the viewpoint location has been selected as a worst case view where '*the screening potential of trees within the gardens and open space of the settled area and on the roadside of the A465 further to the north and also from other buildings within the settled area itself'* is less restrictive. There are however, as CCBC recognises, 'detractors' in the view towards the Proposed Scheme. These detractors are primarily related to the road infrastructure of the A469 and the overhead line towers that cross the view to the north. As the LVIA highlights in Table 5.19: Viewpoint - 4 A469 / Bute Town (NCN 468) '*The view of the landscape to the north and north-west is curtailed by the various embankments and roadside trees that intervene and dominated by the A469 road corridor. It is not particularly scenic and is crossed by overhead electricity lines pylon towers situated in close proximity; Electricity lines and pylons that intervene in the view towards the Site, sit in front of the Proposed Scheme with pylons at appearing at approximately the same relative scale due to a foreshortening effect. This effect tends to moderate the magnitude of change as it provides a recognisable scale comparison, of existing infrastructure which appears similar or taller in height than that which is proposed;'* On this basis it is not accepted that the magnitude of change should be higher for this viewpoint and the Moderate-Major and Significant effect is considered accurate for residential receptors. It should also be

Row Ref	CCBC Comment	Applicant Response
		noted that as this represents a worst case view from Bute Town, that many receptors will experience a lower magnitude of change with some experiencing no change, other than at the road junction where the viewpoint is located.
6	CCBC has disagreed with the magnitude assessment for Viewpoint - 7 Rhymney as follows: *'The assessment considers the magnitude of change for the Proposed Scheme to be Medium-High. This should, however, be considered to be High, due primarily, due to the currently lack of development on the proposed site, combined with the large scale turbines, hubs and tracks visible, with the added fact that they will be dynamic moving element in the view. However, It's accepted that the large scale upland landscape of the receptor site and fact that It's set back from the A465 does assist, along with the layout, to make for an overall balanced development from this viewpoint.* *The effect on residents would consequently increase to Major and Significant.'*	As CCBC accepts the '*large scale upland landscape'* and *'set back from the A465 does assist', 'to make for an overall balanced development from this viewpoint.'* *As the LVIA highlights in Table 5.22: Viewpoint - 7 Rhymney - 'The rougher textured moorland landcover of the site area in the view provides a large scale upland landscape context considered suitable for wind energy development of the type proposed; Whilst the turbines are of a large scale, they would not diminish the scale of the upland grassland of the site area; The Proposed Scheme turbines are set back from the scattered settlement visible in the view and would not appear to encroach on it as a result; and Existing tall structures such as electricity pylons and wind turbines slightly moderate the effect of the Proposed Scheme as it would not be entirely uncharacteristic in the view.'* On this basis it is not accepted that the magnitude of change should be higher for this viewpoint and the Moderate-Major and Significant effect is considered accurate. It should also be noted that as assessed in the LVIA baseline for this viewpoint *'views from properties in the immediate vicinity have less direct views towards the Site and tend to be orientated to the west.'* The viewpoint therefore represents a worst case view and assessment from Rhymney with many receptors within other parts of the settlement, including close to the viewpoint, experiencing less direct views towards the Proposed Scheme site area.
7	CCBC has disagreed with the magnitude assessment for Viewpoint - 9 Rhymney Common as follows: *'The assessment considers the magnitude of change for the Proposed Scheme to be Medium, which is considered to be too low, given that the view to the northwest above the A465 with exception of overhead powerline which runs horizontally in the view below the skyline close to the road corridor. The 6 turbines will all brake the skyline, with the added fact that they will be visible dynamic moving element, I would consider a magnitude of Medium-High to be more accurate.'* *Significance of Effect -As a result of the higher values for magnitude reinforces the significant of effects and concur that the effect on recreational receptors represented by this viewpoint is considered to be Moderate and Significant. The view from this location may not be particularly sensitive nationally or regionally but is valued by local residents and does resides within the Upper Rhymney SLA. It's appreciated that the degree of change has been acknowledge however and is sufficiently large enough to result in a significant effect.'*	There are as CCBC has recognised 'detractors' in the view towards the Proposed Scheme in the form of overhead power lines and towers. The Pen Bryn Oer turbines are also in very close proximity to this viewpoint which has a substantial influence on the experience of visual receptors at this location, and on views from other parts of the Rhymney Common. This existing wind farm influence moderates the visual magnitude of change, albeit as a successive visual effect to the north and east away from the view towards the Proposed Scheme to the northwest. Whilst it is accepted that the Proposed Scheme turbines would break the skyline, they would do so within the context of a broad and large scale upland horizon. As the LVIA highlights in Table 5.24: Viewpoint - 9 Rhymney Common '*The rougher textured moorland landcover of the site area in the view provides a large scale upland landscape context considered suitable for wind energy development of the type proposed; Whilst the turbines are of a large scale, they would not diminish the scale of the upland grassland of the site area.'* To clarify the description of significance for this viewpoint, it is considered that the magnitude of change is not large enough to result in an effect above Moderate 'however the degree of change is sufficiently large enough to trigger a significant effect' at a Moderate level.

Row Ref	CCBC Comment	Applicant Response
8	CCBC has disagreed with the magnitude assessment for Viewpoint – 13 Fochriw as follows: *'The assessment considers the magnitude of change for the Proposed Scheme to be Medium-Low, which is considered to be too low for the residential receptors and users of the Rhymney Valley Ridgeway long distance path, both whom are afforded direct views north, given that the view to the north exception of overhead powerline, the 6 turbines will added visible dynamic moving element, I would consider a magnitude of Medium for and recreational users and residential receptors with a direct view from the settlement edges to be more accurate.* *Residential - on balance as a result of the higher value for magnitude reinforces the significant of effects represented by this viewpoint is considered to be Moderate and Not Significant for the settlement as whole, however for those residents on the settlement edges that are afforded direct view north, and tips the balance to Significant.'* *In terms of recreational receptors - The view from this location north is typical of the Rhymney Valley Ridgeway walk and view towards the National Park are considered to be Moderate and Significant for the walkers of the Rhymney Valley Ridgeway path travelling north, who are afforded a direct view north, which tips the balance towards Significant.'*	There are as CCBC has recognised 'detractors' in the view towards the Proposed Scheme in the form of overhead power lines and towers. The LVIA also highlights in Table 5.28: Viewpoint - 13 Fochriw that the Not Significant effect is 'largely due to the limited visibility resulting from the intervening plateau'. Other moderating factors of magnitude in Table 5.28 include - '*The visible turbines would be seen within the context of a large scale upland plateau that has a simple and expansive upland character, considered suitable for wind energy development of this type; The presence of existing tall structures on and either side of the upland plateau such as the electricity lines and turbines, provides a developed landscape context that moderates the influence that the Proposed Scheme would bring to this view; and The position and partial visibility of the turbines due to the intervening plateau provides a degree of visual separation from the Proposed Scheme, moderating the influence that they have on the viewpoint and the settlement.'* On this basis it is not accepted that the magnitude of change should be higher for this viewpoint and the Moderate and Not Significant effect is considered accurate for both residential / settlement and recreational receptors. It should also be noted that as this represents a worst case view from Fochriw, that many receptors within other parts of Fochriw would experience a lower magnitude of change with some experiencing no change, other than on the road at the northern edges of the settlement.
9	CCBC has disagreed with the magnitude assessment for Rhymney Valley Ridgeway Footpath sequential assessment, as follows: *'In terms of magnitude of change - The magnitude of change between Cefn y Brithdir and the moorland near the Rhymney Industrial estate north of Fochriw is considered to be Medium-Low. However, North of this area it would be considered to have a Medium magnitude of change. Given the anticipated height of the six 180m turbines this will increase the magnitude as the walker travels north closer to the wind farm. Consequently from Fochriw north the assessment of medium will be more appropriate and will increase to medium-high towards Bute Town within 2km of the site. This is due to the large scale windfarm, blades, hubs and potentially overlapping turbines, cluttering the view, with the added fact that the turbines will be constantly within the view north being a highly visible dynamic moving large-scale manmade element.*	As described in the previous comment it is not accepted that a higher magnitude of change should be applied to either the Fochriw viewpoint 13 or the Bute Town viewpoint 4. There are a number of reasons for this as set out in previous comments but in summary these are primarily the context of the large scale receiving landscape, the level of visual separation provided by the intervening landscape and the presence of other tall structures in views from this section of the route. On this basis it is not accepted that the magnitude of change should be higher for this route on the sections between Fochriw and Bute Town. In Page 7 of 28 of the CCBC Landscape Review, in relation to 'Primary Mitigation' CCBC state that – *'It's accepted that mitigation has primarily been addressed during design development including a balanced layout as possible, once site constraints have been taken into account.'* Further stating that '*It's understood that the layout of the proposed wind farm was developed and optimised in order to provide a visually coherent and balanced layout design, avoiding known constraints where practicable.'* It is not accepted therefore that the Proposed Scheme would result in turbines 'cluttering the view' and this comment appears to contradict other comments about the visual appearance of the Proposed Scheme set out in the CCBC response, including in the conclusions where CCBC state that '*It's also appreciated that*

Row Ref	CCBC Comment	Applicant Response
	In terms of significance of effect – The effect on recreational receptors on the northernmost section of this route (Fochriw to Rhymney Industrial Estate) is considered overall to be Moderate and Significant, increasing to Moderate-High as the route gets within 2km of site towards Bute Town. It's accepted that the effect on the section of route between Cefn y Brithdir and Rhymney Industrial Estate is considered to be Moderate and Not Significant.'	*the proposed wind farm layout is compact and yet cohesive with a balanced arrangement, when seen from the south and southwest within the Caerphilly Borough.'*

3 Topic 2: Biodiversity and Ecological Matters

3.1 Introduction

3.1.1 This section sets out responses to the following matters set out under the Topic 2 heading of the Regulation 15(2) request for further information:

- Response to changes to Chapter 6 of Planning Policy Wales (PPW);
- Response to Natural Resources Wales (NRW) comments on Section 7 listed habitats and peatlands and Welsh Government's Soil Policy and Agricultural Land Use Planning Unit (also referred to as the Land Quality Advice Service (LQAS) and henceforth referred to as LQAS) comments on peat and soils;
- Response to NRW comments on a Source Protection Zone within the application site; and
- Response to NRW's representation that considers the application site to be within the boundary for a candidate SSSI.

3.2 Response to Changes to Chapter 6 of PPW

3.2.1 The PEDW letter states: "*On 18 October 2023, the Welsh Government published a 'Dear Chief Planning Officer Letter' with an Annex that incorporated changes to Chapter 6 of Planning Policy Wales (PPW). It is the intention that the annex will be included within the next iteration of PPW (Edition 12), although the letter confirms that the policy changes should take place with immediate effect. The updated Chapter 6 introduces significant policy changes that need to be taken into account for this DNS application. As such, the relevant sections of the evidence should be re-assessed, with an addendum or other reports prepared where necessary to ensure that it reflects the updated policy requirements*."

3.2.2 PPW Edition 12 was published in February 2024 and includes updates to Chapter 6. With the exception of changes to paragraph numbering, Chapter 6 in PPW Edition 12 is unchanged from the version published within the annex to the 'Dear Chief Planning Officer Letter' published on 18 October 2023. Where relevant, the assessment below refers to the new paragraph numbers included within PPW Edition 12, rather than those included within the annex published in October 2023.

3.2.3 The 'Dear Chief Planning Officer Letter' highlights four main areas in which Chapter 6 of PPW has changed:

- Green Infrastructure (GI) – including a stronger emphasis on taking a proactive approach to GI and the submission of proportionate GI statements with planning applications.
- Net Benefit for Biodiversity and the Step-wise Approach – clarity is provided on securing net benefit for biodiversity, including the acknowledgement of off-site compensation measures as a last resort, and the use of the GI statement as a means of demonstrating the step-wise approach is made explicit.
- Protection for Sites of Special Scientific Interest (SSSI) – including a strengthened approach to the protection of SSSIs.
- Trees and Woodlands – including closer alignment with the step-wise approach and promoting new planting as part of development, based on securing the right tree in the right place.

3.2.4 As set out in ES Chapter 7: Ecology (paragraphs 7.5.1-7.5.5), the site does not contain any statutory designated sites (the closest biological SSSI is 1.6km distant) and no significant effects on statutory designated sites are anticipated. Changes to policy relating to protection of SSSIs are therefore not considered in this document. It is noted that the NRW response to the ES asserts that the site forms part of an area considered as a 'candidate SSSI'. A response to this issue is provided in Section 3.6 of this document.

3.2.5 The Proposed Scheme would result in no loss of woodland, trees or hedgerows and no woodland, tree or hedgerow planting is proposed as it is considered inappropriate within an area of otherwise open upland habitat. Changes to policy relating to trees and woodland are therefore not considered in this document.

3.2.6 The main areas of change that are most relevant to the Proposed Scheme are those relating to GI, biodiversity net benefit and the step-wise approach. An assessment of the relevant policy changes in these areas, with references to how the policy changes are addressed within the ES and/or other relevant documents, is set out below. How the policy changes impact the determination of the application and the weight to be given to them is set out in the updates to the planning statement in Part 3 of this document.

Green Infrastructure

3.2.7 PPW Edition 12 includes several new paragraphs in Section 6.2 under the "Integrating Green Infrastructure and Development" heading. Paragraph 6.2.12 states: "*A green infrastructure statement should be submitted with all planning applications.*" It then goes on to state that "*this will be proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal*". It also states that the green infrastructure statement "*must be used for demonstrating how the step-wise approach (Paragraph 6.4.15) has been applied.*"

3.2.8 A GI Statement was not submitted with the DNS application because the requirement for a GI Statement was introduced after the application for the Proposed Scheme was submitted. However, a GI Statement has been retrospectively prepared for the Proposed Scheme and is attached at Appendix 3. It makes clear the site selection and design evolution process that has been implemented at Pen March, which has been informed by detailed environmental assessment, local and national planning guidance. It also summarises how GI has effectively been incorporated into the Proposed Scheme and sets out how the step-wise approach has effectively been followed during the design of the Proposed Scheme.

Net Benefit for Biodiversity and the Step-wise Approach

3.2.9 Section 6.4 of PPW Edition 12 includes a significantly expanded section related to biodiversity and ecological networks, which includes net benefit for biodiversity and the step-wise approach. An assessment of the main changes to Section 6.4 that are relevant to the Proposed Scheme is provided below.

Maintaining and Enhancing Biodiversity

3.2.10 Section 6.4 of PPW Edition 12 includes a significantly expanded section on maintaining and enhancing biodiversity (paragraphs 6.4.11 – 6.4.17 in PPW Edition 12). This section of PPW Edition 12 addresses the requirement for projects, having followed the step-wise approach, to

provide a scheme of enhancement measures to ensure a net benefit for biodiversity and which assist toward improving ecosystem resilience. Paragraph 6.4.13 of PPW Edition 12 states that: "*Improving ecosystem resilience, particularly improving connectivity to the immediate surroundings, would be a key contribution to on-site avoidance, minimisation, and mitigation strategies and enhancement. How a development would improve the attributes of resilience should be demonstrated as far as this is reasonably practical*."

3.2.11 Paragraph 6.4.16 (third bullet point) goes on to state: "*All development must deliver a net benefit for biodiversity and ecosystem resilience from the baseline state (proportionate to the scale and nature of the development proposed). Even if the biodiversity value has been maintained, there must still be a pro-active process to look for and secure enhancement through the design and implementation of the development*."

3.2.12 As highlighted by the quotes above, the concept of ecosystem resilience is central to the updated policy set out in PPW Edition 12. The Proposed Scheme's contribution towards ecosystem resilience – both global and local – is set out below.

3.2.13 Most fundamentally, the Proposed Scheme as a whole assists toward global ecosystem resilience by reducing reliance on carbon for energy generation, and thereby reducing impacts on climate. As set out in ES Chapter 12: Other EIA Topics (Section 12.6: Climate Change) the Proposed Scheme is predicted to deliver total greenhouse gas emissions savings of 1,597,695 tCO2e over its 35-year operational lifetime.

3.2.14 More specifically in relation to the Proposed Scheme design; nature-based principles for the design were developed from the outset through the avoidance of statutory designated sites during the site selection process. As set out in ES Chapter 2: Site Selection and Design Evolution, the Proposed Scheme design sought to avoid areas classed as deep peat by NRW (>0.4 m) and Section 7 habitats as far as possible considering other technical and environmental constraints. This has enabled existing ecological networks to be maintained, thus maintaining ecosystem resilience.

3.2.15 The OHMP (ES Technical Appendix 7.6) builds from that position and measures included in the OHMP have been located in areas where they are deliverable and will bring most ecological benefit, in accordance with the Future Wales' definition of Resilient Ecological Networks (REN), i.e.: "*networks of habitat in good ecological condition linking protected sites and other biodiversity hotspots across the wider landscape, providing maximum benefit for biodiversity and well-being. Such nature networks have existing or potential for healthy resilient ecosystems which provide a range of important ecosystem services as well as allowing the movement of species across landscapes in response to climate change.*" In general, that means linking into existing habitat networks, joining together or expanding important species populations, to create a larger, more resilient system.

3.2.16 On that basis the measures included in the OHMP are proposed outside the Gelligaer and Merthyr Common (which encompasses the majority of the application site), thereby providing an opportunity to control grazing and other management, which would be very challenging within the common.

3.2.17 The measures set out in the OHMP comprise two elements:

- On-site: Undertake restoration and management activities over an area of 22.6 ha that should in time lead to increased cover of dwarf shrubs and other heathland plant species and facilitate the area's recovery back to upland heathland.
- Immediately adjacent to the site: Undertake restoration and management activities over an area of up to 149.3 ha, containing a range of upland habitats, that should lead to a significant increase in the extent and quality of priority habitats including modified bog and heathland.

3.2.18 OHMP objectives will be achieved, in summary, by the following commitments to ecologically-led management:

- Initial restoration via control of purple moor-grass (*Molinia caerulea*) and other dominant grass or rush species (through repeated cutting, herbicide treatment or controlled grazing).
- Blocking of ditches and drains within peatland areas to raise the water table in the adjacent peat.
- Ongoing management via controlled grazing (or cutting if grazing is not possible).
- Heather seeding (if required).

3.2.19 The proposals set out in the OHMP link to the existing green infrastructure, additionally helping to link together and to expand important species populations (such as curlew) and important habitat types (such as mire and heath). The proposed measures will also improve the condition of habitats within Pen March and Traed y Milwyr, Llechryd SINC. The improvement in habitat condition and benefits for important species such as curlew will also contribute to the resilience of areas beyond the application Site boundary. In so doing the value of the whole ends up being greater than the sum of its parts and greater ecosystem resilience is achieved.

3.2.20 The design accords with the “rules of thumb” related to the diversity, extent, condition and connectivity (the DECCA framework) referenced in NRW’s evidence report, ‘Terrestrial and Freshwater Resilient Ecological Networks: a guide for practitioners in Wales’[7].

3.2.21 The measures put forward in the OHMP specifically accord with the relevant priority actions identified by NRW in its REN guide for practitioners[8] as necessary for building ecosystem resilience in the uplands. These include:

- Increasing the diversity of grazing regimes, to include both sheep and cattle. Managing stocking levels to enhance upland ecosystem condition and diversity. This could involve either a decrease or increase in grazing from current levels.
- Managing protected sites, for example Sites of Special Scientific Interest, to achieve favourable or favourable recovering condition and other areas containing priority habitats and supporting priority species in a similar way - maintains the condition of biodiversity hotspots.
- Avoiding rotational burning, and combatting wildfires and arson to increase heathland extent and condition.

[7] Garrett HM, and Ayling SC. 2021. Terrestrial and freshwater Resilient Ecological Networks: a guide for practitioners in Wales. NRW Evidence Report No. 483, March 2021.

[8] https://naturalresources.wales/guidance-and-advice/environmental-topics/land-management/ecosystem-resilience-field-guide/?lang=en

3.2.22 The OHMP also includes measures that are listed as "further actions" within NRW's REN guide, including blocking drains on peatland to restore the natural water balance.

3.2.23 The OHMP also includes measures included in the "Upland journey towards 2050" contained within NRW's REN guide, including:

- Peatland restoration, including drain blocking, increases habitat extent, improves habitat condition, reduces flood risk.
- Tree and heathland regeneration along headwaters; increases habitat diversity and connectivity, reduces overland flow and downstream flood risk.
- Grazing with traditional, hardy breeds at levels that enhance sward diversity improves habitat condition, supports farming communities.

3.2.24 With regard to demonstrating a net benefit for biodiversity - in Wales, there is currently no requirement within an ecological impact assessment to quantify losses and gains, e.g. using a metric. However, the Welsh Government has recognised that there are benefits of a standardised and transparent methodology[9] and "*therefore propose to work with Natural Resources Wales and other stakeholders to develop a common approach to measure whether a net benefit will be achieved on site (i.e. the end result will be better than the starting state). Such a mechanism will provide clarity for what is required and what can be done to achieve a net benefit for biodiversity and enhance the resilience of ecosystems*".

3.2.25 In the absence of such a mechanism at this time, professional judgement has been applied to determine if net benefits proportionate to the scale and nature of the development would be achieved. Positive management would be secured over 171.9 ha via the OHMP, which compares against the temporary and permanent loss of 25.95 ha of degraded habitat (see Section 3.3 of this document) with limited future prospects of ecosystem service-led management (due to its status as common land). It has therefore been concluded that a net benefit for biodiversity will be achieved within the lifespan of the scheme.

Protection for Non-statutory Designations

3.2.26 As set out previously, the Site does not contain any statutory designated sites and no significant effects on statutory designated sites are anticipated. Changes to policy relating to statutory designated sites are therefore not considered in this document. However, two non-statutory Sites of Importance for Nature Conservation (SINCs), namely Pen March and Traed y Milwyr, Llechryd SINC and Merthyr Common North SINC are located within the Site boundary.

3.2.27 PPW Edition 12 sets out in paragraph 6.4.31 that: "*Non-statutory sites can form the core of a vital network of threatened habitats, play an essential role in protecting, maintaining, connecting and restoring biodiversity and contribute to nature recovery and a net benefit for biodiversity*". Paragraph 6.4.33 of PPW Edition 12 indicates that appropriate developments may be acceptable within non-statutory sites. It states: "*Policies for non-statutory sites should make it*

[9] https://www.gov.wales/targeted-policy-changes-planning-policy-wales-net-benefit-biodiversity-and-ecosystems-resilience

clear that such designations do not preclude appropriate developments, where there are no adverse impacts on the features for which a site is designated and on wider ecosystem resilience. Where harm is unavoidable it should be minimised by mitigation measures and offset as far as possible by compensation measures designed to ensure there is no reduction in the overall conservation value of the area or feature, and a net benefit for biodiversity secured."

3.2.28 Policies relating to non-statutory sites are included in both the Caerphilly County Borough (CCB) Adopted Local Development Plan (LDP) and the Replacement Merthyr Tydfil LDP 2016 – 2031. The relevant policies, which are provided below for ease of reference, are consistent with PPW Edition 12.

3.2.29 Policy CW4B of the CCB Adopted LDP 2010 – 2021 states: "*Development proposals that affect locally designated natural heritage features, will only be permitted within, or in close proximity to sites designated as Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR), Regionally Important Geological Sites (RIGS), Green Corridors, or Local Priority Habitats and Species, where proposals either:*

- *Conserve and where appropriate enhance the ecological or geological importance of the designation, or*
- *Are such that the need for the development outweighs the ecological importance of the site, and where harm is minimised by mitigation measures and offset as far as practicable by compensation measures designed to ensure that there is no reduction in the overall value of the area or feature.*"

3.2.30 Policy EnW3 of the Replacement Merthyr Tydfil LDP 2016 – 2031 states: "*Development proposals likely to have an adverse impact on Regionally Important Geological Sites, Sites of Importance for Nature Conservation, Local Nature Reserves, or Priority Habitats and Species will only be permitted where it can be demonstrated that:*

- *The need for the development clearly outweighs the conservation value of the site;*
- *Adverse impacts on nature conservation features or geological features can be avoided;*
- *Appropriate and proportionate mitigation and compensation measures can be provided; and*
- *The development maintains and where possible enhances biodiversity and geodiversity interests*."

3.2.31 The area of habitat within the two SINCs that would be subject to permanent loss or temporary loss/damage during construction would be 25.95 ha, which represents approximately 2.8 % of the combined area of Pen March and Traed y Milwyr, Llechryd SINC and Merthyr Common North SINC. In both cases this is assessed in ES Chapter 7: Ecology as a significant negative effect at the county level. Operational effects of the Proposed Scheme are assessed as not significant.

3.2.32 As set out in the ES Chapter 2 (and summarised in the GI Statement in **Appendix 3**), the iterative scheme design sought to minimise effects on the most important habitats within these sites and the submitted design represented the best achievable given other technical and environmental requirements. ES Chapter 7 demonstrates how the unavoidable effects on these sites have been mitigated and compensated for. Further detail of proposed restoration and management measures within the Pen March and Traed y Milwyr, Llechryd SINC are provided in the OHMP (ES Technical Appendix 7.6) and summarised in paragraphs 3.2.17 – 3.2.18. These measures will offset the permanent and temporary loss of habitat within the SINCs. In

turn they will ensure there is no reduction in the overall conservation value of the area and provide a net benefit for biodiversity.

3.2.33 PPW Edition 12 highlights the importance of statutorily and non-statutorily designated sites to maintaining the resilience of ecosystems. As outlined above, the OHMP sets out to meet the requirements of the DECCA framework, seeking to enhance the diversity of the proposed management areas within the Pen March and Traed y Milwyr, Llechryd SINC and improve their condition. In time this will increase the extent of habitats in good condition and enhance connectivity and quality. As set out in the box detailing the DECCA Framework on pages 146-147 of PPW Edition 12: "*resistance and recovery from pressures arise when the attributes of ecosystem resilience – diversity, extent, condition and connectivity of ecosystems are in good condition*".

Peatlands

3.2.34 The importance of peat soils is given extra recognition in PPW Edition 12, which includes a new paragraph (paragraph 6.4.34) that states: *"Where peat is identified within proposed developments considerable weight should be given to its protection because of its special importance in underpinning and supporting national natural resources such as soil carbon, biodiversity and flood management, and unless other significant material considerations indicate otherwise it will be necessary to refuse permission. When considering criterion 1 of the step-wise approach and when undertaking the search sequence in the preparation of development plans access to information will be important and Welsh Government have made available the Peatlands of Wales map as a first step to assist in identifying peatland locations"*

3.2.35 Step 1a of the step-wise approach (paragraph 6.4.15 in PPW Edition 12) sets out that planning authorities must be satisfied that reasonable alternative sites and design options that would result in less harm, no harm or benefit have been fully considered. The process of site selection and design is described in ES Chapter 2: Site Selection and Design Evolution (and is summarised in the GI statement in Appendix 3). The Peatlands of Wales map does not show peatland being present within the Site and therefore the presence of peatland was not known at the Site selection stage. Peat depth surveys were undertaken as part of the EIA (see ES Chapter 6: Geology, Hydrology, Hydrogeology and Peat) and the incorporation of emerging peat depth survey information within the Proposed Scheme design, seeking to avoid deeper peat as far as possible, is described in ES Chapter 2.

3.2.36 Step 1b of the step-wise approach states: "*Proposals in statutory designated sites are, as a matter of principle unacceptable, and therefore must be excluded from site searches undertaken by developers. This principle also extends to those sites containing protected species and habitats which are irreplaceable* and must be safeguarded. Such sites form the heart of resilient ecological networks and their role and the ecosystem services they provide must be protected, maintained and enhanced and safeguarded from development. It will be wholly exceptional for development to be justifiable in such instances*."

3.2.37 *Irreplaceable is defined as "*Habitats, including the natural resources which underpin them, which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. Examples include, ancient woodland and veteran trees, ancient hedgerows, wet woodlands,*

sand dunes, peatland, species rich grassland, long undisturbed soils, blanket bog, salt marsh and lowland fen."

3.2.38 It is noted that the definition of irreplaceable given in PPW Edition 12 includes several examples unreferenced elsewhere (e.g. in equivalent guidance for England – see below) and provided without detailed definition (including species rich grassland, ancient hedgerows, peatland and long undisturbed soil). It also excludes other habitats that are defined as irreplaceable elsewhere (such as limestone pavement). The list is therefore considered illustrative rather than comprehensive, and somewhat subjective. For comparison, the list of irreplaceable habitats (each of which has a clear definition within the UKHab classification system) included in The Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations 2024 for England includes the following: ancient woodland, ancient trees and veteran trees, blanket bog, limestone pavements, coastal sand dunes, Spartina saltmarsh swards, Mediterranean saltmarsh scrub and lowland fens. Scotland has yet to define its own list of irreplaceable habitats, but seems likely to refine the list used in England based upon its recent research in approaches to measuring biodiversity[10]. It is notable that the definition used in the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations for England does not include peatland (other than blanket bog) as an irreplaceable habitat.

3.2.39 NRW and LQAS have raised specific concerns about peatland and blanket bog, and the following assessment therefore concentrates on these two areas.

Peatland

3.2.40 'Peatland' is not clearly defined within PPW Edition 12, nor is it a habitat type recognised by any habitat classification system used in the UK. It therefore is not a criterion in and of itself for the process of recognising ecological importance of an area such as for the purpose of designating important sites. As such, there is no specific reference to 'peatland' within SSSI selection criteria[11], or LWS selection criteria[12]. The term 'peatland' was used in the production of the Peatlands of Wales Map[13] for areas of land that support more than 40 cm depth of peat (or 30 cm over bedrock).

3.2.41 Many types of vegetation can be underlain by peat; those of conservation concern are recognised as Section 7 habitats within the Environment (Wales) Act, and/or as Annex 1 habitat types under the EC Habitats Directive. Such habitat types are assessed as important ecological features within the ES ecology chapter. NRW indirectly recognises that it is possible to "*restore, recreate or replace*" (terms used in PPW Edition 12) vegetation upon peat, where it is degraded,

[10] https://www.gov.scot/publications/research-approaches-measuring-biodiversity-scotland/pages/9/

[11] https://jncc.gov.uk/our-work/guidelines-for-selection-of-sssis/

[12] https://www.blaenau-gwent.gov.uk/media/0utnyff5/sd112.pdf

[13] Welsh Government. 2022. Production of the Peatlands of Wales Map: Soil Policy Evidence Programme 2020-21. March 2022. Report code: SPEP2020-21/03.

through its National Peatlands Action Programme[14] (NPAP) which has significant targets in this regard.

3.2.42 This being the case, the presence of degraded vegetation upon peat alone is not considered to indicate an irreplaceable habitat, if there is a sufficient alternative area of degraded habitat on peat available to offset impacts, that would not otherwise receive appropriate management/conservation measures. If peat is present and supports degraded vegetation that may confidently be restored, recreated or replaced elsewhere using measures identified within the NPAP, then it is considered to be replaceable to an extent related to its level of degradation.

3.2.43 As set out in section 3.3 of this document, the habitats on peat that would be affected at Pen March are without exception considered to be degraded as a result of their past and current management history. They are therefore not considered irreplaceable when following the step-wise approach.

Blanket Bog

3.2.44 Blanket bog is also not clearly defined within PPW Edition 12. Annex 1 blanket bog habitat is defined by the JNCC[15] as follows:

"*These extensive peatlands have formed in areas where there is a climate of high rainfall and a low level of evapotranspiration, allowing peat to develop not only in wet hollows but over large expanses of undulating ground.*

The blanketing of the ground with a variable depth of peat gives the habitat type its name and results in the various morphological types according to their topographical position, e.g. saddle mires, watershed mires, valleyside mires…

The most abundant NVC [National Vegetation Classification] blanket bog types are:

M17 Scirpus cespitosus – Eriophorum vaginatum blanket mire

M18 Erica tetralix – Sphagnum papillosum raised and blanket mire

M19 Calluna vulgaris – Eriophorum vaginatum blanket mire

M20 Eriophorum vaginatum blanket and raised mire

M25 Molinia caerulea – Potentilla erecta mire.

M15 Scirpus cespitosus – Erica tetralix wet heath may also occur on blanket peat, but stands of Scirpus – Erica wet heath on shallower peats (<0.5 m depth) are generally referable to Annex I type H4010 Northern Atlantic wet heaths with Erica tetralix."

[14] https://naturalresources.wales/evidence-and-data/maps/the-national-peatland-action-programme/?lang=en
[15] https://sac.jncc.gov.uk/habitat/H7130/

3.2.45 The Section 7 priority habitat description is slightly different[16] to that used by the JNCC, the key points of difference being:

"*The term blanket 'bog' strictly applies only to that portion of a blanket 'mire' which is exclusively rain-fed. However, for the purposes of this plan [the UK Biodiversity Action Plan] the terms 'bog' and 'mire' will be regarded as more or less synonymous…*

The principal vegetation (NVC) types covered by this plan are M1, M2, M3, M15, M17, M18, M19, M20 and M25, together with their intermediates."

3.2.46 The UKHab v2.0[17] definition of blanket bog, used by Defra/Natural England for the purpose of biodiversity assessment is:

"*Blanket bogs are characterised by the presence of a deep peat deposit, formed from bog-mosses Sphagnum spp. and other peat-forming species which is draped across large expanses of the landscape like a blanket. All but the steepest slopes are waterlogged.*

Blanket bogs are rain-fed (ombrotrophic) and broadly convex, meaning the at-surface flow lines diverge downslope from the crown of the bog unit."

3.2.47 The UKHab v2.0 definition specifically excludes upland fens, flushes and swamps which are fed by groundwater.

3.2.48 For the purpose of this assessment, the potential presence of blanket bog at Pen March (or anywhere in Wales) is therefore considered possible in areas with 40 cm or more depth of peat (i.e. deep peat as defined by NRW), supporting one of the above listed NVC types (noting these are not exclusive to blanket bog), and being rainwater fed.

3.2.49 A limited number of relatively small and discrete areas of blanket bog have been identified within 100 m of the Proposed Scheme footprint. One occurs close to the northern boundary of the Pen March application Site, at Pwll Mere, where the NVC community M20a forms a significant component of the vegetation. This area can be identified by Target Notes 84a and 84b in Figure 7-2.6 and by the areas mapped as M20 in Figure 7-2.13 in ES Technical Appendix 7.2: Habitat Survey Report.

3.2.50 Further areas of NVC communities M20, M15 and M25 on peat over 40 cm depth occur within 100 m of the Proposed Scheme footprint towards the centre of the site and elsewhere in mosaic. These are identified by Target Notes 52-53, 100 – 102, 129, 140 in Figures 7-2.2 to 7-2.6 in ES Technical Appendix 7.2 Habitat Survey Report. These areas also correspond to parts of the areas mapped as mosaics in which M15 is a component in Figures 7-2.10 – 7-2.13 in ES Technical Appendix 7.2 Habitat Survey Report.

3.2.51 Returning to the issue of irreplaceability of the blanket bog habitat at these locations, the arguments presented in the peatland section above also apply here. NVC M20a is an NVC type

[16] https://data.jncc.gov.uk/data/aadfff3d-9a67-467a-ac65-45285e123607/UKBAP-BAPHabitats-03-BlanketBog.pdf

[17] UKHab Ltd (2023). UK Habitat Classification Version 2.0 (at https://www.ukhab.org)

that is defined by its degraded status, typically deriving from NVC M17 as a result of excessive burning and/or grazing. At Pen March, NVC communities M15 and M25 on deep peat are also considered likely to have derived from NVC community M17 for the same reason. The degraded vegetation may confidently be restored, recreated or replaced on deep peat elsewhere (that would not otherwise be the subject of conservation effort or appropriate management) using measures identified within the NRW NPAP, and as such is considered to be replaceable to an extent related to its level of degradation.

3.3 Response to NRW Comments on Section 7 Listed Habitats and Peatlands

3.3.1 The PEDW letter of 20th December 2023 states: "*NRW have provided comments on Section 7 listed habitats, peatlands and groundwater impacts… Given that these representations raise significant concerns, the applicant is invited to provide a rebuttal and consider the step-wise approach set out in the updated Chapter 6 of PPW, referred above*."

3.3.2 Responses to comments from NRW regarding Section 7 habitats and peatlands are provided below. Responses to NRW comments regarding groundwater impacts are addressed separately in Section 3.5.

3.3.3 In its consultation response letter dated 24th November 2023 NRW makes a number of statements which are quoted verbatim below in ***bold italics*** (note that no paragraph numbers were used in the NRW response). A response to each statement is provided immediately afterward, providing a justified rebuttal.

"*Several habitats published under Section 7 of the Environment (Wales) Act 2016 – which are of principal importance to Wales – have been identified within the application site boundary, including dry heath, wet heath, wet modified bog, fen-basin mire, and acid flush. The habitat survey report (Technical Appendix 7.2) describes these habitats as 'highly degraded'. However, this statement somewhat downplays the quality of this habitat, and this should not diminish their importance at a national level.*"

Wet Heath and Wet Modified Bog

3.3.4 The Habitat Survey Report (ES Technical Appendix 7.2) describes areas of wet heath and wet modified bog at the Site as degraded or heavily degraded and the evaluation of their importance within ES Chapter 7, i.e. being important at a county level, rather than a national level, was made on that basis. This assessment was based on the presence of key characteristics, plant species and knowledge of management history. Further information to support this assessment is provided below.

3.3.5 Section 3.3.1 of the Habitat Survey Report (ES Technical Appendix 7.2) describes areas of mosaic habitat comprising marshy grassland, wet heath and flush, including areas where "*deergrass shares dominance with purple moor grass, usually with cross-leaved heath also present, and in the absence of significant amounts of Sphagnum moss"*, as degraded wet heath (where the peat is less than 50 cm deep) and degraded bog (where peat is more than 50 cm

deep). The use of 50 cm peat depth to determine habitat type is consistent with the Phase 1 habitat survey methodology used[18].

3.3.6 Section 3.4.1 of the Habitat Survey Report (ES Technical Appendix 7.2) provides a more detailed rationale for the definition of habitat condition as degraded in areas within 100 m of the proposed infrastructure. It states:

"*The effect of fire and grazing on the hill is pronounced. Large parts of the summit now support a short sward dominated by deergrass, with young bilberry sometimes sharing dominance, and wavy hair grass and purple moor grass also constant. Heather is almost absent, and where present was recorded as pioneer or building phase, never mature. Cross-leaved heath remains occasional across the whole hill (a species that is reasonably unpalatable to stock), more abundant in the wetter locations but never a significant component of the sward. Small amounts of crowberry (also not favoured by stock) are also present at the summit, but it too is young and short.*

Purple moor grass is present across the entire area, though its density and dominance varies depending on the topography, fire history and grazing. Large tussocks are most commonly present at the summit [the Pwll Mere plateau referred to below], sharing dominance with hare's tail cotton-grass and with minimal other species present, where it is presumed peat is deepest and the effects of fire and grazing more limited."

3.3.7 Section 3.4.3 of the Habitat Survey Report (ES Technical Appendix 7.2) details that the NVC type M20 is degraded and M17 is heavily degraded, lacking in Sphagnum mosses. The description provided states:

"The wet modified bog recorded at the summit of the Pwll Mere plateau (TN84a and 84b) was dominated by hare's tail cotton grass and thus most closely matches the M20 Hare's tail cotton grass blanket and raised mire community description. Areas of similar habitat, where cotton grass (Eriophorum sp.) is present with deergrass, purple moor grass and small amounts of cross-leaved heath, the mire habitats may have historically been M17 blanket mire but are now not a good match for the community description due to the lack of Sphagnum mosses and other peat building bog mosses. A similar, but even more degraded area with less hare's tails cotton grass also occurs between TN101 and 102."

3.3.8 In Table 4.1 in the Habitat Survey Report (ES Technical Appendix 7.2) the wet heath (best described by NVC community M15) and wet modified bog (NVC communities M20, M17 and M25) at the Site are both described as "*heavily degraded and modified as a result of grazing and fire and in very poor condition"*.

[18] Joint Nature Conservation Committee (JNCC). (2010). Handbook for Phase 1 Habitat Survey. A technique for environmental audit. Revised re-print. JNCC, Peterborough.

3.3.9 For NVC type M20, degradation is a defining feature of the habitat type; Rodwell, in the volume of the NVC relating to mires and heaths[19] states that: "*The Eriophorum* [cotton grass] *mire* [NVC M20] *is characteristic of ombrogenous peats on bogs where certain kinds of treatment have become of over-riding importance in determining the nature of the vegetation: long continued and heavy grazing, together with burning have been of especial significance in its development but draining and aerial pollution have also played a part."*

3.3.10 Averis et al., within their guide to British upland vegetation[20] repeat this view stating: "*This vegetation is produced and maintained by injudicious management; injudicious because the end result of intensive grazing and repeated burning is an unproductive and unpalatable sward that is of little use to grazing animals*". It goes on to state that this mire type is "*generally less valuable for nature conservation than the stands of less modified and impoverished blanket bog from which they have derived.*"

3.3.11 In respect of NVC community M25, Rodwell notes that it is a community of "*moist but well aerated, acid to neutral, peats and peaty mineral soils*." He goes on to state: *"treatments, particularly burning and grazing, have probably affected many stands and contributed to the general abundance of Molinia [purple moor-grass] in the community, especially where it extends on to less typical habitats*". Averis et al confirm this view, stating: "*Molinia-Potentilla mire [M25] is a grassland of shallow wet peats on concave slopes, peaty mineral soils and wet gleyed muds*". They also state: "*Frequent burning and grazing can convert wet heath and blanket bog to Molinia-Potentilla mire, especially when these treatments are combined with artificial drainage*".

3.3.12 For these reasons, where M25 vegetation is located on deep peat, it is considered to be a degraded form of wet heath or mire, and at Pen March is likely to have derived from NVC Type M17 (described below).

3.3.13 NVC M17 is an ombrogenous mire community, of level ground or gentle slopes and due to its global rarity is one of the most important types of upland vegetation[20]. It is not present at Pen March (it was not recorded by SLR or by the NRW NVC surveys in 2003), but was mentioned in the Habitat Survey Report (ES Technical Appendix 7.2) as it is likely to be the mire vegetation which preceded that present today. The rationale for this conclusion is that for NVC type M17, Averis *et al.* confirm that where grazing and burning have suppressed the dwarf shrubs, M17 can resemble M20 or M25. This is echoed in a CCW upland survey report from 2003[21], which includes the site and is the source of the NVC mapping presented in Figure 7-2.8-14 in the Habitat Survey Report, which states that the purple moor-grass dominated vegetation (i.e. M25) on slopes overlooking Pontsticill Reservoir (north-west of the application site) appear to have "*developed from a pre-existing Eriophorum vaginatum* [hare's tail cotton grass] *cover,* [i.e. likely NVC M17] *as the Molinia* [purple moor-grass] *stools appear to originate from Eriophorum stools*

[19] Rodwell JS, ed. 1998. British Plant Communities Volume 2: Mires and Heaths. Cambridge University Press, Cambridge,

[20] Averis, A., Averis, B., Bikrs, J., Horsfield, D., Thompson, D., and Yeo, M (2004) An Illustrated Guide to British Upland Vegetation

[21] Gray, David. 2003. "NVC Survey of Mynydd Llangatwg & Mynydd Llangynidr." 605. CCW Contract Science Report

that have disintegrated to peat and only later been subsumed by Molinia". The CCW survey report also notes that areas of M20 at the Mynydd Llandgynidr survey site (which includes the Pen March site, as well as the Mynydd Llandgynidr SSSI) had been recently burned, though it is not clear exactly where.

3.3.14 Averis et al. go on to state that it can take M17 mires "*25 years to recover from a fire, and more frequent burning can impoverish the vegetation and dry out the surface of the peat. Trichophorum [deergrass] and Molinia [purple moor-grass] are able to flourish under these conditions, being relatively resilient to burning, and the vegetation may change to wet heath, especially when the vegetation is also grazed*". This last statement is highly relevant to the vegetation that now comprises the bulk of the wet modified bog and wet heath at Pen March.

3.3.15 JNCC Common Standards Monitoring (CSM) Guidance for Upland Habitats[22] provides guidance to determine the condition of notified features of designated sites. Section 14.6 of the CSM guidance relates to blanket bog and valley bog (uplands) and states that "*the above communities* [blanket bog and valley bog] *can be influenced by management, notably burning and grazing, leading to degradation*". It goes on to list key attributes for this habitat type to be regarded as in favourable condition, which include (but are not limited to) the requirement for six of the specified indicator species to be present (the list excludes purple moor-grass) and for at least 50% of the vegetation cover to comprise indicator species. In addition, the indicator species hare's tail cotton grass, Ericaceous species or deergrass should not individually exceed 75% of the vegetation cover. Although a specific CSM assessment wasn't undertaken as part of the habitat survey[23], based on the vegetation characteristics recorded, it is highly unlikely that these attributes would be met in any of the areas defined as wet modified bog at the site, indicating that the condition is unfavourable.

3.3.16 Section 14.27 of the CSM Guidance relates to wet heath. Key attributes for this habitat type include (but are not limited to) the requirement for at least 50% of the vegetation cover to comprise the specified indicator species (which again exclude purple moor-grass), with 20% being ericoid species and not more than 10% soft rush. The indicator species hare's tail cotton grass, Ericaceous species or deergrass should not individually exceed 75% of the vegetation cover and dwarf shrubs or graminoids should not make up more than 75% of the vegetation cover. Although a specific CSM assessment wasn't undertaken as part of the habitat survey, based on the vegetation characteristics recorded, it is highly unlikely that these attributes would be met in any of the areas defined as wet heath at the site, indicating that the condition is unfavourable.

3.3.17 The points set out above all provide strong evidence that the bog habitats at the site are in poor condition (and therefore degraded). The mapping of these habitats as wet modified bog, rather than blanket bog, according to Phase 1 habitat terminology, is therefore correct: where

[22] https://data.jncc.gov.uk/data/78aaef0b-00ef-461d-ba71-cf81a8c28fe3/CSM-UplandHabitats-2009.pdf

[23] JNCC CSM guidance is aimed specifically at determining the condition of notified features of designated sites and is not generally used during baseline surveys to inform EIAs.

Sphagnum species are rare or absent but peat over 50 cm deep is present the area should be mapped as modified bog. By its very nature, this habitat cannot be considered to be in good condition since it lacks characteristic species and its structure and/or function has been compromised (i.e. peat formation cannot occur, the bog is inactive).

3.3.18 Similarly, the points set out above also provide strong evidence that wet heath habitat at the Site is in poor condition (and therefore degraded). In accordance with Phase 1 habitat terminology, where habitat similar to that mapped as wet modified bog is present over peat less than 50 cm deep it should be considered to represent wet heath. However, in most instances at the Site the heath is dominated by either purple moor grass or purple moor grass with deergrass and lacks the species and structural diversity that would be anticipated to occur were it not for its previous fire and grazing history.

3.3.19 The assessment that wet heath and modified bog habitats are in poor condition is consistent with recent assessments for similar habitats nearby; for example similar habitats at the nearby Mynydd Llangatwg SSSI are also reported to be in unfavourable or unknown condition, as reported in the NRW protected sites baseline assessment 2020[24], which states that the bog, grassland and heath habitats at Mynydd Llangtwg are in unfavourable condition.

3.3.20 This is a long-standing issue locally; the citation for Mynydd Llangatwg SSSI states "*Most of the plateau supports blanket mire although much of this is now degraded… Much of the degraded area of mire, and other soils with impeded drainage, are dominated by species poor stands of Molinia [purple moor-grass] and associated grassland communities*". The Site Management Statement also states that "*Much of the upland habitats in south Wales have been lost or modified through a combination of drainage, too frequent burning, atmospheric pollution, afforestation and high grazing levels*".

Dry Heath, Fen-Basin Mire and Acid Flush

3.3.21 The dry heath, fen-basin mire and acid flush habitats at the site are not specifically described as degraded within the Habitat Survey Report (ES Technical Appendix 7.2) or ES Chapter 7: Ecology, although paragraph 7.5.10 in the ES states that they are generally not considered good examples of their habitat type due to the negative effects of grazing and fire within the Site.

3.3.22 Dry heath, typically dominated by short bilberry *Vaccinium myrtillus* and described by NVC Type H18, regularly occurs on mineral soils/outcrops within a relatively limited western and northern part of the Site. Averis *et al.* state that these heaths occur in the "*altitudinal range of Calluna vulgaris* [heather] *in situations where Calluna has been excluded by prolonged late snow lie or by grazing*". Given its geographical location, late snow lie is not applicable to Pen March. They go on to state: "*The anthropogenic heaths of Scotland, England and Wales are generally of less interest for nature conservation. They have few rare species and are probably derived from*

[24] https://naturalresources.wales/evidence-and-data/research-and-reports/protected-sites-baseline-assessment-2020/?lang=en

Calluna-Vaccinium heath by grazing or burning". For these reasons, and as set out in the Habitat Survey Report (ES Technical Appendix 7.2), the dry heath area at Pen March may therefore have originally been derived from more heather-rich communities (i.e. NVC H12) with the heather having been lost through fire and/or grazing over the years. Nevertheless, this habitat is an Annex 1 habitat type and a Section 7 habitat type and part of the upland mosaic that encompasses all the habitats of conservation importance at the site.

3.3.23 For reference and consistency with the wet heath and modified bog habitats discussed above, the dry heath habitats have also been considered against the CSM Guidance for Upland Habitats. Although a specific CSM assessment wasn't undertaken as part of the habitat survey, based on the vegetation characteristics recorded, in many areas it is considered likely that the dry heath habitats would meet most of the targets for favourable condition for sub-alpine dry dwarf-shrub heath. However, in respect of vegetation composition and structure, in the densest driest stands it is possible that the requirement for at least one species of moss or liverwort or non-crustose lichen to be present may be failed, and where the bilberry or heather share dominance with grasses then the requirement for 50% cover of indicator species would likely not be met. This indicates that the condition of the habitat is variable across the Site.

3.3.24 The fen basin-mire comprises the small pool at Pwll Mere referred to above (shown by Target Note 85 in Figure 7-2.6 in the Habitat Survey Report, ES Technical Appendix 7.2), and as such is an integral part of the surrounding wet modified bog vegetation. It supports NVC M4 vegetation, and its presentation at Pen March is typical; it occurs on wet peat where there is some lateral water movement or in hollows with stagnant water. It will not be directly affected by the Proposed Scheme, although the proposed access track between T2 and T1 passes c15m south/ downslope from it.

3.3.25 The acid flush vegetation at the site generally comprises NVC types M6 and M23, in mosaic with the other upland habitats recorded at the Site. Where these vegetation types occur on deep peat (>40 cm) and shallower slopes, they have been recorded as wet modified bog using Phase 1 terminology. It is noted that neither of these NVC types fall within the any of the published definitions of blanket bog given above, nor are they an Annex 1 habitat type. They are however a Section 7 habitat type (Upland Flushes, Fens and Swamp) and part of the upland mosaic that encompasses all the habitats of conservation importance at the Site.

3.3.26 For reference and consistency with the wet heath and modified bog habitats discussed above, the fen basin-mire and flush habitats have also been considered against the CSM Guidance for Upland Habitats. Although a specific CSM assessment wasn't undertaken as part of the habitat survey, based on the vegetation characteristics recorded, in most areas it is considered likely that these habitats would meet the vegetation composition and structure targets, but would fail the final mandatory attributes related to physical structure. Those require that (1) less than 10% of the total feature area should show signs of active drainage, resulting from ditches or heavy trampling or tracking. And that (2) less than 10% of the ground cover should be disturbed bare ground. In most areas it is thought that one or both these targets would not be reached and the physical structure attribute would be failed. This indicates that their condition is likely to be regarded as unfavourable.

Section 7 Habitats (Summary)

3.3.27 Due to their being recorded in a complex mosaic with one another, the Section 7 habitats at Pen March were evaluated together in the ES, rather than by individual habitat type. Table 7.7 in ES Chapter 7: Ecology concludes that the habitats are of value at a county level (i.e. Caerphilly County Borough and/or Merthyr Tydfil County Borough). This reflects their location within non-statutory SINC designations, inferring importance at a county level, whilst also taking into consideration their degraded nature. NRW's response indicates that they consider the habitats at the application site to be important at a national level. For the habitat types recorded at the site to be considered nationally important they would need to meet a number of criteria, one of which is that they should be in good or favourable condition. Given the evidence set out above, which shows the modified bog and wet heath habitats that cover much of the site are degraded and in unfavourable or poor condition, the evaluation presented in the ES (i.e. county level importance) is considered to be appropriate.

"In addition, the applicant's recent habitat survey confirms that some habitat recovery has taken place. This is likely due to reduced grazing pressures on the common and less frequent fires."

3.3.28 Habitat recovery is mentioned twice within the Habitat Survey Report, as follows:

In section 2.3: "*a large grass fire was reported within the survey area in Spring 2020, after the initial Phase 1 survey had been completed. As the habitat survey has been completed in stages (with surveys completed both before and after the fire), the fire has resulted in changes to the habitat classifications in some areas. As these habitats recover from the fire, the dominant vegetation is likely to be subject to a degree of ongoing change and this in turn may result in some changes to the classifications of the habitats present.*"

In Target Note 69 at Appendix 01: Area of deergrass dominated vegetation with continual presence of wavy hair grass and purple moor grass in the sward too. Common cottongrass is present but occasional, along with heath milkwort Polygala serpyllifolia, tormentil and bilberry. No sphagnum is present. It is likely that this area was affected in the fire in spring 2020 and the deergrass has dominated the vegetation at this stage in the habitat's recovery."

3.3.29 NRW's comment suggests that the habitat survey results provide evidence of long-term recovery of habitat condition within the Site. This is not the case. The references to recovery in the Habitat Survey Report relate only to the area that was directly affected by fire in 2020, and are used to describe a short-term process of recovery, in the months immediately following the fire. Target Note 69 indicates that deergrass is the primary species to have dominated following the fire. Due to its resilience to grazing and fire pressures, the dominance of deergrass in is not unexpected and it would seem likely that deergrass was the species present with physical characteristics most able to regenerate quickly after fire and to withstand grazing pressure thereafter. The dominance of deergrass does not indicate a habitat in which condition is improving (CSM criteria require that deergrass must not exceed 75% of the vegetation cover).

3.3.30 The habitat survey provides no evidence of longer term recovery of habitats within the Site and NRW provide no evidence to support this assertion. Indeed, Section 3.4.1 of the Habitat Survey Report notes that descriptions of the vegetation made during the surveys undertaken as part of the EIA broadly accord with the NVC types recorded previously at the site by NRW in 2003

(reproduced in Figures 7-2.8-14 of the Habitat Survey Report). The similarity between the survey reported in the Habitat Survey Report and the 2003 NRW survey data suggests that there have been no major changes to the habitats present at the site over recent years.

"Therefore, it is our view the application site has a large area of good quality upland habitat mostly consisting of mire communities with deep peat."

3.3.31 It is agreed that the Site contains a large area of upland habitat. The extent of each habitat type present at the application site is reported in ES Chapter 7: Ecology, Table 7.6. This shows that the majority of the Site comprises upland habitats including (but not limited to) marshy grassland, acid flush, wet heath and wet modified bog with a combined area of at least 364.62 ha.

3.3.32 However, NRW provides no clear rationale or justification for its statement in relation to habitat quality and for the reasons discussed above, our assessment is that the upland habitats that cover much of the site are degraded and in unfavourable or poor condition.

"As advised in our Statutory Pre-application consultation response, large areas of hardstanding adjacent to or within peat can cause increased erosion of the retained peat around it. We advised the applicant to seek to avoid all impacts on areas classed as deep peat (which is 0.4m and above), specifically locating turbines and tracks away from those areas of deep peat. The Outline Peat Management Plan states an estimated total volume of peat excavated during the construction will be 19,318m^3, noting that this amount could be reused within the application site.

In terms of peatland habitat, there appears to be discrepancies in the submission documents. Although the Outline Peat Management Plan (paragraphs 2.40 and 2.41) states 'no areas of blanket peat are present within or adjacent to the Site' and 'most of the site has no peat, or peaty soils under 0.5m in thickness' these statements conflict with the applicant's peat depth mapping (Technical Appendix 6.1) and the habitat survey report which suggests peat is over 0.5m deep across parts of the application site, including significant areas proposed for infrastructure."

3.3.33 A site visit by us in October 2023 confirmed multiple areas of deep peat within the application site (often associated with acid flush vegetation) and found significant areas of blanket bog to be present at the site which is Section 7 habitat.

3.3.34 The presence of deep peat (as defined by NRW, i.e. > 40 cm) and acid flush vegetation is consistent with the Habitat Survey Report (ES Technical Appendix 7.2) and peat depth survey information presented in ES Technical Appendix 6.1: Peat Slide Risk Assessment. However, as discussed in paragraph 3.2.49 – 3.2.50 above, areas meeting the definition of blanket bog within the Site are relatively small and disparate. Instead, the habitat survey indicates that most of the Site represents a mosaic of upland habitats, dominated by wet heath, wet modified bog and acid flush, rather than blanket bog.

3.3.35 The peat depth mapping provided in ES Technical Appendix 6.1, Figure 6.1.3 does indeed indicate that parts of the Site have peat 0.5 m or deeper and that some of these areas are extensive. However, it is also clear that the infrastructure has been carefully located around these areas wherever possible. Areas where incursion into peat deeper than 0.5 m have been proposed are either where peat forms small, isolated pockets or at the very margins of larger

peaty areas. In all cases, the incursions are necessitated by engineering restrictions or other environmental constraints.

3.3.36 There is no discrepancy between the statement that most of the Site has no peat, or peaty soils under 0.5 m in thickness and the peat and soil depth data shown on ES Technical Appendix 6.1 Figure 6.1.3. In our view, the Figure supports this observation.

"As such, we advise the step-wise approach set out in Chapter 6 of PPW (October 2023) should be followed. The step-wise approach has been updated since the applicant carried out their statutory pre-application consultation on the proposal. Step 1b of the approach states habitats which are irreplaceable must be safeguarded, noting that peatland and blanket bog are both examples referenced in PPW of such habitat.

In addition to the step-wise approach, the updated PPW introduces a new paragraph on peatland which states 'where peat is identified within proposed developments considerable weight should be given to its protection because of its special importance in underpinning and supporting national natural resources such as soil carbon, biodiversity and flood management'."

3.3.37 A GI Statement has been retrospectively prepared and is attached at **Appendix 3**. This sets out how the step-wise approach has effectively been followed during the design of the Proposed Scheme, as described in Chapter 2 of the ES.

3.3.38 The Applicant recognises the special importance of peat for its carbon storage and carbon sink potential, and for support of biodiversity and mitigating flood risk. The peat presence within the Site therefore formed one of the principal considerations underpinning the evolution of the infrastructure design. A major restrictor is engineering requirements, which if not followed can lead to a project being consented but which is not buildable. This is known to have occurred in other projects where peat and environmental considerations were allowed to override buildability. With this in mind, and within the constraints provided by the engineering requirements and other environmental concerns, including those relating to ecology and ornithology, the submitted layout provides the best practicable option and minimises incursion into areas of deep peat.

3.3.39 Methods to prevent or minimise desiccation and erosion of retained peat bodies are well established. These involve a mix of careful provision of drainage infrastructure, to ensure that hydrological continuity is maintained in as near-natural a state as possible, and through the use of infiltration trenches and similar sustainable drainage systems (SuDS). These SuDS will enable surface runoff from turbine foundations and hardstanding areas to be captured and released slowly into the ground, and the adjacent peat bodies, helping to maintain the high water level required in a healthy peat system.

3.3.40 Although some impacts on peat soils and peatland habitats are unavoidable, we do not agree with NRW's position that these degraded habitats are irreplaceable (see paragraphs 3.2.34 – 3.2.51. We also note that the step-wise approach includes further steps, after Step 1b (Avoidance of statutory designated sites), Step 2 – Minimise, Step 3 – Mitigate/ Restore and Step 4 – Compensate. Where avoidance has not been possible, Steps 2-4 have been followed in the design of the Proposed Scheme (as set out in the GI Statement in **Appendix 3**).

3.4 LQAS Comments on Peat and Soils

3.4.1 The PEDW letter of 20th December 2023 states: "… *Further concerns have been raised by Welsh Government (LQAS – submitted by Head of Soil, Peatland and Agricultural Land Use Planning) regarding: 1) an alleged unacceptable adverse impact on the environment through a net loss of peat resource; and 2) unacceptable provisions for the conservation and protection of peat, with a lack of detail for the effective site restoration of mineral soils. Given that these representations raise significant concerns, the applicant is invited to provide a rebuttal and consider the stepwise approach set out in the updated Chapter 6 of PPW, referred above*."

3.4.2 In its consultation response letter dated 24th November 2023 LQAS make twelve numbered points of objection. These are quoted verbatim in **Table 3-1** and a response to each statement is provided. Note that references to paragraph numbers in the LQAS points of objection refer to paragraph numbers included in the annex provided with the 'Dear Chief Planning Officers Letter' in October 2023 and some of these may have changed within the new PPW Edition 12.

Table 3-1: Response to LQAS Comments

LQAS Comment	Applicant Response
1. *The proposal is contrary to Policy 17 of Future Wales, Renewable and Low Carbon Energy and Associated Infrastructure. The proposals will have an unacceptable adverse impact on the environment and represents a net loss of the peat resource.*	Within a Welsh context, the Proposed Scheme is considered to have a significant adverse effect on peat, as a result of the relative scarcity of peat in Wales. In order to mitigate and compensate for this, Technical Appendix 6.2 (Outline Peat Management Plan) to the ES sets out a series of commitments by the Applicant in terms of peat excavation, peat handling and storage, and peat reinstatement. These commitments represent current best practice for work of this kind and take advantage of tested and proven handling and reinstatement techniques that have been used extensively in other similar projects in the UK. Effective handling, storage and reinstatement of excavated peat would mean that there is no net loss of peat directly within the project area as all excavated peat would be effectively reused within the project area to reinstate the project infrastructure margins. Results from peat coring undertaken within the Site (reported in ES Technical Appendix 6.1, Peat Slide Risk Assessment) indicates that peat soils and peat have low moisture content and are in a poor or degraded condition. No bog mosses (Sphagnum spp) were identified at coring locations. Core samples indicated that the carbon-rich soils were mainly shallower than identified by probing, largely as a result of the underlying soft clay sediment. It is therefore likely that peat depths have been over-estimated at least in parts of the site. There would be some localised loss of peat stratigraphy in excavated peat material, as it is not usually possible to extract the entire peat section intact. However, there are larger areas of peat within and adjacent to the Site where the peat would remain fully undisturbed. Should any requirement for peat stratigraphical data be identified in the future, this work could be targeted at one or more of these areas of deeper peat where the record would be longer and therefore more valuable to research interests. This is not therefore considered to be a significant loss of information. The Applicant does not consider that the significant impact on peat and the proposed mitigation is unacceptable but this is a matter for the Welsh Ministers when they consider the impacts and benefits of the Proposed Scheme as a whole.
2. *The proposal is contrary to Policy 18(11) of Future Wales, which sets out the provision for effective restoration. The Department does not consider acceptable provisions for the conservation and protection of peat can be achieved, and the proposal lacks detail for the effective site restoration of mineral soils.*	Peat reuse and restoration proposals make use of tested and proven peat reuse and restoration techniques that have been used successfully in other peatland areas, including areas focusing on peatland restoration as the main outcome as well as areas where peatland restoration is required for compensation and biodiversity net gain for developments in peatland areas. LQAS' position is not therefore supported by practical experience in this area, including experience from NRW in their peatland restoration projects within Wales.

LQAS Comment	Applicant Response
	With regard to mineral soils, these are much less sensitive to excavation, handling and storage than peat soils. Some localised loss of soil stratigraphy would occur as a result of excavation, but as with peat there would be undisturbed areas nearby with a complete stratigraphic profile should these be needed in future. Mineral soils would be excavated, handled, stored and reinstated in line with best practice methods. No overall loss of soil would result from the proposals. Soil that has undergone compaction in areas of high trafficking would be ripped and routed, in line with best practice, when the construction period finishes and temporary surfacing is removed.
3. *Policy 9 of Future Wales, highlights soil carbon, biodiversity hotspots / networks, natural flood management and upland habitats as 'national natural resources'. These national natural resources exist as a direct result of the presence of peat soils. Peat soils are extremely fragile. The proposal risks compromising the long-term integrity of the peat resource and as such puts at risk the resilience of the multiple ecosystems which peat support. This is further recognised under the revision to Chapter 6 of PPW through the step-wise approach, and in the new Peatlands paragraph in 6.4.20 (as per Objections 9 and 10 below). The Department considers that peatlands function as an ecosystem, and arbitrary depth thresholds do not consider shallow peaty soils that are integral to the hydrological functioning of wider peat bodies.*	Policy 9 of Future Wales relates to Resilient Ecological Networks and Green Infrastructure. The Proposed Scheme's contribution towards ecosystem resilience is set out in paragraphs 3.2.12 – 3.2.23 of this document. A GI Statement has retrospectively been prepared and is attached at **Appendix 3**. This sets out how the step-wise approach has effectively been followed during the design of the Proposed Scheme, as described in Chapter 2 of the ES. As set out in paragraphs 3.3.4 – 3.3.27 of this document, the habitats on peat that would be affected at Pen March are without exception considered to be degraded as a result of their past and current management history. They are therefore not considered irreplaceable when following the step-wise approach. The use of arbitrary depth thresholds, in combination with soil carbon content, to define 'peat' is a convention widely used internationally although with regional variations in depth cut-off. While we appreciate LQAS' point regarding the importance of shallower peaty soils as part of the wider ecosystem and hydrology, it is also important that we make use of the definitions recognised in Wales for what constitutes peat as opposed to peaty soil. Although we have used the depth value of 0.4 m, this does not mean that shallower peaty soils are not considered to have a value in terms of biodiversity, habitats and hydrology. In terms of hydrological function, any development within any site will disrupt hydrological continuity and flow pathways. Measures to manage this on the Site through careful use of cross-drains and appropriate SuDS have been provided in Technical Appendix 6.3 (Flood Consequence Assessment (FCA)) to the ES and a detailed drainage design will be provided post-consent. It should also be noted that the drainage regime at the Site is far from natural as a result of the extensive modifications introduced by the Dowlais Free Drainage System and more recently excavated ditches and channels to try and drain the land for grazing. We believe that the long-term integrity of the peat resource and the ecosystems supported by the peat and peaty soils can be conserved by careful construction practice and implementation of tried and tested construction methods, as

LQAS Comment	Applicant Response
	demonstrated in various locations across the UK, and that LQAS' position is not supported by widespread practical experience in Wales and the wider UK.
4. *The proposal is contrary to Paragraph 6.4.3 of Planning Policy Wales. By developing peat, the proposal compromises the resilience of ecological networks (bullet 4 of Paragraph 6.4.3 includes peat). Development proposals must consider the need to (bullet 4) safeguard protected species and species of principal importance and existing biodiversity assets from direct, indirect or cumulative adverse impacts that affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water, air and soil, including peat. As Policy 9 of Future Wales highlights, peat is the critical component underpinning these networks.*	As highlighted above, the Proposed Scheme's contribution towards ecosystem resilience is set out in paragraphs 3.2.12 – 3.2.23 of this document. Paragraphs 3.2.24 to 3.2.25 of this document go on to conclude that following the implementation of the measures set out in the OHMP (ES Technical Appendix 7.6) a net benefit for biodiversity will be achieved within the lifespan of the scheme. The Proposed Scheme is therefore not contrary to paragraph 6.4.3 of PPW.
5. *The proposal is contrary to the principles of Distinctive and Natural Trends. The proposal contributes to:* *a. Long-term peatland habitat loss.* *b. Negative adaptation response (the importance of which is further recognised in PPW, Paragraph 6.2.10).*	As highlighted in paragraph 3.2.25 of this document the Proposed Scheme will result in the permanent and temporary loss of 25.95 ha of degraded habitat. This is assessed in ES Chapter 7: Ecology as a significant negative effect at the county level. However, as set out in paragraphs 3.2.15 to 3.2.25 of this document, the implementation of the measures set out in the OHMP (ES Technical Appendix 7.6) are of a significant magnitude to fully compensate for any loss (and provide substantial biodiversity enhancement), with restoration and management activities proposed over an area of 171.9 ha in total. Paragraph 6.2.8 of PPW Edition 12 (paragraph 6.2.10 in the October 2023 version, as referenced by LQAS) states that "*planning authorities firstly must ensure that development avoids and then minimises impact on biodiversity and ecosystems and secondly that it provides opportunities for enhancement within areas identified as important for the ability of species to adapt and/or to move to more suitable habitats*." Details of how the step-wise approach has been followed during the design of the Proposed Scheme are provided in the GI Statement (**Appendix 3**). This describes how impact on biodiversity is avoided/ minimised as far as possible. It also references proposed mitigation and compensation measures, as set in the OHMP (ES Technical Appendix 7.6). Paragraphs 3.2.15 to 3.2.23 of this document provide further detail relating to the OHMP and describe how the proposals set out in the OHMP link to the existing green infrastructure, helping to link together and to expand important species populations (such as curlew) and important habitat types (such as mire and heath). In so doing, greater ecosystem resilience is achieved.
6. *The proposal is contrary to the principles of Distinctive and Natural Linkages due to the disturbance, degradation and inappropriate reuse proposals of peat soils. Desired Distinctive and Natural outcomes will be based on sustaining and creating places in which:* *a. opportunities in all areas to improve the resilience of ecosystems are taken by addressing problems such as, building on floodplains, diffuse pollution, soil*	With relation to flood mitigation, ES Technical Appendix 6.3 (FCA) sets out a range of measures to ensure that runoff from the Site is, at worst, no greater than it is at present under greenfield conditions. Use of a range of SuDS options as suitable for different parts of the Site would enable runoff to be better controlled than at present, thereby reducing downstream flood risk as related to the Site itself.

LQAS Comment	Applicant Response
compaction and sealing, ensuring the protection of peat resources and improving approaches to coastal flood defence in urban areas and coastal margins (Bullet point 5. Emphasis added). *b. opportunities to improve health and well-being are taken, in particular, to reduce average levels of airborne pollution, protect appropriate soundscapes, create areas of tranquillity, secure sustainable drainage systems, ensure water sensitive design, address soil carbon management and secure access to informal spaces for recreation through green infrastructure provision so as to improve capacity for adaptability to the challenges of climate change, such as flood risk and increased temperatures (Bullet point 6. Emphasis added linking with carbon reference in Chapter 6 Peatlands New Paragraph, page 19).*	ES Technical Appendix 6.2 (OPMP) sets out proposals for peatland restoration in adjoining land, which will act to protect soils and create carbon sinks to the benefit of the wider area. Careful reinstatement of soils and peat, in line with the principles set out in ES Technical Appendix 6.2, will act to preserve the soil resource currently within the Site.
7. *The proposal does not meet the Green Infrastructure Statement requirements (New Paragraph page 7). See Objection point 9, the proposal is not compliant with the step-wise approach (Paragraph 6.4.21).*	A GI Statement has been retrospectively prepared and is attached at **Appendix 3**. This sets out how the step-wise approach has effectively been followed during the design of the Proposed Scheme, as described in Chapter 2 of the ES.
8. *The requirements of the Step-Wise Approach have not been met regarding irreplaceable habitats. The following Figures demonstrate overlap between turbines, compound, tracks, passing places, cables, and associated infrastructure such as battery storage and irreplaceable habitats:* *2023-07-31 – ES – Pen March ES Vol4 Ch6 TA6.1 Fig 6-1.3a Peat Depth Mapping* *2023-07-31 – ES – Pen March ES Vol4 Ch6 TA6.1 Fig 6-1.3b Peat Depth Mapping* *2023-07-31 – ES – Pen March ES Vol4 Ch7 TA7.2 Habitat Survey Report Fig 7-2.1 – 7-2.14: Habitat Survey Results* *2023-07-31 – ES – Pen March ES Vol4 Ch7 TA7.2 Habitat Survey Report Table 4-1 Habitats of Conservation Importance occurring within the Survey Area* *Table 2-5: Summary of estimated peat excavation volumes and Table 2-6: 'Estimated soil and peat volumes for different reuse options' (Ref: 2023-07-31 – ES – Pen March ES_Vol4_Ch6_TA6.2 Outline Peat Management Plan) implies contradictory excavation and reuse volumes which further highlights the impact on the peat resource and the regard given to its protection. The Department regards reuse of peat as per Table 2-6: 'Estimated soil and peat volumes for different reuse options' (Ref: 2023-07-31 - ES - Pen March ES_Vol4_Ch6_TA6.2 Outline Peat Management Plan) as inappropriate and a permanent loss of the peat resource.* *Planning Policy Wales is clear, as a matter of principle, the proposal is unacceptable; it would be wholly exceptional for development to be justifiable.*	Details of how the step-wise approach has effectively been followed during the design of the Proposed Scheme are provided in the GI Statement (**Appendix 3**). To address point a); Alternative sites were considered by the Applicant in line with the standard procedures for identifying potential wind farm sites which are: review of the current and emerging planning policy; review of geographical information system constraints, including analysis of wind speed data; and a review of suitable site access points and related transportation issues, refer to ES Chapter 2: Site Selection and Design Evolution. Within the site, the design has changed and evolved significantly during the EIA process. This reflects the identification of environmental constraints through the desktop and field survey processes and associated engineering concerns. Multiple stages of re-design were undertaken in order to minimise harm to the environment. The design evolution is set out in ES Chapter 2: Site Selection and Design Evolution. To address point b): As set out in paragraphs 3.3.4 to 3.3.27 of this document, the habitats on peat that would be affected at Pen March are without exception considered to be degraded as a result of their past and current management history. They are therefore not considered irreplaceable when following the step-wise approach and on that basis the requirements of the step-wise approach have been met.

LQAS Comment	Applicant Response
a) *Part 1 a: The Department does not consider the proposal can satisfy the following statement, especially given the Part 1 b requirement; that any reasonable alternative sites (including alternative siting and design options) that would result in less harm, no harm or benefit have been fully considered.* b) *Part 1 b: Proposals in statutory designated sites are, as a matter of principle unacceptable, and therefore must be excluded from site searches undertaken by developers. This principle also extends to those sites containing protected species and habitats which are irreplaceable(8) and must be safeguarded. Such sites form the heart of resilient ecological networks and their role and the ecosystem services they provide must be protected, maintained and enhanced and safeguarded from development. It will be wholly exceptional for development to be justifiable in such instances.* *The Department views any peatland which supports habitat, whether directly or indirectly, as falling under the definition of habitats which are irreplaceable (footnote 8 Habitats, including the natural resources which underpin them, which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity).* *The proposal demonstrates peat soil resource and peatland habitat damage, loss and disturbance. Where irreplaceable habitats are not found on peat, but the damage, loss or disturbance has a negative impact on irreplaceable peatland habitats, such as through hydrological function, Part 1 b still applies given Footnote 8 on Page 13 states…including the natural resources which underpin them…* *Any peat soils not supporting irreplaceable habitat, whether directly or indirectly, would fall under Peatlands New paragraph on Page 19 where unless other significant material considerations indicate otherwise it will be necessary to refuse permission. See Objection 10.* *The presence of irreplaceable habitats has already been established by the following proposed application documents:* *2023-07-31 – ES – Pen March ES Vol4 Ch6 TA6.1 Fig 6-1.3a Peat Depth Mapping* *2023-07-31 – ES – Pen March ES Vol4 Ch6 TA6.1 Fig 6-1.3b Peat Depth Mapping* *2023-07-31 – ES – Pen March ES Vol4 Ch7 TA7.2 Habitat Survey Report Fig 7-2.1 – 7-2.14: Habitat Survey Results* *2023-07-31 – ES – Pen March ES Vol4 Ch7 TA7.2 Habitat Survey Report Table 4-1 Habitats of Conservation Importance occurring within the Survey Area*	To address point c): The use of post-consent conditions is a widely used and accepted practice within the planning system to avoid disproportionate survey and investigation requirements prior to consent. This also avoids the disruption and damage that can be caused by ground investigations in areas that are not subsequently consented for development. Well-written conditions are effective in ensuring compliance for post-consent works. As specified in response to LQAS comment number 2, peat and soil restoration measures proposed make use of tested and proven peat reuse and restoration techniques in other peatland areas in the UK, including NRW's own peatland restoration experience for projects within the National Peatland Action Plan and other peatland restoration projects within Wales. We do not agree that the figures presented in ES Technical Appendix 6.2 (OPMP) as total peat requiring excavation and total peat that could be reused in site reinstatement are contradictory. The comparison merely serves to indicate that there are more opportunities to reuse peat in practical and effective restoration that there would be peat to use, and therefore that peat reuse should be targeted to the best locations as directed by the Environmental Clerk of Works. To address point d): LQAS have provided no evidence of the other material considerations which are "clearly outweighed" meaning that the application should be refused. The Applicant refers the Inspector and Welsh Ministers to the Planning Statement and the update in Part 3 of this document for detailed consideration of the material considerations to be taken into account when determining the application. Having undertaken this exercise, the Applicant disagrees with the view of LQAS.

LQAS Comment	Applicant Response
c) *The proposal is contrary to PPW Chapter 6, Part 5. The Department views the reliance on post condition consents, inadequate restoration measures for both peats and mineral soils, as incompatible with, 'Each stage of the step-wise approach must be accompanied by a long term management plan of agreed and appropriate avoidance, minimisation, mitigation/restoration and compensation measures alongside the agreed enhancement measures'.* *In evidencing compliance with Future Wales Policy 18 (11) and PPW Chapter 6 Part 5 (above) clear and practicable restoration measures should be specified by the applicant to demonstrate effective restoration. Table 2-6 demonstrates inappropriate peat reuse for landscaping measures which will likely lead to a permanent loss of peat resource and function. Paragraph 3.3.27 demonstrates the use of topsoil and ambiguity regarding foundations and plinths means the land cannot be restored to its original condition.* d) *Given the weight and status afforded to irreplaceable habitats, the resources which underpin them and peatlands, Part 6 reinforces the Department's view that the adverse effect on biodiversity and ecosystem resilience clearly outweighs other material considerations and as such the development should be refused.*	
9. *The proposal is contrary to the Peatlands New paragraph Page 19. The policy clearly articulates the importance and fragility of peatlands both as an irreplaceable habitat and soil resource. The proposal does not address the policy requirements presented. Peatland habitats cover only 3-4% of Wales yet store in the region of 20-25% of all soil carbon. Where peat is identified within proposed developments considerable weight should be given to its protection because of its special importance in underpinning and supporting national natural resources such as soil carbon, biodiversity and flood management, and unless other significant material considerations indicate otherwise it will be necessary to refuse permission.* *The Department is unable to identify 'Pen March ES Vol3 Ch6 Fig 6-2 Soils' which maps the extent of soil on site and information of the stripping of soils and reuse on site.*	A response to paragraph 6.4.34 in PPW Edition 12 (the peatland new paragraph on page 19 in the October 2023 version, as referenced by LQAS) is set out in paragraphs 3.2.34 to 3.2.51 of this document. The protection provided by criterion 1 of the step-wise approach, as set out in PPW Edition 12, relates to irreplaceable habitats. As set out previously, the habitats on peat that would be affected at Pen March are without exception considered to be degraded as a result of their past and current management history. They are therefore not considered irreplaceable when following the step-wise approach. Pen March ES Vol 3 Ch 6 Figure 6.2 was submitted with the ES to PEDW however we understand that it was not published on the PEDW website. PEDW have confirmed that they will ensure that is made available at the same time as consultation on this document.
10. *The lack of detail regarding soils and their use is contrary to Paragraph 6.4.3 (bullet 4) of Planning Policy Wales. The proposal compromises the resilience of ecological networks by not giving proper consideration to the soil components which underpin them.*	As set out in response to LQAS comment number 2, mineral soils are much less sensitive to excavation, handling and storage than peat soils. Some localised loss of soil stratigraphy would occur as a result of excavation, but as with peat there would be undisturbed areas nearby with a complete stratigraphic profile should these be needed in future. Mineral soils would be excavated, handled, stored and reinstated in line with best practice methods. No overall loss of soil would result from the proposals. Soil that has undergone compaction in areas of high trafficking would be ripped and routed, in line with best practice, when the construction period finishes and temporary surfacing is removed.

LQAS Comment	Applicant Response
11. *The proposal is contrary to the objective of a Resilient Wales (Chapter 6, Planning Policy Wales). There is no evidence to demonstrate the proposal protects and enhance biodiversity, protects and enhance water resources, protect soils, enables flood mitigation, and the creation of carbon sinks.*	The Proposed Scheme's contribution towards ecosystem resilience is set out in paragraphs 3.2.12 to 3.2.23 of this document. Paragraph 3.2.25 of this document goes on to conclude that following the implementation of the measures set out in the OHMP (ES Technical Appendix 7.6) a net benefit for biodiversity will be achieved within the lifetime of the Proposed Scheme. The Proposed Scheme is therefore not contrary to the objective of a Resilient Wales in PPW Chapter 6 in relation to biodiversity. As set out in response to LQAS comment number 6 in relation to flood mitigation, ES Technical Appendix 6.3 (FCA) sets out a range of measures to ensure that runoff from the Site is, at worst, no greater than it is at present under greenfield conditions. Use of a range of SuDS options as suitable for different parts of the Site would enable runoff to be better controlled than at present, thereby reducing downstream flood risk as related to the Site itself. Also set out in response to LQAS comment number 6, ES Technical Appendix 6.2 (OPMP) sets out proposals for peatland restoration in adjoining land, which will act to protect soils and create carbon sinks to the benefit of the wider area. Careful reinstatement of soils and peat, in line with the principles set out in ES Technical Appendix 6.2, will act to preserve the soil resource. Protections relating to groundwater and surface water, as raised by NRW and DCWW, are set out in Sections 3.5 and 6.2 of this document.
12. *PPW Chapter 6 'Maintaining and Enhancing Biodiversity' states that adverse environmental effects should only be considered as a last resort. Enhancement, in the Department's view, cannot be offered as compensation to peat and peat habitat loss, damage and degradation when the proposal is contrary to planning policy, as it fails to address the step wise approach including policy concerning irreplaceable habitats.* *Should the development meet the requirements under the step-wise approach of Chapter 6, and the New Paragraph Peatlands (6.2.20), enhancement is an expectation as New Paragraph (6.4.21 p.12) states, "Having worked iteratively, in line with Figure 1X, through the stages of the step-wise approach below, and providing evidence in the Green Infrastructure Statement that the step-wise approach has been followed, a scheme of enhancements must be provided to ensure a net benefit for biodiversity. Where biodiversity enhancement proportionate to the scale and nature of the development is not proposed as part of an application, significant weight will be given to its absence, and unless other significant material considerations indicate otherwise, it will be necessary to refuse permission".* *The Department's view on the technical credibility of enhancement proposals is Conditional and will be based on:*	As set out in paragraph 3.2.3 of this document, the 'Dear Chief Planning Officer Letter' highlights that the changes to policy set out in PPW Edition 12 include the acknowledgement of off-site compensation measures as a last resort. Steps 4 and 5 of the step-wise approach also acknowledge that there may be a requirement for compensation, on-site and off-site respectively. The updated PPW therefore includes an acceptance that compensation may be appropriate, where impacts are otherwise unavoidable and are unable to be fully mitigated, as here. LQAS put forward the view that compensation for peat and peat habitat loss is contrary to planning policy, as it fails to address the step-wise approach including policy concerning irreplaceable habitats. However, as set out in paragraphs 3.3.4 to 3.3.27 of this document, the habitats on peat that would be affected at Pen March are without exception considered to be degraded as a result of their past and current management history. They are therefore not considered irreplaceable when following the step-wise approach and on that basis compensation is not contrary to planning policy. With regard to enhancements, paragraph 3.2.25 of this document demonstrates that a net benefit for biodiversity will be achieved within the lifetime of the Proposed Scheme, through the implementation of the measures set out in the OHMP (ES

LQAS Comment	Applicant Response
i) NRW's technical assessment that peatland enhancement is both practicable and proportionate to the scale and nature of the development. *ii) The Inspector's assessment of whether enhancement are proportionate to the nature and scale of the development.* *If not, significant weight should be given to its absence, and unless other significant material considerations indicate otherwise, it will be necessary to refuse permission.*	Technical Appendix 7.6). It is noted that LQAS provide no comment on whether the enhancement proposed through the OHMP is practicable or proportionate to the scale and nature of the development, deferring to NRW and the Inspector on this.

3.5 Response to NRW Comments on a Source Protection Zone within the Application Site

Pollution prevention

3.5.1 NRW notes that four of the proposed turbines are located within a source protection zone 1 (SPZ1) for drinking water and has requested justification for this proposal.

3.5.2 The SPZ1 was considered, together with all the other environmental and engineering constraints applicable to the Site. The balance of constraints meant that it was not possible to produce an effective design while also remaining outside the SPZ1, although it was attempted to minimise proposals within the SPZ1. Turbines 3 and 6 are located outside the SPZ1.

3.5.3 The principal aquifer within the SPZ1 in this area consists of the Dowlais Limestone and associated limestone strata, which outcrop to the north and west of the proposed Site boundary at a distance of 600 m or more from the nearest proposed infrastructure. Within the Site, the bedrock immediately below the turbines in the SPZ1 is as follows:

- Turbine 1: Bishopston Mudstone (mudstone, siltstone and sandstone);
- Turbines 2 and 5: South Wales Lower Coal Measures Formation (sandstone); and
- Turbine 4: South Wales Lower Coal Measures Formation (mudstone, siltstone and sandstone).

3.5.4 These formations stratigraphically overlie the Dowlais Limestone and associated limestone strata that form the principal aquifer, with the Bishopston Mudstone as the lowest formation directly overlying the Twrch Sandstone which itself overlies the Dowlais Limestone. The overlying bedrock is of considerable thickness and the presence of mudstones and siltstones within the strata indicates that they are likely to have limited or variable permeability. Required excavation for the turbine foundations would be to a depth typically of 2-4 m below ground. The separation distance between the maximum excavation depth and the top of the aquifer indicates that it is highly unlikely that there would be any direct effects on the groundwater within the aquifer.

3.5.5 There were no indications of groundwater presence at surface at any of the infrastructure locations.

3.5.6 A key element for any work within the SPZ1 would be pollution prevention, relating particularly to handling and storage of potentially polluting materials within the Site. The main potentially polluting materials of significance to groundwater protection would be fuel, oils and lubricants, waste water, herbicides and wet concrete. Outline pollution prevention controls have been set out in the ES and Construction Environment Management Plan (CEMP). Additional specific controls and management measures would be agreed with NRW in advance of construction and included in the CEMP, in line with current best practice guidance.

3.5.7 Traffic and plant movements during construction and decommissioning, and at a lower volume during operation, would be carefully managed to minimise risk of collision. The track layout at the Site has been designed to maintain good visibility and includes spaces for vehicles to pass safely where needed.

3.5.8 It is not possible to specify at this stage what type of concrete would be suitable for use. This would be agreed between the Applicant, principal contractor and NRW prior to construction beginning, once all relevant water and sediment testing have been undertaken.

3.5.9 Wet concrete is typically more of a pollution danger to surface water as a result of its alkalinity. Groundwater is usually naturally alkaline, and as the aquifer in this area is within limestone it is anticipated to have a higher pH than groundwater within a sandstone or other bedrock aquifer, and as such the alkalinity of concrete would have a very limited effect.

3.5.10 No potentially polluting materials would be stored within the SPZ1 and only emergency maintenance following plant breakdown would be undertaken within this area. If this eventuality arises, additional pollution control measures would be put in place, as specified in the ES Chapter 6.

3.5.11 No washing-out of plant used for concrete transport would take place at any location within the SPZ1 or within any other parts of the Site. All plant used for concrete transport would be taken off-site to a suitably licensed facility for wash-out following concrete delivery to Site.

Catastrophic failure

3.5.12 In a consultation meeting on 25th January 2024, NRW raised a concern relating to catastrophic failure of one or more of the wind turbines and the potential for pollution arising from such an incident.

3.5.13 While rare, turbines have been known to fail. These have historically been associated with failure of the blade speed regulator, allowing blades to spin too fast in high winds, and with lightning strikes. Instances where blades spin too fast can lead to the blades shearing off near the hub and to tower crumpling. Lightning strikes can also lead to blade loss but more usually cause localised damage to the turbine blades. While this has an impact for the wind farm operator, it is not likely to lead to release of pollutants. All modern turbines are required to use lightning protection systems which reduces the risk of catastrophic damage arising from lightning strike

Groundwater monitoring

3.5.14 NRW has requested that groundwater monitoring boreholes are installed at all proposed turbine locations to allow groundwater level and quality monitoring in advance of consent.

3.5.15 The Applicant recognises the importance of undertaking monitoring for both water level and quality parameters. However, it is not considered necessary or reasonable for the Applicant to undertake these before consent is granted. There is the ability to microsite the turbines and therefore until it is known exactly where the turbines will be located it is not possible to undertake these tests. Furthermore, as the turbines excepting Turbine 4 are all located within common land, it would be necessary to obtain a common land consent to permit intrusive groundworks within this area.

3.5.16 In a consultation meeting on 25th January 2024, NRW recognised that the common land and requirement for common land consent provides a restriction on the ability to gain access for installation of groundwater monitoring boreholes.

3.5.17 The Applicant is willing to commit to undertaking the installation of groundwater monitoring boreholes and undertaking an appropriate regime of monitoring following grant of consent.

Borehole installation details, locations and the monitoring parameters, frequency and duration would be agreed with NRW prior to works commencing. Data arising from the borehole installation and monitoring process would be shared with NRW to allow appropriate consideration of pollution control measures to protect the groundwater within the SPZ1.

3.5.18 It is proposed that these elements are secured by planning condition.

3.6 Response to NRW's Representation that Considers the Application Site to be within the Boundary for a Candidate SSSI

3.6.1 The PEDW letter of 20th December 2023 states: "*NRW's representation also notes that it considers the application site to be within the boundary for a candidate SSSI. The applicant is also requested to respond to this matter*."

3.6.2 In its consultation response letter dated 24th November 2023 NRW makes a number of statements which are quoted verbatim below in ***bold italics*** (note that no paragraph numbers were used in the NRW response). A response to each statement is provided immediately afterward.

"Over the last 18-24 months we have been considering whether to renotify the existing Mynydd Llangynidr and Mynydd Llangatwg Sites of Special Scientific Interest (SSSI) to extend southwest and cover the wider common land in this upland landscape. Currently the Mynydd Llangynidr SSSI is approximately 4km away to the application site at its nearest point. We have very recently determined that the habitat features at the application site qualify for SSSI notification in terms of its quality and extent. They add and are also complementary to the biological interest of the wider common land and are part of the same management unit. On this basis, we now consider the application site to be within the boundary for a candidate SSSI. Notification guidance strongly recommends taking in the whole management unit where possible when notifying a SSSI."

3.6.3 It is noted that NRW's consultation response letter dated 24th November 2023 was the first time the Applicant was made aware of the ongoing process to renotify the existing Mynydd Llangynidr and Mynydd Llangatwg SSSIs and its potential implications for the application site. No mention of the SSSI renotification process was made in NRW's statutory pre-application consultation response (dated 21st December 2022) to the draft application and ES submitted in July 2022.

3.6.4 No information setting out the reasons why NRW consider that the application site qualifies for SSSI notification is provided within the NRW consultation response letter of 24th November 2023, other than the brief reference to "its quality and extent". The Applicant met with NRW on 6 February 2024 when NRW noted that the recent determination that the habitat features at the application site qualify for SSSI notification is based on new draft Joint Nature Conservation Committee (JNCC) guidelines for the notification of upland SSSIs. However, the new draft JNCC guidelines for upland sites are not currently in the public domain and are therefore not available to the Applicant. Further information is therefore required from NRW before the Applicant can respond to this matter.

"***Until a candidate site is approved for notification, it is not classed as a proposed (pSSSI). We are unable to commit to any timescales on when a notification decision will***

be made. However, in light of the declared Nature Emergency we would reiterate the intrinsic value of the ecology present."

3.6.5 We would draw attention to the fact that NRW have confirmed that the application site is not classed as a proposed SSSI, has not been approved for notification as a pSSSI, nor is there a timescale attached to the decision-making process, the outcome of which is uncertain. Paragraph 6.4.28 of PPW Edition 12 states: "*for the purposes of land use planning proposed SSSIs will be treated in the same way as notified SSSIs*." However, this protection does not extend to candidate SSSIs. Therefore, unless and until the site is notified as a proposed SSSI the policies and protections relating to SSSI do not apply to the Proposed Scheme.

4 Topic 3: Cultural and Historic Heritage

4.1 Introduction

4.1.1 This section presents a rebuttal of the comments received from PEDW, Merthyr Tydfil County Borough Council and Caerphilly County Borough Council in regard to the comments received on the Cultural Heritage submission for the Pen March Wind Farm EIA.

4.1.2 A number of the points raised in the Local Impact Report Submissions from Merthyr Tydfil and Caerphilly County Borough Councils, and the PEDW response consider similar themes, including terminology, methodology, assessment results and archaeology, all of which are addressed further below. In summary, amendments have been made to the HEDBA (refer to **Appendix 2**) following the comments received, these amendments are within sections 2 and 3 regarding policy and guidance, section 4 in relation to the terminology used, and section 5 with regard to any harm posed by the proposals. However, the alterations made have not in any regard altered the final conclusions or the outcome of the assessment.

Terminology

4.1.3 One of the initial comments is laid out in respect of the interpretation of the Historic Environment (Wales) Act of 2016 and its consolidation of the Ancient Monuments and Archaeological Areas Act 1979 and also the Planning (Listed Buildings and Conservation Areas) Act 1990. This does not affect the conclusions of the assessment and is amended in the updated assessment.

4.1.4 The responses from Merthyr Tydfil and Caerphilly County Borough Councils note that where harm is identified in the change in setting of a historic asset, that the scale of harm is discussed, using a system which is used for the English planning system ('total loss', 'substantial harm' and 'less than substantial harm'). The response notes that 'If development does not preserve or enhance the significance of the historic environment then it causes harm.' The scale of harm was used to be able to provide further clarity on whether the amount of harm was going to be significant and lead to a reduction in the significance of the asset to an acceptable/unacceptable level. Notwithstanding that the use of this terminology was considered by the Applicant to be appropriate the report has been amended to remove the use of the terminology used in England.

Methodology

4.1.5 The methodology used to assess impacts on the Setting of Listed Buildings, Scheduled Monuments and Conservation Areas was based on the guidelines within 'Heritage Impact Assessment in Wales' (Cadw 2017). This requires the following:

Stage 1: Identify the historic assets;

Stage 2: Define and analyse the setting which is made up of:

- Its current surroundings;
- Our present understanding and appreciation of the historic asset;
- What (if anything) survives of its historic surroundings.

Stage 3: Evaluate the potential impact of change or development; and

Stage 4: Consider options to mitigate the impact of a proposed change or development.

4.1.6 Stages 1 to 3 are included in Appendix 2 of the Historic Environment Desk-Based Assessment (Pen March ES_Vol4_Ch11_TA11.1_Historic Environment Desk-Based Assessment) and include:

- Stage 1: identifying all listed buildings within the study area and identifying those that will have any theoretical visibility with the windfarm or where distance will mean that any impact on setting is negligible.
- Stage 2: Where intervisibility that could affect setting was identified, Appendix 2 then included a review of the asset, identification of its current surroundings, understanding of its type and its historic setting.
- Stage 3 then identified those assets where there would be a change to their setting which could be considered as harmful and needed more detailed assessment. This process ensured that all assets were considered as part of assessment process.

4.1.7 Cadw state in 'Managing Setting of Historic Assets in Wales' (Cadw 2017) that 'The surroundings in which a historic asset is understood, experienced and appreciated, embracing present and past relationships and the surrounding landscape. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive negative or neutral contribution to the significance of an asset.' This is particularly relevant as it notes that change to a setting of an asset is not just positive or negative, but can be a neutral, which was the conclusion regarding the vast majority of listed buildings within the study area. Of the 173 listed buildings that lay within the Zone of Theoretical Visibility, 96% had a neutral impact from the Proposed Scheme. This was determined from assessing the impacts of the scheme on the evidential, historical, aesthetic and communal values that made up their significance, as identified in Cadw Conservation Principles (2011) and in TAN 24. This process has been made clearer in the revised assessment.

4.1.8 The responses also questioned whether the Stage 2 process of the impact assessment was undertaken robustly. The Merthyr Tydfil response notes that '*no meaningful assessment was undertaken of many historic assets with any link to the previous exploitation of the area for its resources which is an extremely narrow interpretation of the significance of the historic assets'.* The larger part of the significance of these historic assets is associated with the industrial development of the area and its exploitation and evolution since the 19th century (evidential and historical value). The industrial development of the region is part of their significance and the reason for them being present. It is acknowledged that in some cases turbines will be introduced into the visual setting of these historic assets, which forms part of their aesthetic value, there will be no changes to their evidential, historical or communal value. The visual intrusion from the Proposed Scheme is a continued evolution and exploitation of resources in the landscape which is a very relevant factor in the determination that the impact from the proposals is neutral.

4.1.9 The following is also stated 'The argument that the area has always been exploited for its resources is weak particularly given the size and prominence of the proposed development.' As noted above we feel this argument is fundamental to the status of these historic assets and the response letter would appear to consider that the Proposed Scheme will constitute a purely negative and harmful change to the settings of the listed buildings. Changes in the settings in almost all cases will not reduce any of the significance of those historic assets.

Assessment Results

4.1.10 The Merthyr Tydfil County Borough Council Local Impact Report (MTCBC LIR) (p15) suggests that the key view 'looking north east along Merthyr Road/Brynmair Terrace' within the Council Street and Urban Street Conservation Area Appraisal, was dismissed. This was not the case. What was noted within the HEDBA (Chapter 4) was that the conservation area appraisal stated that vistas of the conservation area are channelled by terraced dwellings and that the elevation of the area '*means that longer views over nearby buildings can be made to the south'*, which is away from the Proposed Scheme.

4.1.11 The assessment of the Dowlais Conservation Area (HEDBA, Chapter 4) is also questioned in the MTCBC LIR (p15) as it is noted that the Proposed Scheme will be visible in some wider views from within it in the direction of the Proposed Scheme. These indicate the potential for some occasional views where wind turbines may be visible, with a photographic example given of the view towards the wind turbine at Pengarnddu Industrial estate.

4.1.12 In both of the above cases it was assessed that the turbines would have a neutral impact on the significance of the conservation areas. The only impacts would be to the visual setting of the conservation area in some directions. As has been clarified in the updated HEDBA, the visual setting forms only part of the significance of the conservation areas, and for all other values (evidential, historical and communal) there will be no change. It is therefore not considered that the level of change posed, which relates solely to the visual aspect of its setting, is sufficient to cause harm to its significance as a conservation area.

4.1.13 The conclusions of the MTCBC LIR (p19) do concede that 'change within the setting of historic assets in itself does not make a development unacceptable', and continues that 'there is a statutory duty to consider the effects of ~~the~~ that change where it effects listed buildings and PPW demands a strong presumption against development which damages the character or appearance of a conservation area'. The assessment provided considers that the character and appearance of the conservation area itself will not be altered by the proposals. Rather, there will be a singular visual change within its wider setting. This change is not considered to denude its significance as a historic asset, which instead stems more directly from the evidential, aesthetic, historical and communal values of the built form within its boundaries.

4.1.14 The Caerphilly County Borough Council Local Impact Report (CCBC LIR) considers cultural heritage within section 4 of the LIR. Paragraph 4.4 indicates that the use of the ZTV to determine visibility in the assessment between the historic assets discussed and the wind turbines is considered inappropriate due to the heights of the turbines. ZTVs are commonly used as part of settings assessments in order to understand worst-case-scenario visibility, noting that the ZTV used is 'bare-earth' and only takes into account topography and does not consider intervening existing built development or vegetation. As such, a ZTV provides a useful indication of the of potential visibility of the turbines, and in all instances where potential effects on setting have been identified (in accordance with Stage 2 and Stage 3 of the settings assessment) this was further tested through site visits. As noted above, the Cadw guidance of Heritage Impact Assessment in Wales was used to consider all historic assets in able to make an appropriate assessment of the historic assets and is included in Appendix 2 of the Historic Environment Desk-Based Assessment (Pen March ES_Vol4_Ch11_TA11.1_Historic Environment Desk-Based Assessment).

4.1.15 The CCBC LIR paragraph 4.5 and 4.6 questions the argument that the area is one where the exploitation of resources, industrialisation and technology is one of the main characters of the landscape, for which the turbines represent the evolution of this. This has been discussed above as being a relevant factor in the assessment.

4.1.16 The response states 'The effects on conservation areas and listed buildings should be considered in the context of a general presumption in favour of the preservation and enhancement of the setting of conservation areas and listed buildings, as set out in Planning Policy Wales and the submitted assessment is considered to inadequately assess this.' This is similar to the response from MTCBC LIR and suggests that any change to the setting of a historic asset is harmful. The assessment provided for the Proposed Scheme considered that the change could be harmful in a few cases, but for the majority of cases the impacts would be neutral. It has clearly been demonstrated by the assessment that only visual effects on setting are changed by the introduction of the Proposed Scheme and that there will be no impacts to the evidential, historical or communal value of the historic assets. Where harm to the setting of the historic assets has been identified, it is still considered that the proposals will not affect the significance of the historic assets and although a change will occur to their setting, such as change is mostly neutral. This is also noted in terms of Paragraph 1.9 of TAN 24 'The multiple impacts of climate change on historic assets are a particular challenge. Some of these will be outside the planning process such as sea-level rise, flooding, changes in vegetation and agricultural land use. However, measures that need to be taken in response to the impact of climate change, such as sea and flood defences, and renewable energy projects can fall under the planning system. The public benefit of taking action to reduce carbon emissions, or to adapt to the impact of climate change, should be weighed against any harm to the significance of historic assets.'

4.1.17 The CCBC LIR also disputes that the assessment fully considers the effect of the proposal on the setting of Bute Town Conservation Area and the listed buildings it contains. The assessment concluded that there would be harm to the setting of these assets and this has been further explored in the revised assessment which states in paragraph 6.15 that the Proposed Scheme will introduce wind turbines into the visual setting of the listed buildings and conservation area which will be a negative effect on their aesthetic value and overall significance. The development proposals will have no impact upon the evidential, historical or communal value of the significance of the listed buildings and conservation area. Again the setting forms only a part of the significance of the historic assets which is not considered in the LIR response.

Archaeology

4.1.18 The CCBC LIR in para 4.13 notes that '*Overall, there is potential for archaeologically significant remains to be adversely affected by the proposed development. Further appropriate archaeological work is recommended to ensure that mitigation is undertaken to identify and record historic assets, and that such provision extends to mitigation for responding to the discovery of previously unknown historic assets or finds during the development works. It is recommended that this further work is carried out at this stage to allow a full understanding of the impact of the proposal on the significance of the remains, rather than through a condition*.' This concurs with the response from Glamorgan Gwent Archaeological Trust. Intrusive evaluation of the development proposals at this stage is not reasonable or proportionate. The

assessment concluded that it was unlikely for any archaeological remains of national significance to be present which might preclude development. To undertake intrusive trial trenching pre-consent would result in the potential for adverse impacts on other aspects of the landscape, such as ecology, drainage and Common Land. The Proposed Scheme acknowledges that archaeological works will be required at the site, pre-commencement of any development, and that resources will be available to ensure such remains are identified and appropriately mitigated. This will include initial trial trenching secured, in the usual way, by way of a condition, followed by any subsequent archaeological works required.

Effect on historic landscape and setting

4.1.19 The MTCBC LIR response also considers the ASIDOHL and specifically relating to the Merthyr Tydfil LOHI. It disagrees with some of the conclusions regarding the Historic Landscape Character Areas, although the ASIDOHL process was developed specifically to minimise subjectivity within the assessment process. The scope and methodology used in the ASIDHOL assessment for the Proposed Scheme was agreed with CADW in 2022.

Conclusions

4.1.20 The responses from MTCBC, CCBC and PEDW suggest that the assessment process regarding cultural heritage, including built heritage and archaeology, was not adequate. The Applicant disagrees with this, it should be noted that Cadw have not questioned the methodology used in respect of the assessment of impacts on the settings of listed buildings or scheduled monuments and GGAT also accepted the assessment regarding archaeology acceptable (excluding their recommendation for pre-determination evaluation).

4.1.21 Notwithstanding the above the assessment reports have been reviewed and where necessary, revised in light of these responses to check the conclusions and addressing some of the concerns. Following this process of review and amendment, none of the original conclusions regarding any harm posed to the historic assets have changed.

5 Topic 4: Noise

5.1 Introduction

5.1.1 Consultee responses to the above application were submitted towards the end of 2023. This document sets out Noise Consultants Limited's ('NCL') (on behalf of the Applicant) clarifications to the noise related responses. Specific reference is given to the following document:

- LIR – Caerphilly CBC: Construction and operate a wind farm, battery energy storage systems and associated infrastructure. 20 November 2023 ('Caerphilly LIR')

5.1.2 The noise related queries in the above document can be split into four themes, as summarized below. Further information in relation to each theme is set out in the subsequent sections below.

1. The Development's consideration of wind farm noise with a tonal component;
2. The Development's consideration of 'background creep' in the assessment;
3. The assessed Noise Sensitive Receptors (NSRs) in the assessment; and
4. The provision of a suitably worded planning condition.

5.2 Tonal Noise

5.2.1 Caerphilly LIR - Par 9.3: It is noted in Section 9.4.19 of Chapter 9 of the ES that it is assumed that the candidate turbine does not emit tones that invoke an ETSU Guidance tonal penalty. It is recommended that confirmation of this is sought at this stage to ensure that the successful wind turbine model to be implemented does not emit tones or if tones are identified then the tonal penalty is added and the report revised to ensure that this does not impact nearby residential amenity.

5.2.2 Caerphilly LIR - Email from Abbie Brown to Helen Winsall (Caerphilly CBC, 24 11 2023): It is noted that CCBC confirmed that the proposed methodology was acceptable 6 January 2021, however, it is noted that in Section 9.4.19 of Chapter 9 it is assumed that the candidate turbine does not emit tones that invoke an ETSU Guidance tonal penalty. The Environmental Health Department recommend that confirmation is sought to ensure that the successful wind turbine model to be implemented does not emit tones or if tones are identified then the tonal penalty is added and the report revised to ensure that this does not impact nearby residential amenity.

NCL Response:

5.2.3 Wind turbine noise can include special audible characteristics, such as tonal noise, which can be perceived as a "hum", "whine", or similar.

5.2.4 Where wind turbine noise with a tonal component occurs at locations representative of the closest noise sensitive receptors, such as dwellings, this would normally be due to very specific design or component malfunction (combined with operational characteristics) rather than an expected characteristic of turbine models.

5.2.5 For newer wind turbine models, such as those proposed for the Proposed Scheme, this occurrence is rare. Furthermore, the manufacturer technical data for the candidate turbine in the noise assessment doesn't include any tones that would attract a penalty.

5.2.6 The occurrence of wind turbine noise with a tonal component is therefore most appropriately through planning conditions. A proposed site specific planning condition for the Proposed Scheme, which includes consideration of penalties for tonality, is set out in **Appendix 1**.

5.2.7 The proposed conditions includes the addition of a tonal noise penalty to measured noise levels, where turbine noise at noise sensitive receptors is determined to be tonal. The condition requires the combined total of the noise level plus any relevant tonal penalty to be below the appropriate noise limit. Tonal noise would therefore be appropriately controlled, as per the guidance contained in the Institute of Acoustics Good Practice Guide.

5.3 Background Creep

5.3.1 Caerphilly LIR - Par 9.5: While the Noise Assessment suggests that noise levels recommended by ETSU-97 are compliant at the majority of dwellings by a significant margin, it is recommended that the compliance limits be reduced further within the report to reduce 'background creep' within the area, further protecting residents.

5.3.2 Caerphilly LIR - Email from Abbie Brown to Helen Winsall (Caerphilly CBC, 24 11 2023): Although it is noted that the proposal is 10dB under an existing turbine within the vicinity, it is noted that R21 & R23 are adversely impacted by the proposal when assessed as part of the cumulative noise assessment and therefore, mitigation should be considered to ensure that compliance with noise criteria recommended within the report can be complied with.

NCL Response:

5.3.3 The assessment methodology set out in ETSU-R-97 sets limits that seek to strike a balance between protecting local amenity and providing for the development of renewable sources.

5.3.4 The limits set out in ETSU-R-97 relate to the cumulative effect of all wind turbines i.e. ETSU-R-97, Par 16 "*The Noise Working Group is of the opinion that absolute noise limits and margins above background should relate to the cumulative effect of all wind turbines in the area contributing to the noise received at the properties in question. It is clearly unreasonable to suggest that, because a wind farm has been constructed in the vicinity in the past which resulted in increased noise levels at some properties, the residents of those properties are now able to tolerate higher noise levels still. The existing wind farm should not be considered as part of the prevailing background noise*."

5.3.5 Accordingly, the noise limits proposed for the Proposed Scheme have been determined from site specific background noise measurements, undertaken using methodologies to reduce the influence of noise from existing wind developments. This has included directional analysis of the prevailing background noise levels to ensure a representative assessment. This approach minimises the likelihood of background creep.

5.3.6 The level of compliance between cumulative wind farm noise and noise limits, including scenarios in the absence of existing wind farm noise, is set out in the ES Chapter Section 9.10.

5.4 Assessed Noise Sensitive Receptors (NSRs)

5.4.1 Caerphilly LIR - Par 9.4: It is noted that some BLPU address points do not seem to coincide with some of the receptor locations, it is advised that these should be reviewed at this stage to ensure that all receptors have been properly considered.

5.4.2 Caerphilly LIR - Email from Abbie Brown to Helen Winsall (Caerphilly CBC, 24 11 2023): It is noted that some BLPU address points do not seen to coincide with some receptor locations, it is advised that our Gazetteer address points are cross-referenced with locations within the noise assessments to ensure that all receptors have been considered.

NCL Response:

5.4.3 A meeting was held, attended by Abbie Brown (Caerphilly County Borough Council), Jenny Cowley (RWE) and George Gibbs (Noise Consultants Limited) on 16 January 2024.

5.4.4 As discussed at the meeting, and confirmed by Caerphilly County Borough Council in a subsequent email (18 January 2024), the Local Authority confirmed that all critical receptors are represented in the noise assessment, no further work is required and this query is resolved.

5.5 Planning Condition

5.5.1 Caerphilly LIR - Par 9.6: Notwithstanding the comments above, conditions have been suggested in respect of noise mitigation.

NCL Response:

5.5.2 The proposed conditions adopt methodologies advocated within the Institute of Acoustics '*A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise*' (IOA GPG, 2013).

5.5.3 A proposed draft planning condition is set out in **Appendix 1**.

6 Topic 5: Utilities and Telecommunications

6.1 Response to National Air Traffic Service

6.1.1 The National Air Traffic Service (NATS) has stated that the proximity, physical size and relative orientation of the development, is sufficient to degrade the performance of the Brecon DVOR/DME to an unacceptable level and that such impacts could cause serious safety risks for air traffic. It therefore objects to the development. The letter from PEDW asks for a response to such concerns, including an outline of whether or not such matters are capable of being resolved in advance of the Hearings.

6.1.2 The Applicant has been in communication with NATS for nearly two years over the potential impact of the Proposed Scheme on the Brecon DVOR/DME navigation beacon.

6.1.3 In response to informal pre-application consultation, NATS initially explained (by email dated 23 August 2022) that "*The Brecon VOR/DME is still set to be decommissioned under the L6213 DVOR Rationalisation and NDB Removal project, but no dates have been assigned for its removal*."

6.1.4 The Applicant has tried to ascertain from NATS an update on when the Brecon DVOR/DME navigation beacon will be decommissioned. In December 2023, NATS advised the Applicant that decommissioning of the Brecon DVOR/DME beacon is scheduled for 2024.

6.1.5 NATS has confirmed to the Applicant that it has no objection to the Proposed Scheme's construction following the decommissioning of the Brecon DVOR/DVE navigation beacon.

6.1.6 Consequently, NATS has suggested a suspensive planning condition be attached to the planning permission for the Proposed Scheme. The Applicant is continuing to liaise with NATS about the precise wording of such a condition and will update the examination further before the hearings. The Applicant considers that this issue can be resolved without a hearing.

6.2 Response Dŵr Cymru Welsh Water

6.2.1 Dŵr Cymru Welsh Water (DCWW) has raised a number of concerns relating to infrastructure and construction in the Nant Pitwellt catchment, as this forms part of the Rhymney River drinking water catchment area. DCWW notes that "*At present, the catchment characterisation for the purposes of Regulation 27 of the Water Supply Water Quality Regulations 2018 are defined as very pristine for colour and turbidity, hydrocarbons and pristine for Per- and Polyfluoroalkyl Substances (PFAS) compounds*."

6.2.2 DCWW has requested further information from the Applicant to monitor the effects of the Proposed Scheme on drinking water quality. The information requested relates to the type of details which would be provided in a CEMP such as detailed plans relating to the mitigation measures and appropriate contact methods for incident reporting in the event of an incident occurring. The Applicant will provide all this information post consent.

6.2.3 The Applicant is aware of the importance of ensuring suitable protection for drinking water catchments. The outline CEMP (see ES Volume 4 Technical Appendix 3.1) will be revised and updated with site-specific details before construction commences. The CEMP will be approved by the Local Planning Authority after consultation with DCWW and NRW prior to construction

works beginning. The CEMP will set out specific details relating to mitigations measures including:

- pollution prevention plans;
- emergency preparedness and incident responses;
- site specific buffer zones to watercourses; and
- implementation of sediment traps with particular emphasis on all watercourses within the Nant Pitwellt catchment.

6.2.4 The CEMP will include relevant contact details for alerting DCWW to any incidents within the Nant Pitwellt catchment. It is anticipated that this would make use of an appropriate emergency 24-hour contact phone number. Exact details would be agreed in consultation with DCWW and any additional methods or individuals requiring contact by phone or email would be included in all relevant site information. This information would be prominently displayed in site compounds during construction.

6.2.5 The CEMP will also include details of proposed water quality monitoring, including details of monitoring locations, monitoring frequency and parameters to be recorded. DCWW's input to the monitoring plan would be sought during preparation of the CEMP.

6.2.6 The Applicant notes DCWW's information relating to Schedule 3 of the Flood and Water Management Act 2010 and is aware of the requirement for approval of proposed Sustainable Drainage Systems. This approval would be sought post consent and following detailed drainage design. There are no plans to discharge surface water from the Site into a combined sewer.

7 Planning Conditions and Obligations

7.1 Update

7.1.1 A s106 agreements and planning conditions are being prepared for agreement with the LPAs and other statutory bodies (as relevant) before the hearings.

8 PART 2: SECONDARY CONSENT

8.1 Introduction

8.1.1 In preparing this response, the Applicant understands that PEDW has considered the information submitted by the Applicant and consultees to date and notes that the representation submitted by Lesley Griffiths AS/MS, as the ordinary decision-maker for applications under the Commons Act 2006, does not constitute an objection.

8.2 Prescriptive rights

8.2.1 A representation made by Colin Thomas, on behalf of the Dowlais Pony Improvement Society ("**DPIS**"), states that prescriptive rights are claimed by DPIS over the Replacement Land forming part of the Applicant's section 16 application.

8.2.2 The Applicant has been asked:

"Whether the alleged prescriptive rights have been obtained over the proposed replacement land and, if so, what are the implications for the Section 16 application (refer specifically to the Dowlais Pony Improvement Society representation and paragraph 8 of the representation submitted by Lesley Griffiths AS/MS)."

8.2.3 At paragraph 8 of Lesley Griffiths AS/MS' representation, she states *"I understand rights of prescription cannot arise where the landowner has given permission, but I do not have available to me any evidence of a definitive legal position on this issue to be able to comment further…".*

8.2.4 It is established law that for a right to arise by prescription, the use must have been "as of right", that is without force, without secrecy and without the permission of the owner.

8.2.5 As set out in the Applicant's response to OP13 in the Pre-Application Consultation Report (2023-07-31 – APP – Pen March Wind Farm – PAC Report) (paginated page 88), any use and grazing of the Replacement Land is undertaken with the permission of the landowner, such that DPIS fails the legal test for establishing a right of prescription over the Replacement Land.

8.2.6 The Applicant understands that there is no written agreement to document the permission that has been granted. However, there is no legal requirement that permission must be given in writing. The Applicant has been informed by the landowner that they have given permission to the commoners and that they hold regular meetings with the Commons Association regarding the grazing of common (in their ownership) and their wider land holding which is not registered common land.

8.2.7 As the use and grazing of the common and Replacement Land is undertaken with the landowner's permission there cannot be the acquisition of a right by prescription for the purposes of using the land for the grazing of animals.

8.2.8 Regulation 16 of the Equine Identification (Wales) Regulations 2019 states there is a derogation under Article 13 of the Commission Implementing Regulation (EU) 2015/262 that applies to equines identified in the lists kept by the Hill Pony Improvement Societies of Wales.

8.2.9 This derogation requires each pony managed by one of the Hill Pony Improvement Societies of Wales, including the Dowlais Pony Improvement Society, to be owned by a member of the society who has grazing rights for that common upon which that pony is kept. Therefore, rights

of common are required to keep hill ponies on common land, such that by grazing the hill ponies on the common, the owners of the DPIS ponies are exercising their rights of common.

8.2.10 As the landowner of the Replacement Land has consented to commoners using and grazing their animals on the Replacement Land, permission has been granted to DPIS to graze their ponies on the Replacement Land, such that no rights of prescription can be claimed.

8.2.11 The Applicant notes that the legal burden for establishing a prescriptive right lies with the party claiming that right. While DPIS assert that they have acquired rights no formal claim of these has been made and the Applicant understands that any claim would be disputed by the landowner. the Applicant has established that DPIS's alleged prescriptive rights have not been obtained over the Replacement Land, such that there are no implications for the section 16 application which is not contrary to the *"persons with rights in relation to the land or occupying"* the land.

8.2.12 As regards the remainder of paragraph 8 of Lesley Griffiths' representation, the Applicant acknowledges that graziers' livestock may have grazed the Replacement Land, however this is with the revocable consent of the landowner. The impact of the section 16 application on graziers, together with the use of the Release and Replacement Land parcels, has been assessed in full within the Common Land Report (2023-07-31 – SC – Pen March Wind Farm COM – 03 – Section 16 & 38 Report on Common Land an Appendix).

8.2.13 The claim that *"the legal ownership of the proposed deregistration of land is questionable"* is disputed. The registered proprietor of both the Release and Replacement Land parcels is Dowlais Top Investment Company Limited, as evidenced by the Title Registers and Plans provided by HM Land Registry and submitted to PEDW with the Application. There is no dispute or challenge to this registered with HM Land Registry or that has been made known to the landowner.

8.3 Consultation

8.3.1 The Applicant has been asked:

"Whether those with rights over the land were properly consulted and what are the implications for concluding on the interests of persons having rights in relation to, or occupying the land (and in particular persons exercising rights of common over it) – refer specifically to the Dowlais Pony Improvement Society representation."

8.3.2 The Applicant has undertaken a proper consultation exercise and has complied with all statutory requirements. A complete report on the Applicant's consultation in respect of the Application can be found in the submitted Pre-Application Consultation Report (2023-07-31 – APP – Pen March Wind Farm – PAC Report). Further detail focussed on the additional informal consultation run by the Applicant on the secondary consent applications can be found at section 9 of the Common Land Report.

8.3.3 DPIS suggests that it *"wouldn't have known anything* [about the Application] *only our secretary Colin Thomas was informed by a fellow commoner about the undercover operation to deregister this large piece of unowned land."*

8.3.4 The Applicant has engaged with Colin Thomas, both individually and in his capacity as Secretary to DPIS, on the Application throughout the process, including prior to the

commencement of its statutory pre-application consultation period. He has had the opportunity to submit representations on the Application and has done so at both the pre-application and submission stages. It is therefore not correct that Colin Thomas and DPIS were not aware of, or did not have the opportunity to comment on, the Application.

8.3.5 The Applicant remains of the view that the implications of the secondary consent applications on those persons having rights and/or interests in relation to the common, including each of the Release and Replacement Land parcels, remains as set out at paragraph 10.7 of the Common Land Report, that is "*that the Applicant has identified the relevant interests and activities on the Common and ensured that the commoners and the public will not be disadvantaged by the Proposed Scheme.*"

9 PART 3: OTHER SUBMISSIONS – UPDATE PLANNING STATEMENT

9.1 Introduction

Scope of Update Planning Statement

9.1.1 In accordance with section 38(6) of the Planning and Compulsory Purchase Act 2004 (the "2004 Act"), the application for the Proposed Scheme should be determined in accordance with the Development Plan, unless material considerations indicate otherwise. Under Section 38(4) of the 2004 Act, the Development Plan comprises the National Development Framework for Wales ("Future Wales") and the relevant Local Development Plans covering the site.

9.1.2 The Planning Statement (PS) submitted with the DNS application in July 2023 provided a detailed assessment of the Proposed Scheme against the relevant Development Plan Policies and also considered relevant material considerations up to that date, consistent with the requirements of Section 38(6) of the 2004 Act.

9.1.3 Since the PS was submitted there have been no changes to the make up of the statutory Development Plan, however, there have been changes to relevant material considerations, in particular with regard to national planning policy and in relation to climate change and energy related targets and policy.

9.1.4 This Statement therefore provides an updated assessment of the Proposed Scheme against the relevant Development Plan policies, taking into account the further information provided by the Applicant in response to consultee comments and the various points raised by the Inspector in the letter from PEDW of 20 December 2023, and considers material considerations, consistent with the requirements of Section 38(6) of the 2004 Act.

9.1.5 This Update Planning Statement also considers the potential benefits and impacts which may arise and concludes as to the overall acceptability of the Proposed Scheme in relation to the planning policy framework and relevant material considerations.

9.1.6 The policy appraisal's focus is in relation to the most relevant policies within Future Wales and the changes made to Planning Policy Wales (PPW) by way of the publication of PPW Edition 12 are also addressed. In this regard, it is important to note that Section 38(5) of the 2004 Act also states if policies between development plan documents conflict, then the most recent policy document has priority. Future Wales is the most recent Development Plan document.

9.2 Update on Material Considerations

Introduction

9.2.1 As noted in, since the PS was submitted there have been changes in relation to material considerations, in particular with regard to national planning policy and climate change and energy related targets and policy. New matters in this regard are set out in this Chapter.

PPW Edition 12 (2024)

9.2.2 DNS applications must be determined in line with the policies within Future Wales. However, PPW has substantial weight as a material planning consideration. PPW Edition 11 was addressed in detail at Section 3.3 of the PS.

9.2.3 The Welsh Government issued a letter to all Heads of Planning on 11 October 2023 with regard to changes to Chapter 6 of PPW. The proposed changes were consulted on between 09 March and 31 May 2023 and covered matters relating to green infrastructure, net benefit for biodiversity, the protection to be afforded to Sites of Special Scientific Interest (SSSI) and trees and woodlands.

9.2.4 The changes to Chapter 6 have now been included in PPW Edition 12 (PPW 12), which was issued on 05 February 2024. However, the changes to Chapter 6 of PPW were published with immediate effect, as of 11 October 2023. The principal changes to policy framework in Chapter 6 can be summarised as follows:

- **Green Infrastructure** - there is stronger emphasis on taking a proactive approach to green infrastructure, covering cross boundary considerations, identifying key outputs of green infrastructure assessments, the submission of proportionate Green Infrastructure Statements ("GIS") with planning applications and signposting building with nature standards. There is a requirement to submit GISs with all planning applications.
- **Net Benefit for Biodiversity and the Step-wise Approach** – the revisions provide clarity on securing net benefit for biodiversity through the application of the stepwise approach, including the acknowledgement of off-site compensation measures as a last resort and the need to consider enhancement and long-term management at each step. The use of the Green Infrastructure Statement as a means of demonstrating the step-wise approach is made explicit. The policy also recognises the importance of strategic collaboration to identify and capture larger scale opportunities for securing a net benefit for biodiversity.
- **Protection for SSSIs** – the policy changes introduce a strengthened approach to the protection of SSSIs, with increased clarity on the position for site management and exemptions for minor development.
- **Trees and Woodland** – the policy changes introduced closer alignment with the stepwise approach, along with promoting new planting as part of development, based on the principle of 'the right tree in the right place'.

9.2.5 The Applicant has undertaken a detailed review of the changes to Chapter 6 of PPW that were made in October 2023. In addition, the new PPW 12 has been reviewed. It is noted that there are no material changes between the October 2023 issue of Chapter 6 compared to the February 2024 publication of PPW 12. In addition, the text in PPW 12 in relation to landscape matters remains the same compared to PPW Edition 11.

9.2.6 A Green Infrastructure Statement (GIS) has been prepared and is included as part of this Regulation 15(2) response (**Appendix 3**).

9.2.7 A GIS should be proportionate to the scale and nature of a proposed development. The GIS prepared describes how green infrastructure has been incorporated into the proposal. PPW 12 envisages a GIS as being an effective way of demonstrating positive multifunctional outcomes which are appropriate to the site, and also demonstrate how the step-wise approach has been applied.

9.2.8 PPW 12 notes that a GIS should highlight any baseline data considered and surveys and assessments undertaken, including habitats and species surveys, arboriculture surveys and assessments, and landscape and ecological management plans. This has been undertaken in relation to the GIS prepared.

9.2.9 As set out in the GIS, the Applicant has followed the step-wise approach in refining the Proposed Scheme, avoiding impacts on statutory designated sites and applying the iterative and sequential approach. Based on this approach and through utilisation of the DECCA framework, the Applicant has developed and proposed biodiversity net benefits which would result from the proposal, all of which create a more resilient and better-connected ecosystem. This approach is also in accordance with the duty under section 6 of the Environment (Wales) Act 2016 with regard to maintaining and enhancing biodiversity (as specifically referenced in PPW 12 at paragraph 6.4.10).

9.2.10 Overall, the positive enhancements (net benefit for biodiversity) resulting from the Proposed Scheme, and proportionate to the scale and nature of the proposal, represent site specific interventions which will support wider local, regional and national objectives and enhancing biodiversity and green infrastructure in Wales. This is referenced in the ecology section of this Section 15(2) response.

9.2.11 The new PPW importantly retains the same references to energy, namely:

- PPW at paragraph 3.30 states that "*the planning system plays a key role in tackling the climate emergency through the decarbonisation of the energy system and the sustainable management of natural resources*."
- Paragraph 3.33 explains that the planning system plays a significant role in managing the significant risk of climate change to people, property, infrastructure and natural resources.
- PPW at paragraph 5.7.7 states that renewable energy generation and its benefits, including energy security, as part of the overall commitment to tackling the climate emergency is of "*paramount importance*". It states that the planning system should "*maximise renewable and low carbon energy generation*".

9.2.12 Section 6.3 of PPW deals with landscape. Part of 6.3.3 states that all the landscapes of Wales are valued for their intrinsic contribution to a sense of place, and direction is provided to local authorities to protect and enhance their special characteristics, whilst paying due regard to social, economic and environmental and cultural benefits that they provide.

9.2.13 PPW makes reference to National Parks and also the characteristics of local landscapes. Paragraph 6.3.9 of PPW sets out that the special qualities of designated areas should be given weight in the development planning and development management process.

9.2.14 Paragraph 6.3.12 makes reference to Special Landscape Areas (SLAs) as non-statutory designations that define local areas of high landscape importance which may be unique, exceptional or distinctive to the area.

9.2.15 It is considered that the Proposed Scheme is consistent with the national level policy guidance in PPW 12.

Climate Change and Energy Targets & Policy: International Level

United Nations Statement (July 2023)

9.2.16 The United Nations ("UN") issued a statement on 27 July 2023 with regard to increasing global temperatures. The UN Secretary General Antonio Guterres stated that it was "*virtually certain that July 2023 will be the warmest on record*".

9.2.17 The Secretary General stated "*Climate change is here. It is terrifying. And it is just the beginning. The era of global warming has ended, and the era of global boiling has arrived*."

9.2.18 The statement refers to climate conditions in the month of July 2023 as being remarkable and unprecedented, and that there is virtual certainty that the month of July as a whole will become the warmest July on record and the warmest month on record. In addition, the statement sets out that ocean temperatures are at their highest ever level recorded for that time of year [July].

9.2.19 The statement also refers to the net zero goal and the Secretary General stated "*The need for new national emissions targets from G20 members and urged all countries to push to reach net zero emissions by mid-century.*"

COP 28, Dubai 2023

9.2.20 The United Nations Climate Change Conference (COP28) closed on 13 December 2023. The UN press release of the same date states that the agreement reached "*Signals the 'beginning of the end' of the fossil fuel era by laying the ground for swift, just and equitable transition, underpinned by deep emissions cuts and scaled up finance*."

9.2.21 The statement adds:

"*The stocktake recognises the science that indicates global greenhouse gas emissions need to be cut 43% by 2030, compared to 2019 levels, to limit global warming to 1.5°C. But it notes parties are off track when it comes to meeting their Paris Agreement goals.*

The stocktake calls on parties to take actions towards achieving, at a global scale, <u>a tripling of renewable energy capacity and doubling of energy efficiency improvements by 2030</u>. The list also includes accelerating efforts towards the phase down of unabated coal power, phasing out inefficient fossil fuel subsidies, and other measures that drive the transition away from fossil fuels in energy systems, in a just, orderly and equitable manner, with developed countries continuing to take the lead." (underlining added)

Climate Change and Energy Targets & Policy: Wales

Climate Change Committee, Progress Report for Wales (June 2023)

9.2.22 The Climate Change Committee ("CCC") published the 'Progress Report: Reducing Emissions in Wales' in June 2023. The Executive Summary states (page 11):

"*With an ambitious target to reach Net Zero greenhouse gas emissions by 2050, action on decarbonisation in Wales must now accelerate. Wales's journey to Net Zero is mapped out by a series of legislated five yearly carbon budgets and decadal interim targets. While the first carbon budget (2016-2020) has been achieved, Wales is not yet on track to meet its targets for the second half of this decade and beyond.*

Some positive steps have been taken in Wales, with a welcome focus from Ministers on skills, jobs and public engagement for the Net Zero transition. However, there are too many areas where the Welsh Government has policy responsibility, but progress is slow."

9.2.23 The report also states that the third carbon budget (2026-2030) in terms of its midpoint, is only five years away and by then, Wales should have reduced emissions by 39% compared to pre-pandemic (2019) levels. It states that policy action in all sectors across the economy is needed.

9.2.24 Chapter 2 of the report states that Wales must now accelerate action to ensure it is on track to meet its future carbon budgets and the Net Zero target.

9.2.25 The report specifically addresses electricity supply (from page 70) and notes that in 2020, generation of renewable electricity in Wales equated to 56% of Welsh electricity consumption. By 2030, the Welsh Government aims to increase this to 70%, and to 100% by 2035.

9.2.26 The report notes, however, that since 2016 renewables deployment has slowed. With regard to onshore wind, it states that operational capacity increased by 12% in 2019 but has largely plateaued thereafter. This considerable decrease in deployment is further referenced below.

New 100% Renewable Electricity Generation Target – 2035

9.2.27 On 14 July 2023, the Welsh Minister for Climate Change, Julie James MS, published a summary response to the consultation on Wales's renewable energy targets. In the response to the Minister stated:

"*I was very pleased with the support for our renewable energy ambitions and the targets the Welsh Government has set. The targets underline the importance to be placed on the next decade and the need to increase the pace of our response to the climate emergency. The targets we are setting will give policy ambition certainty to the renewable energy sector.*

Regarding energy generation, there was broad agreement with our proposals to continue focusing on electricity to meet future demand, and for us to use the Climate Change Committee's balanced path as a basis for our electricity demand projections. Following the support we had for our proposal, I am adopting the target for Wales to meet the equivalent of 100% of our annual electricity consumption from renewable sources by 2035, and to continue to keep pace with consumption thereafter".

9.2.28 The Proposed Scheme would make a valuable contribution to this new target.

Preparing Wales for a Renewable Energy 2050 – Report from the National Infrastructure Commission for Wales (October 2023)

9.2.29 The National Infrastructure Commission for Wales[25] (NICW) published their report 'Preparing Wales for a Renewable Energy 2050' in October 2023 (the NICW report).

9.2.30 The NICW report states that Wales is part way through its second Carbon Budget with the ultimate goal of net zero carbon emissions in Wales by 2050. It sets out (page 11) that "*the*

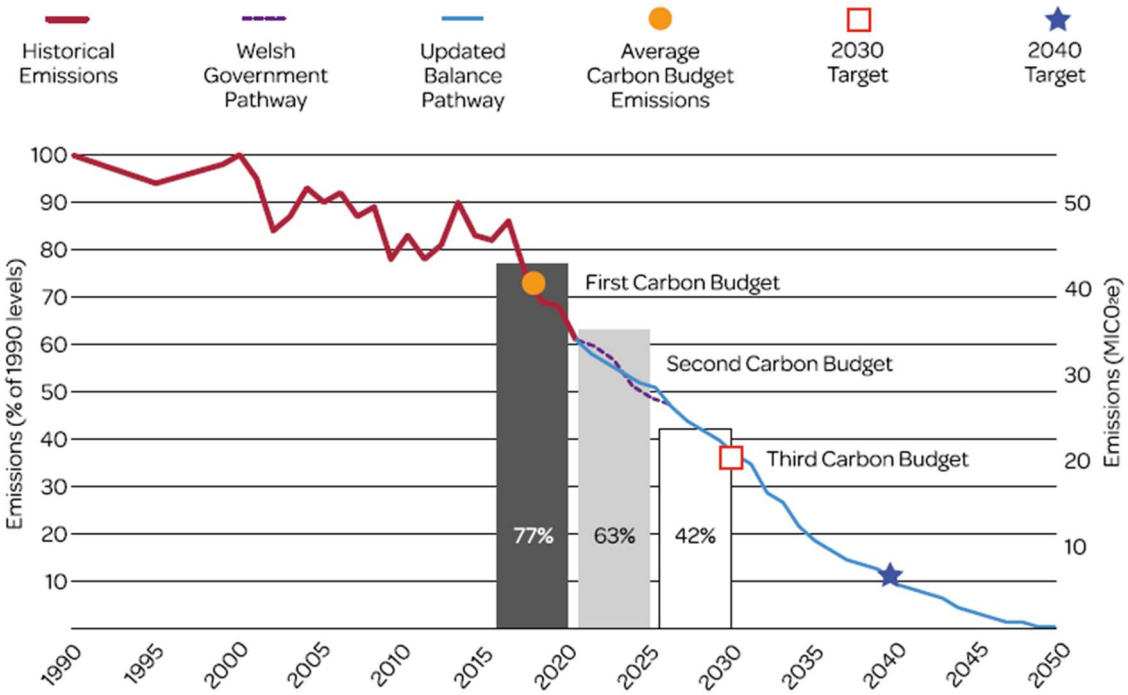
[25]The NICW was established in 2018 as an independent, non-statutory, advisory body to Welsh Ministers. Its key purpose is to analyse, advise and make recommendations on Wales' longer term strategic economic and environmental infrastructure requirements over the next 80 years.

2020s will require a huge shift in carbon intensity, a greater drop than in the previous three decades."

9.2.31 It adds that "*the most recent Climate Change Committee analysis demonstrates that Wales is not on track to meet its carbon targets*".

9.2.32 **Figure 9.1** below provides an extract from the NICW report illustrating historical emission and future targets in Wales. It is evident that there is a substantial shift required in terms of emissions reduction for Wales to get on the trajectory required in order to meet the 2050 target.

Figure 9.1: Historical Emissions & Future Targets in Wales



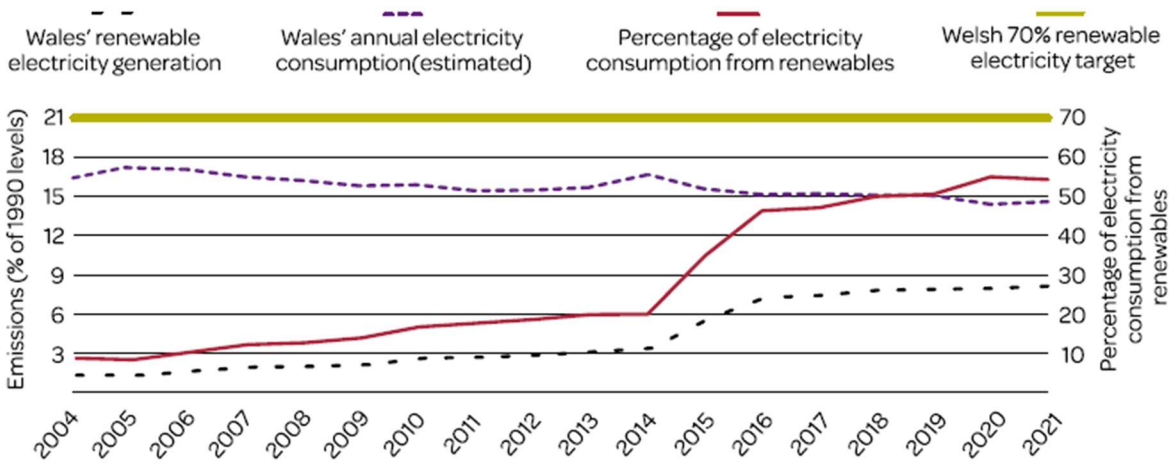
9.2.33 The NICW report (page 12) references the Welsh Government target to meet the equivalent of 100% of its annual electricity demand from renewable sources by 2035 and to achieve as noted, net zero by 2050. It states:

"*The Welsh Government recognises that the generation of renewable electricity has a key role to play in the decarbonisation of the whole energy system that will be required to achieve net zero by 2050.*

However, <u>the current levels of renewable energy generation (Figure 2) suggest that significant additional interventions will be necessary to achieve the target</u>." (underlining added)

9.2.34 Figure 2 referred in the NICW Report is produced below as **Figure 9.2** and it illustrates the growth in the percentage of electricity consumption from renewable sources in Wales that is forecast. It also shows that Wales' renewable electricity generation has risen from 2014 but since around 2016 has plateaued.

Figure 9.2: Growth in the percentage of Electricity Consumption from Renewable Sources in Wales



9.2.35 In this regard the NICW report states at page 13 that "*the commissioning of new renewable capacity has slowed significantly in recent years and in 2021 was nearly 90% lower than its peak in 2015*".

9.2.36 The NICW report (page 18) adds that:

"*The renewables that will be required to meet net zero by 2050 are not being delivered at the speed or scale required, providing opportunities to increase the rate of delivery in a way that can maximise the value generated and retained within Wales*".

9.2.37 The report contains various recommendations to address this issue covering planning and land use, enabling infrastructure as well as financial support and matters relating to education and skills.

Energy Generation in Wales 2022 (published November 2023)

9.2.38 The Welsh Government published Energy Generation in Wales in November 2023. It sets out the energy generation capacity in Wales in 2022 and analyses how it has changed over time.

9.2.39 The Ministerial Foreword from the Minster for Climate Change, Julie James MS states:

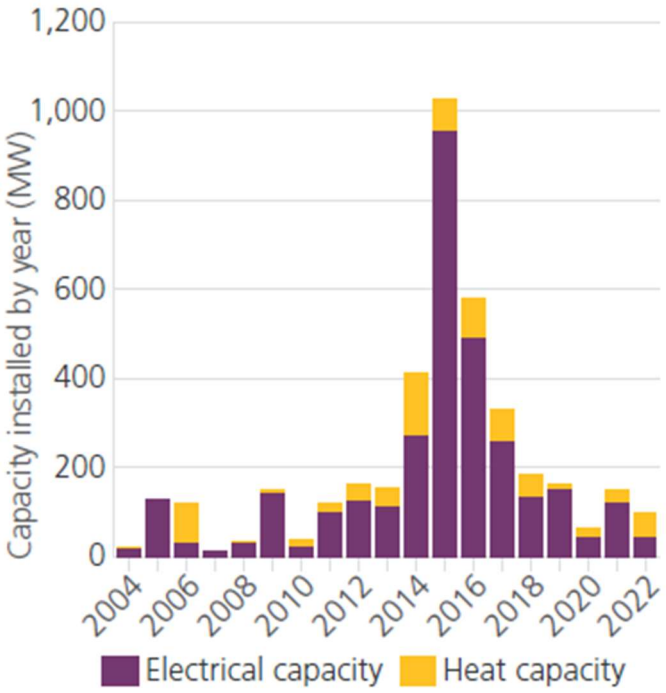
"*A smart, flexible, renewables based energy system is fundamental to support our net zero ambitions and we want our energy transition to also deliver even more benefit through local and shared ownership, seizing supply chain opportunities and the creation of good jobs for local people.*

We have committed to new renewable energy targets for Wales. We want to generate renewable energy which fully meets our energy needs by 2035 and to keep pace with the expected demand thereafter. In this transition we also want to maximise local ownership retaining economic and social benefits in Wales."

9.2.40 In terms of overall electricity generation in Wales, the report states (page 4) that only 43 MW of renewable electricity capacity was installed in 2022, down from 116 MW installed in 2021. It states that this is part of a decline in renewable electricity capacity installation over the past decade. It notes that renewable electricity generation in Wales has tripled since 2008 however, has only increased by 11 per cent over the last five years.

9.2.41 The installation of only 43 MW is the second lowest installation rate in Wales in the last decade and is noted as being nearly 10 times lower than the 2015 peak when more than 1 GW of renewable capacity was installed. This is a striking reduction in renewable capacity deployment. This decline in deployment[26] is illustrated in **Figure 9.3** below.

Figure 9.3: Wales' Annual Renewable Energy Deployment Rate



9.2.42 The report also references the regional context for renewable energy generation, analysing it down to the local authority level. For Merthyr Tydfil and Caerphilly which are both within the Cardiff Capital Region the respective figures for 2022 were:

- In Merthyr Tydfil the percentage of total Welsh renewable energy generation from the local authority was <1 %.
- In Caerphilly the figure was 2 %.

9.2.43 These low figures contrast with other authorities such as Neath Port Talbot (13%), Powys (13%) and Rhondda Cynon Taf (8%).

[26] Source: Welsh Government, Energy Generation in Wales 2022 (November 2023).

9.2.44 The report examines various generation technologies and in terms of onshore wind (page 28) it states that in 2022 there was only a single, micro-scale onshore wind development installed which was a single 6 kW installation in Powys. The report states:

"*This is the third consecutive year of decreasing deployment and a marked difference to the preceding period from 2016 to 2019, during which an average of 160 MW per year were installed*."

9.2.45 The report examines progress towards targets and confirms that the Welsh Government has a target for Wales to meet the equivalent of 70% of its annual electricity consumption from Welsh renewable electricity generation by 2030, and 100% by 2035. The report confirms that in 2022, the figure for electricity consumption was an estimated 59%.

9.2.46 Importantly the report states that although electricity consumption in Wales has reduced over the last two decades, it is projected to significantly increase in the future as Wales de-carbonises. The report states (page 7) that electricity consumption could more than double by 2050.

9.2.47 There has clearly been therefore a considerable downturn in renewable energy deployment, but also specifically in relation to onshore wind.

Wales Centre for Public Policy: Challenges and opportunities of decarbonising Wales' energy system by 2035, Policy Briefing (December 2023)

9.2.48 The Wales Centre for Public Policy[27] (WCPP) published a policy briefing in December 2023 with regard to the challenges and opportunities of decarbonising Wales' energy system by 2035. The work undertaken on this topic is intended to support the Wales Net Zero 2035 Challenge Group which is a government established organisation set up to examine potential pathways to net zero by 2035. The Policy Briefing is a specific contribution to what has been termed Challenge Area 2: "How could Wales meet energy needs by 2035 while phasing out fossil fuels?"

9.2.49 The Policy Briefing specifically examines electricity generation and makes reference to demand for electricity and (page 4) notes that the CCC's Balanced Pathway estimates that electricity demand will be 50% higher than pre-Covid levels by 2035, and at least 100% higher by 2050.

9.2.50 The report states (page 5) that "*meeting 2035 targets will therefore <u>require an aggressive rate of increase in generating capacity, more than doubling the best build rate achieved in the past 60 years and sustaining this build rate over the next twelve years</u>*". (underlining added)

[27]The Wales Centre for Public Policy provides the Welsh Ministers and civil service and other public services with high quality evidence and independent advice to improve policy decisions. It is funded by the Economic and Social Research Council, Welsh Government, and Cardiff University.

Conclusions on Material Considerations

Changes to PPW

9.2.51 The Applicant acknowledges that PPW has been updated and this Regulation 15(2) response addresses the specific requirements that have been set out in Chapter 6 of PPW through the various updates to it. It is important to note that in forming a planning balance and determining the DNS application, the decision maker must have regard to the Development Plan, including FW and the LDPs. Thereafter, consideration should be given to material considerations, and they will include PPW.

9.2.52 It is considered that the Proposed Scheme would be consistent PPW and would satisfy its requirements. It has also considered that the Proposed Scheme would accord with PPW when read as a whole.

Climate Change & Energy Policy

9.2.53 The Applicant's position is that the Proposed Scheme is strongly supported by the current policy framework.

9.2.54 It is clear from the latest Energy Generation in Wales report, produced by the Welsh Government in 2022, that there has been a considerable fall in the deployment rate for renewables and in particular for onshore wind. Given that wind energy is the key technology driving the new 100% renewables target for 2035, it is imperative that the deployment rate increases in order to attain that target and also to provide the foundation for reaching Net Zero.

9.2.55 As set out in the PS, the Carbon Budget 2 for Wales makes it clear that making substantial progress this decade will be critical, not just for the 2030 legally binding target, but to stay on a credible pathway to reach Net Zero.

9.2.56 The trajectory, in terms of the scale and pace of action to reduce emissions, is steep and it is essential that rapid progress is made through the 2020s. The rate of emission reductions must increase otherwise the Carbon Budget targets and Wales' 100% of electricity demand from renewables target for 2035 will not be met.

9.2.57 As was set out in the PS, it is clear from the UK Energy White Paper and the forecasts by the CCC that electricity demand is expected to grow substantially (scenarios vary but potentially by a factor of three or four) as carbon intensive sources of energy are displaced by electrification of other industry sectors, particularly heat and transport.

9.2.58 Decisions through the planning system must be responsive to this changed position. Decision makers can do this by affording substantial weight to the energy policy objectives articulated above, in the planning balance.

9.2.59 The various legislative interventions and statements of Government policy such as described above are material considerations of relevance that should be afforded weight, and indeed increasingly greater weight given the statements from the UN in Summer 2023 and in light of COP28 commitments made in December 2023.

9.2.60 In the most recent renewable energy policy documents referred to, there is a consistent and what might be termed a 'green thread' which ties a number of related policy matters together: namely the urgent challenge of Net Zero and the need to substantially increase renewable capacity, in particular in Wales where it has stalled.

9.2.61 It must follow that the need case is to be afforded significant weight in the planning balance. It is not an over-riding consideration; however, it must be acted on. The way that decision makers can do that is by properly recognising the seriousness and importance of energy policy related considerations in the planning balance. It is the cumulative effect of a large number of individual projects which will move Wales towards where it needs to be.

9.3 Conclusions

The Planning Balance

9.3.1 Section 5.3 of the PS sets out the benefits of the Proposed Scheme. The PS should be referred to for its detail, however the benefits set out relate to:

- Renewable energy generation and carbon emission savings;
- A significant net benefit and enhancement for biodiversity;
- Battery storage provision;
- An important contribution to security of supply;
- Various economic and employment benefits;
- Socio-economic benefits;
- An opportunity for shared ownership'.

9.3.2 In considering the planning balance, significant weight has been given to the benefits of the Proposed Scheme, including the renewable energy generation, carbon savings, and the net benefit that would result from biodiversity.

9.3.3 As set out in Part 1 of this response (Topic 1: landscape and visual impacts) detailed consideration is given to the 2015 SPG Smaller Scale Wind Turbine Development Landscape Sensitivity and Capacity Study, undertaken by Gillespies Landscape Architects. CCBC contend that the Proposed Scheme is at odds with the guidance.

9.3.4 As explained by the Applicant's landscape architect, the CCBC Capacity Study is strategic level, broad-brush, guidance that can inform the assessment of site-specific proposals. It provides an initial overview in the assessment of a wind farm proposal, but it is not a substitute for a detailed landscape and visual impact assessment, of the type that has been undertaken for the Proposed Scheme. The earlier section (Part 1) should be referred to in relation to the study. It is a material consideration but one which should only be given limited weight given there is a detailed landscape and visual appraisal for the Proposed Scheme and which demonstrates that the development can be successfully sited at this location.

9.3.5 More recently, in June 2019 CCBC declared a Climate Emergency and committed to making Caerphilly County Borough Council a net zero carbon local authority by 20230. A Decarbonisation Strategy (the "Strategy") was approved in November 2020. As set out in Part 1 of this response (Topic 1: landscape and visual impacts) reference is made to the reference in the Strategy to the potential for wind energy development in the 'Heads of the Valleys'. The Proposed Scheme is consistent with this more recent strategic level documentation. As with the landscape capacity studies such a document should not be determinative in itself and should not be used as such in development management. However, the onshore wind potential is specifically identified as one of a number of responses to the declared Climate Emergency, long after the preparation of the capacity study (2015). Moreover, the more recent material considerations on climate change and energy policy at a UK and Welsh Government level (and

as noted, new targets) mean that much more positive weight should be ascribed to achieving objectives which can deliver the Strategy and address the imperative of the Climate Emergency.

9.3.6 The Applicant's position is that the Proposed Scheme would accord with Future Wales and that has been established through the overall policy appraisal set out in the original PS and through consideration of the specific environmental and technical responses which provided as part of this Regulation 15(2) response.

9.3.7 It has also considered that the Proposed Scheme would accord with PPW 12 when read as a whole.

9.3.8 The Proposed Scheme does result in some significant effects as set out in the ES but some significant effects are inevitable for a commercial scale wind energy development. The key question is to whether the effects arising are acceptable or not. The Applicant's position is that the effects of the Proposed Scheme are acceptable.

9.3.9 Future Wales, together with PPW, make it clear that one of the primary objectives of the planning system is to contribute towards the delivery of sustainable development and, in doing so, improve the social, economic, environmental and cultural well-being of Wales. In this regard, it is considered that the Proposed Scheme would accord with and support the objectives of Future Wales.

9.3.10 Future Wales is also clear that decision makers must give significant weight to Wales' need to meet its international commitments and its renewable energy generation targets. As set out with regard to the update to material considerations, there is now an even greater commitment worldwide to increasing renewable energy generation indeed to triple its supply by 2030.

9.3.11 Furthermore, the renewable generation target in Wales was increased in July 2023 from 70% of Wales' electricity consumption by 2030, to 100% by 2035. As such, whilst the Proposed Scheme will result in some significant effects, it is considered that these are outweighed by the contribution that the proposal will have in meeting Wales's renewable energy targets and net zero objectives. Moreover, the Proposed Scheme will contribute to those related objectives for the UK and indeed to the UK's global commitment to addressing the climate crisis.

9.3.12 The Welsh Government has declared both a climate and a nature emergency. It is important to keep in mind that the greatest threat to biodiversity is climate change. The principal and essential benefit of the Proposed Scheme is a significant contribution of renewable energy, to facilitate the earliest possible decarbonisation of the energy system and the achievement of Net Zero no later than 2050. The purpose of Net Zero is to protect biodiversity and the earlier it can be achieved, the greater the benefits to biodiversity. The Proposed Scheme would not harm biodiversity and would lead to enhancements / net benefits, consistent with national planning policy requirements.

9.3.13 It can also be seen that the deployment of renewable energy in Wales has dropped off considerably in recent years indeed, with only one micro-scale turbine being deployed in 2022. A 'Do Nothing' option will simply further exacerbate the climate and nature crisis.

Overall Conclusion

9.3.14 The Proposed Scheme is considered to accord with the relevant Development Plan policies and with the plan as a whole. The benefits of the Proposed Scheme are considered to be significant

and would comprise important material considerations. Furthermore, the benefits are considered to strongly accord with the intent of Future Wales and PPW and with the policy of encouragement for renewable energy generation in particular through Policies 9, 17 and 18 of Future Wales.

9.3.15 Having regard to the weight to be ascribed to the important benefits of the Proposed Scheme, it is considered that the benefits that would result clearly outweigh its adverse effects which are not considered to be unacceptable.

APPENDICES

Appendix 1: Pen March Wind Farm: Planning Conditions - Noise

The rating level of noise immission from the combined effects of the wind turbines (including the application of any tonal penalty) when determined in accordance with the attached Guidance Notes (to this condition), shall not exceed the values for the relevant integer wind speed set out in, or derived from, the tables attached to these conditions at any dwelling which is lawfully existing or has planning permission at the date of this permission and:

a) The wind farm operator shall continuously log power production, wind speed and wind direction, all in accordance with Guidance Note 1(d). These data shall be retained for a period of not less than 24 months. The wind farm operator shall provide this information in the format set out in Guidance Note 1(e) to the Local Planning Authority on its request, within 14 days of receipt in writing of such a request.

b) No electricity shall be exported until the wind farm operator has submitted to the Local Planning Authority for written approval a list of proposed qualified wind farm acousticians who may undertake compliance measurements in accordance with this condition. Amendments to the list of approved consultants shall be made only with the prior written approval of the Local Planning Authority.

c) Upon a receipt of a written request from the Local Planning Authority following a complaint to it from an occupant of a dwelling alleging noise disturbance at that dwelling, the wind farm operator shall, at its expense, employ a consultant approved by the Local Planning Authority to assess the level of noise immission from the wind farm at the complainant's property in accordance with the procedures described in the attached Guidance Notes. The written request from the Local Planning Authority shall set out at least the date, time and location that the complaint relates to and any identified atmospheric conditions, including wind direction, and include a statement as to whether, in the opinion of the Local Planning Authority, the noise giving rise to the complaint contains or is likely to contain a tonal component.

d) The assessment of the rating level of noise immission shall be undertaken in accordance with an assessment protocol that shall previously have been submitted to and approved in writing by the Local Planning Authority. The protocol shall include the proposed measurement location identified in accordance with the Guidance Notes where measurements for compliance checking purposes shall be undertaken, whether noise giving rise to the complaint contains or is likely to contain a tonal component, and also the range of meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise immission. The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise, having regard to the written request of the Local Planning Authority under paragraph (c), and such others as the qualified wind farm acoustician considers likely to result in a breach of the noise limits.

e) Where a dwelling to which a complaint is related is not listed in the tables attached to these conditions, the wind farm operator shall submit to the Local Planning Authority for written approval proposed noise limits selected from those listed in the Tables to be adopted at the complainant's dwelling for compliance checking purposes. The proposed noise limits are to be those limits selected from the Tables specified for a listed location which the qualified wind farm acoustician considers as being likely to experience the most similar background noise environment to that experienced at the complainant's dwelling. The rating level of noise immission resulting from the combined effects of the wind turbines when determined in

accordance with the attached Guidance Notes shall not exceed the noise limits approved in writing by the Local Planning Authority for the complainant's dwelling.

f) The wind farm operator shall provide to the Local Planning Authority the qualified wind farm acoustician's assessment of the rating level of noise immission undertaken in accordance with the Guidance Notes within 2 months of the date of the written request of the Local Planning Authority for compliance measurements to be made under paragraph (c), unless the time limit is extended in writing by the Local Planning Authority. The assessment shall include all data collected for the purposes of undertaking the compliance measurements, such data to be provided in the format set out in Guidance Note 1(e) of the Guidance Notes. The instrumentation used to undertake the measurements shall be calibrated in accordance with Guidance Note 1(a) and certificates of calibration shall be submitted to the Local Planning Authority with the qualified wind farm acoustician's assessment of the rating level of noise immission.

g) Where a further assessment of the rating level of noise immission from the wind farm is required pursuant to Guidance Note 4(c), the wind farm operator shall submit a copy of the further assessment within 21 days of submission of the qualified wind farm acoustician's assessment pursuant to paragraph (d) above unless the time limit has been extended in writing by the Local Planning Authority.

Table 1 – between 07:00 and 23:00 – Noise limits expressed in dB $L_{A90,10minute}$ as a function of the standardised wind speed (m/s) at 10 metre height as determined within the site averaged over 10 minute periods.

Location	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
R1 Blaen-Rhymney Farm	38.3	39.6	41.3	43.3	45.6	48.0	50.5	53.0	55.5
R2 Ty Isaf Farm	38.3	39.6	41.3	43.3	45.6	48.0	50.5	53.0	55.5
R3 Reservoir House	38.3	39.6	41.3	43.3	45.6	48.0	50.5	53.0	55.5
R4 Twyn Yr Arian	38.3	39.6	41.3	43.3	45.6	48.0	50.5	53.0	55.5
R5 Pleasant View	38.3	39.6	41.3	43.3	45.6	48.0	50.5	53.0	55.5
R6 Y Graig Lwyd	38.3	39.6	41.3	43.3	45.6	48.0	50.5	53.0	55.5
R7 Lakeside Farm	38.3	39.6	41.3	43.3	45.6	48.0	50.5	53.0	55.5
R8 Pond Cottage	38.3	39.6	41.3	43.3	45.6	48.0	50.5	53.0	55.5
R9 Gypsy Castle	38.3	39.6	41.3	43.3	45.6	48.0	50.5	53.0	55.5
R10 Blaen-Carno Farm	38.3	39.6	41.3	43.3	45.6	48.0	50.5	53.0	55.5
R11 Blaen-Morlais Farm	38.3	39.6	41.3	43.3	45.6	48.0	50.5	53.0	55.5

Table 2 – between 23:00 and 07:00 – Noise limits expressed in dB $L_{A90,10minute}$ as a function of the standardised wind speed (m/s) at 10 metre height as determined within the site averaged over 10 minute periods.

Location	4	5	6	7	8	9	10	11	12
R1 Blaen-Rhymney Farm	43.0	43.0	43.0	43.0	43.0	45.5	48.0	50.6	53.1
R2 Ty Isaf Farm	43.0	43.0	43.0	43.0	43.0	45.5	48.0	50.6	53.1
R3 Reservoir House	43.0	43.0	43.0	43.0	43.0	45.5	48.0	50.6	53.1
R4 Twyn Yr Arian	43.0	43.0	43.0	43.0	43.0	45.5	48.0	50.6	53.1
R5 Pleasant View	43.0	43.0	43.0	43.0	43.0	45.5	48.0	50.6	53.1
R6 Y Graig Lwyd	43.0	43.0	43.0	43.0	43.0	45.5	48.0	50.6	53.1
R7 Lakeside Farm	43.0	43.0	43.0	43.0	43.0	45.5	48.0	50.6	53.1
R8 Pond Cottage	43.0	43.0	43.0	43.0	43.0	45.5	48.0	50.6	53.1
R9 Gypsy Castle	43.0	43.0	43.0	43.0	43.0	45.5	48.0	50.6	53.1
R10 Blaen-Carno Farm	43.0	43.0	43.0	43.0	43.0	45.5	48.0	50.6	53.1
R11 Blaen-Morlais Farm	43.0	43.0	43.0	43.0	43.0	45.5	48.0	50.6	53.1

Table 3 – the geographical coordinate references are provided for the purposes of identifying the general location of dwellings to which a given set of noise limits applies

Receptor	Easting	Northing
R1 Blaen-Rhymney Farm	310481	210702
R2 Ty Isaf Farm	310443	210084
R3 Reservoir House	310399	209950
R4 Twyn Yr Arian	310106	209798
R5 Pleasant View	310452	209646
R6 Y Graig Lwyd	310298	209349
R7 Lakeside Farm	310261	209301
R8 Pond Cottage	310033	209239
R9 Gypsy Castle	309367	208906
R10 Blaen-Carno Farm	309013	208708
R11 Blaen-Morlais Farm	307363	209336

Guidance Notes for Noise Conditions

These notes are to be read with and form part of the noise condition. They further explain the condition and specify the methods to be employed in the assessment of complaints about noise immission from the wind farm. The rating level at each integer wind speed is the arithmetic sum of the wind farm noise level as determined from the best-fit curve described in Guidance Note 2 of these Guidance Notes and any tonal penalty applied in accordance with Guidance Note 3. Reference to ETSU-R-97 refers to the publication entitled "The Assessment and Rating of Noise from Wind Farms" (1997) published by the Energy Technology Support Unit (ETSU) for the Department of Trade and Industry (DTI).

Guidance Note 1

a) Values of the $L_{A90,10\ minute}$ noise statistic should be measured at the complainant's property, using a sound level meter of EN 60651/BS EN 60804 Type 1, or BS EN 61672 Class 1 quality (or the equivalent UK adopted standard in force at the time of the measurements) set to measure using the fast time weighted response as specified in BS EN 60651/BS EN 60804 or BS EN 61672-1 (or the equivalent UK adopted standard in force at the time of the measurements). This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent UK adopted standard in force at the time of the measurements). Measurements shall be undertaken in such a manner to enable a tonal penalty to be applied in accordance with Guidance Note 3.

b) The microphone should be mounted at 1.2 – 1.5 metres above ground level, fitted with a two-layer windshield or suitable equivalent approved in writing by the Local Planning Authority, and placed outside the complainant's dwelling. Measurements should be made in "free field" conditions. To achieve this, the microphone should be placed at least 3.5 metres away from the building facade or any reflecting surface except the ground at the approved measurement location. In the event that the consent of the complainant for access to his or her property to undertake compliance measurements is withheld, the wind farm operator shall submit for the written approval of the Local Planning Authority details of the proposed alternative representative measurement location prior to the commencement of measurements and the measurements shall be undertaken at the approved alternative representative measurement location.

c) The $L_{A90,10\ minute}$ measurements should be synchronised with measurements of the 10-minute arithmetic mean wind and operational data logged in accordance with Guidance Note 1(d), including the power generation data from the turbine control systems of the wind farm.

d) To enable compliance with the conditions to be evaluated, the wind farm operator shall continuously log arithmetic mean wind speed in metres per second and wind direction in degrees from north at hub height for each turbine and arithmetic mean power generated by each turbine, all in successive 10-minute periods. Unless an alternative procedure is previously agreed in writing with the Planning Authority, this hub height wind speed, averaged across all operating wind turbines, shall be used as the basis for the analysis. All 10-minute arithmetic average mean wind speed data measured at hub height shall be 'standardised' to a reference height of 10 metres as described in ETSU-R-97 at page 120 using a reference roughness length of 0.05 metres. It is this standardised 10 metre height wind speed data, which is correlated with the noise measurements determined as valid in accordance with Guidance Note 2, such correlation to be undertaken in the manner described in Guidance Note 2. All 10-minute periods shall commence on the hour and in 10- minute increments thereafter.

e) Data provided to the Local Planning Authority in accordance with the noise condition shall be provided in comma separated values in electronic format.

f) A data logging rain gauge shall be installed in the course of the assessment of the levels of noise immission. The gauge shall record over successive 10-minute periods synchronised with the periods of data recorded in accordance with Note 1(d).

Guidance Note 2

a) The noise measurements shall be made so as to provide not less than 20 valid data points as defined in Guidance Note 2 (b)

b) Valid data points are those measured in the conditions specified in the agreed written protocol under paragraph (d) of the noise condition, but excluding any periods of rainfall measured in the vicinity of the sound level meter. Rainfall shall be assessed by use of a rain gauge that shall log the occurrence of rainfall in each 10-minute period concurrent with the measurement periods set out in Guidance Note 1. In specifying such conditions, the Local Planning Authority shall have regard to those conditions which prevailed during times when the complainant alleges there was disturbance due to noise or which are considered likely to result in a breach of the limits.

c) For those data points considered valid in accordance with Guidance Note 2(b), values of the $L_{A90,10\ minute}$ noise measurements and corresponding values of the 10-minute wind speed, as derived from the standardised ten metre height wind speed averaged across all operating wind turbines using the procedure specified in Guidance Note 1(d), shall be plotted on an XY chart with noise level on the Y-axis and the standardised mean wind speed on the X-axis. A least squares best-fitting curve of an order deemed appropriate by the qualified wind farm acoustician (but which may not be higher than a fourth order) should be fitted to the data points and define the wind farm noise level at each integer speed.

Guidance Note 3

a) Where, in accordance with the approved assessment protocol under paragraph (d) of the noise condition, noise immission at the location or locations where compliance measurements are being undertaken contain or are likely to contain a tonal component, a tonal penalty is to be calculated and applied using the following rating procedure.

b) For each 10-minute interval for which $L_{A90,10\ minute}$ data have been determined as valid in accordance with Guidance Note 2 a tonal assessment shall be performed on noise immission during 2 minutes of each 10 minute period. The 2 minute periods should be spaced at 10 minute intervals provided that uninterrupted uncorrupted data are available (“the standard procedure”). Where uncorrupted data are not available, the first available uninterrupted clean 2-minute period out of the affected overall 10-minute period shall be selected. Any such deviations from the standard procedure, as described in Section 2.1 on pages 104-109 of ETSU-R-97, shall be reported.

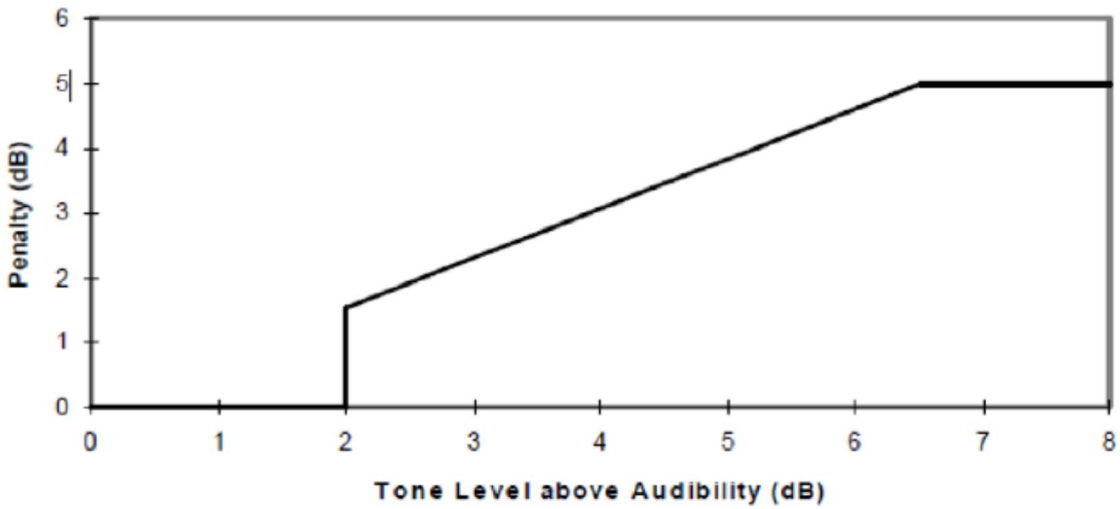
c) For each of the 2 minute samples the tone level above or below audibility shall be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104109 of ETSU-R-97.

d) The tone level above audibility shall be plotted against wind speed for each of the 2 minute samples. Samples for which the tones were below the audibility criterion or no tone was identified, a value of zero audibility shall be used.

e) A least squares best-fitting linear regression line shall then be performed to establish the average tone level above audibility for each integer wind speed derived from the value of the “best fit” line

at each integer wind speed. If there is no apparent trend with wind speed then a simple arithmetic mean shall be used. This process shall be repeated for each integer wind speed for which there is an assessment of overall levels in Guidance Note 2.

f) The tonal penalty is derived from the margin above audibility of the tone according to the figure below.



Guidance Note 4

a) If a tonal penalty is to be applied in accordance with Guidance Note 3 the rating level of the turbine noise at each wind speed is the arithmetic sum of the measured noise level as determined from the best fit curve described in Guidance Note 2 and the penalty for tonal noise as derived in accordance with Guidance Note 3 at each integer wind speed within the range specified by the Local Planning Authority in its written protocol under paragraph (d) of the noise condition.

b) If no tonal penalty is to be applied then the rating level of the turbine noise at each wind speed is equal to the measured noise level as determined from the best fit curve described in Guidance Note 2.

c) In the event that the rating level is above the limit(s) set out in the Tables attached to the noise conditions or the noise limits for a complainant's dwelling approved in accordance with paragraph (e) of the noise condition, the qualified wind farm acoustician shall undertake a further assessment of the rating level to correct for background noise so that the rating level relates to wind turbine noise immission only.

d) The wind farm operator shall ensure that all the wind turbines in the development are turned off for such period as the qualified wind farm acoustician requires to undertake the further assessment. The further assessment shall be undertaken in accordance with the following steps:

e) Repeating the steps in Guidance Note 2, with the wind farm switched off, and determining the background noise (L_3) at each integer wind speed within the range requested by the Local Planning Authority in its written request under paragraph (c) and the approved protocol under paragraph (d) of the noise condition.

f) The wind farm noise (L_1) at this speed shall then be calculated as follows where L_2 is the measured level with turbines running but without the addition of any tonal penalty:

$$L_1 = 10\log_{10}\left[10^{\frac{L_2}{10}} - 10^{\frac{L_3}{10}}\right]$$

g) The rating level shall be re-calculated by adding arithmetically the tonal penalty (if any is applied in accordance with Note 3) to the derived wind farm noise L_1 at that integer wind speed.

h) If the rating level after adjustment for background noise contribution and adjustment for tonal penalty (if required in accordance with note 3 above) at any integer wind speed lies at or below the values set out in the Tables attached to the conditions or at or below the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then no further action is necessary. If the rating level at any integer wind speed exceeds the values set out in the Tables attached to the conditions or the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then the development fails to comply with the conditions.

Appendix 2: Historic Environment Desk Based Assessment

HCUK GROUP

Historic Environment Desk Based Assessment

Pen March Wind Farm, Merthyr Tydfil

January 2024 | Project Ref 06151A - DBA

HCUK Group is a multi-disciplinary environmental practice offering expert advice in archaeology, heritage, landscape, arboriculture, and planning. It began life in 2010 as Heritage Collective LLP, before becoming Heritage Collective UK Limited in 2014. In the coming years diversification saw the addition of Archaeology Collective, Landscape Collective and Planning Collective, before all strands came together to be branded under a single umbrella: HCUK Group, based on the acronym for the original company. A home working company since the beginning, we are pleased to employ a talented workforce of consultants and support staff, who are on hand to advise our clients.

Project Number: 06151A - DBA

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Non-Technical Summary

This historic environment desk-based assessment has been prepared by HCUK Group on behalf of RWE Renewables Ltd, to assess the impacts on the historic environment from the proposed Pen March Wind Farm. Updates have been made to the report following the request from PEDW for further information.

A study area of 10km radius around the Pen March Wind Farm was used to identify scheduled monuments, listed buildings, conservation areas and historic parks and gardens. Consideration of the proposed development scheme in relation to the Registered Historic Landscape of Merthyr Tydfil is discussed in a separate report. There are no Registered Battlefields or World heritage Sites within the 10km radius study area around the Pen March Wind Farm, or within the Application Boundary itself.

There are 102 scheduled monuments within 10km, although following a staged assessment process only seven were taken to further assessment. In all cases a less than substantial level of harm to the significance of the monuments was identified. A similar process was adopted for listed buildings, for which there were 322 in the study area. In the end seven of these were taken for further assessment and again a less than substantial harm to their significance was identified. There are 12 conservation areas in the study area of which only one was assessed further. Of the six Registered Historic Parks and Gardens, none were taken to further assessment.

A 2km radius study area was used for archaeological sites recorded on the Glamorgan Gwent and Clwyd Powys Archaeological Trusts Historic Environment Records and for sites held on the National Monuments Record. Assessment of the searches, in conjunction with analysis of historic cartographic sources, aerial photographs and Lidar data led to the conclusions that the site has a moderate potential for prehistoric remains to be present within the proposed development areas, possibly associated with hitherto unrecorded cairns, buildings or field boundaries. There is a low potential for Roman and early medieval remains to be present. For the medieval period, the potential for remains to be present is low, although if so they would likely be associated with land divisions, agricultural buildings and sheep shelters.

Remains are known to be present within the Application Boundary of post medieval date, and although nothing is known within the areas of proposed development, there is quite a high likelihood for agricultural remains to be present, such as field boundaries or shelters. There is also a high potential for mineral extraction remains, such as further quarries, and a high potential for further remains associated with the Dowlais Free Drainage System. The proposed access track will cross a leat associated with the Dowlais Free Drainage System. For the modern period the potential is moderate as further mineral extraction remains and additions or repairs to the Dowlais Free Drainage System may be present.

Mitigation to the potential changes in significance of the designated features in the wider area is unlikely to be feasible. It should be noted that any such changes are considered to be at a low level. For buried archaeological remains mitigation could be implemented for direct impacts from the development proposals in the form of evaluation investigations across the development area followed by excavation or other forms of recording as appropriate to any remains revealed. Based on the assessment it is not anticipated that any below ground archaeological remains will be of such high significance that they could be a constraint to the proposals, and that any such remains can be dealt with through appropriate mitigation.

The scope of any further archaeological works that would be needed in advance or during development of the Pen March Wind Farm would need to be discussed and agreed with Planning Services at Glamorgan Gwent Archaeological Trust in their capacity as archaeological advisors

to Merthyr Tydfil and Caerphilly County Borough Councils. Cadw and the Conservation Officers would respond on issues regarding the designated historic assets in the study area.

Crynodeb Di-Technegol

Paratowyd yr asesiad desg hwn o'r amgylchedd hanesyddol gan HCUK Group ar ran RWE Renewables Ltd, i asesu effaith datblygiad arfaethedig Fferm Wynt Pen March ar yr amgylchedd hanesyddo. lMae'r diweddariadau hyn wedi eu gwneud i'r adroddiad, yn dilyn cais am wybodaeth ychwanegol wrth Penderfyniadau Cynllunio ac Amgylchedd Cymru (PCAC).

Defnyddiwyd ardal astudio gyda radiws o 10km o amgylch Fferm Wynt Pen March i adnabod henebion cofrestredig, adeiladau rhestredig, ardaloedd cadwraeth a pharciau a gerddi hanesyddol. Ystyrir y cynllun datblygu arfaethedig mewn perthynas â Thirwedd Hanesyddol Gofrestredig Merthyr Tudful mewn adroddiad ar wahân. Nid oes yna unrhyw Feysydd Brwydr Cofrestredig na Safleoedd Treftadaeth Byd o fewn yr ardal astudio sydd â radiws o 10km o amgylch Fferm Wynt Pen March, na o fewn Ffin y Cais ei hun.

Mae yna 102 o henebion cofrestredig o fewn 10km, er yn dilyn proses asesu fesul cam saith yn unig o'r rhain aeth ymlaen i gael asesiad pellach. Ym mhob achos nodwyd lefel o niwed llai na sylweddol i arwyddocâd yr henebion. Defnyddiwyd proses debyg ar gyfer adeiladau rhestredig, roedd yna 322 ohonynt i gyd yn yr ardal astudio. Yn y diwedd roedd saith o'r rhain yn destun asesiad pellach ac eto nodwyd niwed llai na sylweddol i'w harwyddocâd. Mae yna 12 ardal gadwraeth yn yr ardal astudio, cafodd un o'r rhain asesiad pellach. Nid oedd unrhyw un o'r chwe Pharc a Gradd Hanesyddol Gofrestredig yn destun asesiad pellach.

Defnyddiwyd ardal astudio gyda radiws o 2km ar gyfer safleoedd archaeolegol sydd wedi'u cynnwys yng nghofnodion Amgylchedd Hanesyddol Ymddiriedolaethau Archaeolegol Morgannwg Gwent a Chlwyd Powys a safleoedd sydd wedi'u cofnodi yng Nghofnod Henebion Cenedlaethol Cymru. Arweiniodd asesiad o'r chwiliadau, ar y cyd â dadansoddi ffynonellau cartograffig hanesyddol, lluniau o'r awyr a data Lidar at y casgliad bod yna potensial cymedrol ar y safle o ddarganfod olion cynhanesyddol o fewn yr ardaloedd datblygu arfaethedig, o bosib yn gysylltiedig â charneddau, adeiladau neu derfynau caeau sydd heb eu cofnodi hyd yn hyn. Mae'r potensial o bresenoldeb olion Rhufeinig a'r oesoedd canol cynnar yn isel. O ran y cyfnod canoloesol, mae'r potensial o bresenoldeb olion yn isel, er os ydynt yn bresennol maent yn debygol o fod yn gysylltiedig â rhaniadau tir, adeiladau amaethyddol a chysgodfeydd defaid.

Rydym yn gwybod bod olion o ddyddiad ôl-ganoloesol yn bresennol o fewn Ffin y Cais, ac er nad ydym yn ymwybodol o unrhyw beth o fewn ardaloedd y datblygiad arfaethedig, mae yna debygolrwydd eithaf uchel o bresenoldeb olion amaethyddol megis terfynau caeau neu gysgodfeydd. Mae yna hefyd potensial uchel o bresenoldeb olion echdynnu mwynau, megis chwareli pellach, a photensial uchel o bresenoldeb olion pellach yn gysylltiedig â System Ddraenio Rydd Dowlais. Bydd y trac mynediad arfaethedig yn croesi ffrwd sy'n gysylltiedig â System Ddraenio Rydd Dowlais. O ystyried y cyfnod modern mae'r potensial yn gymedrol gan fod cloddio am fwynau pellach yn parhau ac efallai y bydd ychwanegiadau neu atgyweiriadau i System Ddraenio Rydd Dowlais yn bresennol.

Nid yw camau lliniaru i'r newidiadau posib i arwyddocâd y nodweddion dynodedig yn yr ardal ehangach yn debygol o fod yn ddichonadwy. Dylid nodi bod unrhyw newidiadau o'r fath yn cael eu hystyried ar lefel isel. O ran gweddillion archaeolegol wedi'u claddu, gellid lliniaru effeithiau uniongyrchol y cynigion datblygu ar ffurf ymchwiliadau gwerthuso ar draws yr ardal ddatblygu ac yna gwneud gwaith cloddio neu ffurfiau eraill o gofnodi fel sy'n briodol i unrhyw weddillion a ddatgelir. Yn seiliedig ar yr asesiad ni ragwelir y bydd unrhyw weddillion archaeolegol o dan y ddaear mor sylweddol fel y gallant fod yn gyfyngiad ar y cynigion, ac y gellir delio ag unrhyw weddillion o'r fath trwy fesurau lliniaru priodol.

Byddai angen trafod cwmpas unrhyw waith archaeolegol pellach y byddai ei angen ymlaen llaw neu yn ystod datblygiad Fferm Wynt Pen March a chytuno arno gyda Gwasanaethau Cynllunio Ymddiriedolaeth Archaeolegol Morgannwg Gwent yn rhinwedd eu swydd fel cynghorwyr

archaeolegol i Gynghorau Bwrdeistref Sirol Merthyr Tudful a Chaerffili. Byddai Cadw a'r Swyddogion Cadwraeth yn ymateb i unrhyw faterion yn ymwneud ag asedau hanesyddol dynodedig yn yr ardal astudio.

1. Introduction

Background

1.1 This historic environment desk-based assessment has been prepared by James Meek MCIfA, Director (Archaeology) of HCUK Group on behalf of RWE Renewables Ltd, and amended following comments from PEDW, Merthyr Tydfil and Caerphilly County Borough Councils.

1.2 The Planning Inspectorate ("the Inspectorate") received a request under Regulation 33 of the 2017 Regulations for a Scoping Direction in relation to a proposed development for Pen March Wind Farm, by Innogy Renewables UK Ltd (the Planning Inspectorate were informed on 2 July 2020 that Innogy Renewables UK Ltd have transferred to RWE Renewables Ltd) ("the Applicant").

1.3 The Pen March Wind Farm straddles the boundary of two local planning authorities, Merthyr Tydfil County Borough Council to the west and Caerphilly County Borough Council to the east Figures 1 and 2). Powys lies directly to the north as does the boundary of the Bannau Brycheiniog National Park. The Application Boundary of the proposed Pen March Wind Farm is referred to as 'the Application Boundary'.

1.4 The standard is stated by CIfA as: *Desk-based assessment will determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area. Desk-based assessment will be undertaken using appropriate methods and practices which satisfy the stated aims of the project, and which comply with the Code of Conduct and other relevant regulations of CIfA. In a development context desk-based assessment will establish the impact of the proposed development on the significance of the historic environment (or will identify the need for further evaluation to do so), and will enable reasoned proposals and decisions to be made whether to mitigate, offset or accept without further intervention that impact.*

1.5 A desk-based assessment is defined by CIfA as: ……*a programme of study of the historic environment within a specified area or site on land, the inter-tidal zone or underwater that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely historic assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of historic assets and, in England, the nature, extent and quality of the known or potential archaeological, historic, architectural and artistic interest. Significance is to be judged in a local, regional, national or international context as appropriate.*

1.6 For the purposes of Planning Policy in Wales TAN 24 – The Historic Environment, the **historic environment** is defined as: *All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and deliberately planted or managed* (para 1.7, Welsh Government 2017[1]).

1.7 A **historic asset** is: *An identifiable component of the historic environment. It may consist or be a combination of an archaeological site, a historic building or area, historic park and garden or a parcel of historic landscape. Nationally important historic assets will normally be designated*.[2]

1.8 This report contains information about the historic environment and historic assets in the vicinity of the proposed development site, which will assist the archaeological advisors to the planning authority, Planning Services at Glamorgan Gwent Archaeological Trust and Cadw as archaeological advisors to Welsh Government, in their decision about the application and what, if any, archaeological mitigation will be required. This report includes a desk-based assessment and settings assessment based on 'Settings of Historic Assets in Wales' guidance (Cadw 2017).

1.9 Further guidance on how the planning system considers the historic environment and historic assets during development plan preparation and decision making on planning and Listed Building (LBC) applications can be found in Planning Policy Wales: Technical Advice Note 24: The Historic Environment (Welsh Government 2017; available online).

1.10 This desk-based assessment comprises an examination of digital data held by the Glamorgan Gwent Archaeological Trust (GGAT) Historic Environment Record (HER), Clwyd Powys Archaeological Trust (CPAT) HER and by the National Monuments Record of Wales (NMRW) together with documentary research. It incorporates a map regression indicating the impact of change over time. The report also references the 'Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)'.[3] A written scheme of investigation for the methodology of the assessment was submitted to and approved by the Planning Services section of GGAT.

1.11 Data has been collected for an area comprising a 10km radius of the Application Boundary for designated historic assets (Scheduled Monuments, Listed Buildings, Historic Parks and Gardens) and 2km for Historic Environment record data, which are referred to as the 'study areas'. These radii have been selected on the basis of

[1] Welsh Government 2016, Planning Policy Wales TAN 24 The Historic Environment 2017
[2] Ibid
[3] Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) reviewed August 2019 – Clwyd Powys, Dyfed, Glamorgan Gwent and Gwynedd Archaeological Trust's

professional judgment as being sufficient to determine the archaeological potential of the Application Boundary, taking into account its location, topography, and character. They have been confirmed with Cadw and GGAT.

1.12 The effects of the scheme on Registered Historic Landscape Character areas is assessed within a separate Assessment of the Significance of Impact of Development on Historic Landscape of Historic Interest in Wales 2 (ASIDOHLv2)[4] produced for the scheme.

1.13 This assessment will be in accordance with Chapter 6 of Planning Policy Wales, Planning Policy Wales Technical Advice Note 24 and the procedures set out in CIfA's 'Standard and Guidance for Historic Environment Desk-based Assessment'.

1.14 The purpose of this assessment is to determine and assess the archaeological potential of the Application Boundary and to assess the significance of any relevant historic assets identified. The report is informed by site inspection, historical information, and by data relating to historic assets. It seeks to provide sufficient information to allow an informed understanding of the potential impact of the proposed development on the significance of those assets, and to consider the need for solutions (design, engineering) where necessary.

1.15 This report will be used to inform the Cultural Heritage chapter of the Environmental Impact Assessment being prepared for the scheme and will be an included as an appendix to that.

Geology

1.16 The British Geological Survey (BGS)[5] identifies the underlying solid geology across the Application Boundary as a mix of limestone, sandstone, mudstone and siltstones (Figure 3).

1.17 From the western edge of the Application Boundary heading east, the bedrock geology include: Dowlais Limestone Formation – Limestone; Penderyn Oolite Member - Limestone, Ooidal; Oxwich Head Limestone Formation - Limestone; Twrch Sandstone Formation - Sandstone and Conglomerate, Interbedded; Bishopston Mudstone Formation - Mudstone, Siltstone and Sandstone; South Wales Lower Coal Measures Formation - Mudstone, Siltstone and Sandstone; South Wales Lower Coal Measures Formation – Sandstone; and Millstone Grit Group - Mudstone, Siltstone and Sandstone (Figure 3).

[4] HCUK Group 2022
[5] http://mapapps.bgs.ac.uk/geologyofbritain/home.html

1.18 Superficial deposits comprise strips of Devensian Till- Diamicton. This was formed up to 2 million years ago in the Quaternary Period when the local environment previously dominated by ice age conditions. No other superficial deposits are present within the Application Boundary.

Topography

1.19 The Site lies to the north of the A465, the Heads of the Valley Road. Rhymney lies to the east and Merthyr Tydfil lies to the southwest. Pontsticill lies to the northwest. The area covered by the Application Boundary is 460ha (Figures 1 and 2). It is centred on NGR 308601 210007.

1.20 The land is open pasture land in the lower areas with slightly rougher grass on the upland areas. There are patches of bedrock present in some areas including on the western and eastern sides of the proposed area of turbines.

1.21 The southern boundary of the site lies at around the 350m Above Ordnance Datum (AOD) contour. The land then rises gradually over the eastern side of the site to around 530m AOD in the centre of the northern boundary. It is around 410m AOD along the western edge, with a gradual drop down to the southwestern corner of around 380m AOD. (Figure 4)

1.22 Six turbines are proposed, that will likely be of N149 type which are up to 180m to tip.

1.23 The turbine locations are proposed to be as follows:

Table 1: Proposed Turbine Locations

Turbine Reference	Easting	Northing	Location
1	307733	210855	Northwestern turbine
2	308300	210948	Northern turbine
3	308089	210116	Western turbine
4	309105	210563	Eastern turbine
5	308632	210633	Roughly central turbine
6	308565	210077	Southern turbine

1.24 The access track for the turbines will be located on the eastern side of the application area, running roughly north from the original line of the Heads of the Valleys road (signposted to Fochriw from the west).

1.25 This main access road will curve up the hill with a construction compound proposed between the 380m and 390m contours on the eastern side of the road. Following a curve to the east and back to the west, an offshoot access road will lead directly north to Turbine 4.

1.26 The main access road will then continue in a northwestern direction up to Turbine 6 and then head to a junction where it splits in two. An offshoot to the west will run to Turbine 3, and a further offshoot running southwest to the proposed substation location.

1.27 The main access will then continue directly north to Turbine 2, with an offshoot running northeast to Turbine 5 and a further offshoot running northwest/west to Turbine 1.

Site Visit

1.28 Site visits have been undertaken to the area of the proposed scheme and its environs to observe the proposed locations of the turbines and access roads. This has been supplemented by a detailed and high resolution aerial and Lidar survey of the full application site. This has enabled further observation of the site area and also manipulation of Lidar data to observe for small variations in ground level to identify visible potential archaeological remains.

1.29 The following photographs provide an overview of the area of the site where development is proposed.

Photo 1: View northeast across the site from road along southern edge showing Blaen Carno Quarry spoil tips

Photo 2: Leat running east to west across the Application Boundary on the western side

Photo 3: View southwest across the Application Boundary from its western edge

Photo 4: Possible sheep shelter or shooting butt on western side of Site

Photo 5: View southwest from western side of Site towards Merthyr Tydfil

Photo 6: Leat south of Pitwellt Pond

Photo 7: Concrete weir added to leat south of Pitwellt Pond

Photo 8: View east across the stone walled enclosure that is to be scheduled southeast of Pitwellt Pond

Photo 9: Possible hut circle or sheepfold on the northern edge of the enclosure

Photo 10: Likely rectangular sheepfold on western side of the enclosure looking southwest

Photo 11: View northeast across northern side of the enclosure visible as an arc of stones

Photo 12: View southeast across southern end of enclosure, visible as an arc of stones

Photo 13: Section of Nant Morlais within revetted banks close to Pitwellt Pond

Photo 14: View south from the approximate location of the proposed substation

Photo 15: View east towards upper part of the Application Boundary where the wind farm will be located

Photo 16: View south from western side of Site close to southwestern turbine location

Photo 17: View west from approximate location of southwestern turbine

Photo 18: View southeast from upper part of Site

Photo 19: View south from upper part of Site towards Ffos Y Fran opencast colliery and spoil tips

Photo 20: View southwest from upper part of Site

Photo 21: View southwest from upper part of Site towards the large windfarm at Pen Y Cymoedd

Photo 22: View northeast towards upper part of Site from western side

Photo 23: View south from northeastern part of the Application Boundary where the areas is at its highest

Photo 24: View east-northeast from upper part of Site

Photo 25: View east-southeast from upper part of Site

Photo 26: View southwest from upper part of Site

Photo 27: View north from upper part of Site

Photo 28: View southeast from upper part of Site with sheepfold remains visible looking towards Llechrhyd and the three existing wind turbines beyond

2. Methodology

Sources

2.1 In preparing this assessment we have compiled readily available archaeological and historical information from documentary and cartographic sources, primarily:

- Glamorgan Gwent Archaeological Trust (GGAT) Historic Environment Record (HER) for known archaeological sites, monuments and findspots within 2km of the Application Boundary (i.e. the study area);
- Clwyd Powys Archaeological Trust (CPAT) HER for known archaeological sites, monuments and findspots within 2km of the Application Boundary;
- Royal Commission on the Ancient and Historical Monuments of Wales National Monument Record information;
- Scheduled Monuments, Registered Historic Parks and Gardens, Registered Historic Landscapes; Listed Buildings and Conservation Areas (Cadw / Welsh Government);
- Air photographs held by RCAHMW, Britain from Above, Google Maps and those taken for the scheme;
- Review of Lidar data, both that from the former LLE website (now DataMap Wales) and the Lidar survey undertaken specifically for the site;
- Site visit and walkover survey;
- Assessment of the archaeological potential of the area;
- Assessment of the likely impact upon the settings of surrounding features of the historic environment;
- Assessment of likely impacts on any identified remains within the development site (or potential remains) and likely requirements, if any, for further stages of archaeological work; and
- Various online sources.

2.2 The information gathered from the above sources has been verified and augmented as far as possible by assessment and site inspection, in order to arrive at conclusions on the significance of the various historic assets and archaeological remains that have been identified.

Setting Assessment Methodology

2.3 This Heritage Impact Assessment has given due consideration to Cadw guidance on setting as laid out in Managing Setting of Historic Assets in Wales[6] and Heritage Impact Assessment in Wales[7] and similarly within the Welsh Government's Planning Policy Wales Technical Advice Note 24: The Historic Environment[8].

2.4 As noted in the previous section, when assessing the impact of proposals on designated historic assets for this scheme, it is not a question of whether there would be a direct physical impact on those assets, but instead whether change within their 'setting' would lead to a loss of 'significance'.

2.5 In simple terms, setting is defined as '*the surroundings in which a historic asset is understood, experienced and appreciated*'. It therefore must be recognised from the outset that 'setting' is not a historic asset, and cannot itself be harmed. Its importance relates to the contribution it makes to the significance of the historic asset and the extent to which it allows that significance to be understood, experienced and appreciated.'

2.6 Welsh Government guidance[9] identifies that '*change in the historic environment is inevitable*', but it is only harmful when significance is damaged.

2.7 In that regard, the Cadw Conservation Principles document states that significance of an historic asset '*embraces all of the cultural heritage values that people associated with it, or which prompt them to respond to it*'[10].

2.8 As such, when assessing the impact of proposals on designated historic assets beyond the boundary of a development site, it is not a question of whether setting would be affected, but rather a question of whether change within an asset's 'setting' would lead to a loss of 'significance' or the ability to understand, experience and appreciate 'significance' based on the above 'heritage interest' as defined by Cadw.

2.9 Set within this context, where the objective is to determine the impact of proposals on designated historic assets beyond the boundary of a development site, it is necessary to first define the significance of the asset in question - and the contribution made to that significance or the ability to appreciate that significance by its 'setting', in order to establish whether there would be a loss, and therefore harm.

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[6] Cadw 2017a
[7] Cadw 2017b
[8] WG 2017
[9] Ibid
[10] Cadw 2011

The guidance identifies that change within a historic asset's setting need not necessarily cause harm to that asset - it can be positive, negative or neutral.

2.10 In light of the above, the assessment of potential setting effects, arising from the proposed scheme, has followed the guidance set out in 'Managing Setting of Historic Assets in Wales' by Cadw[11]. Part 1 of this guidance defines setting and observes that the setting of a historic asset is:

"The surroundings in which a historic asset is understood, experienced and appreciated, embracing present and past relationships and the surrounding landscape. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive negative or neutral contribution to the significance of an asset."

2.11 The guidance is clear that the importance of setting lies in what it contributes to the significance of the historic asset or the ability to appreciate that significance.

2.12 On a practical level, the Cadw guidance identifies an approach to assessing setting in relation to development management which is based on a four-stage procedure; i.e.:

- Stage 1: Identify the historic assets;
- Stage 2: Define and analyse the setting which is made up of:
    - Its current surroundings
    - Our present understanding and appreciation of the historic asset
    - What (if anything) survives of its historic surroundings.
- Stage 3: Evaluate the potential impact of change or development; and
- Stage 4: Consider options to mitigate the impact of a proposed change or development.

2.13 The Heritage Impact Assessment in Wales document[12] states that the heritage values (significance) of a historic asset can be defined in the following terms:

- **evidential value**;
- **historical value**;
- **aesthetic value**; and
- **communal value**.

[11] Cadw 2017a
[12] Cadw 2017b

2.14 These values are defined in detail within the Conservation Principles[13] document as follows:

- ***Evidential value**:*

  "This derives from those elements of an historic asset that can provide evidence about past human activity, including its physical remains or historic fabric. These may be visible and relatively easy to assess, or they may be buried below ground, under water or be hidden by later fabric. These remains provide the primary evidence for when and how an historic asset was made or built, what it was used for and how it has changed over time. The unrecorded loss of historic fabric represents the destruction of the primary evidence.

  Additional evidential values can be gained from documentary sources, pictorial records and archaeological archives or museum collections. To assess the significance of this aspect of an asset, all this evidence needs to be gathered in a systematic way and any gaps in the evidence identified."

- ***Historical value**:*

  "An historic asset might illustrate a particular aspect of past life or it might be associated with a notable family, person, event or movement. These illustrative or associative values of an historic asset may be less tangible than its evidential value but will often connect past people, events and aspects of life with the present. Of course the functions of an historic asset are likely to change over time and so the full range of changing historical values might not become clear until all the evidential values have been gathered together.

  Historical values are not so easily diminished by change as evidential values and are harmed only to the extent that adaptation has obliterated them or concealed them."

- ***Aesthetic value.***

  "This derives from the way in which people draw sensory and intellectual stimulation from an historic asset. This might include the form of an historic asset, its external appearance and how it lies within its setting. It can be the result of conscious design or it might be a seemingly fortuitous outcome of the way in which an historic asset has evolved and been used over time, or it may be a combination of both.

  The form of an asset normally changes over time. Sometimes earlier pictorial records and written descriptions will be more powerful in many people's minds than what survives today. Some important viewpoints may be lost or screened, or access to them may be temporarily denied. To assess this aspect

[13] Cadw 2011

of an asset, again the evidence of the present and past form must be gathered systematically. This needs to be complemented by a thorough appreciation on site of the external appearance of an asset in its setting.

Inevitably understanding the aesthetic value of an historic asset will be more subjective than the study of its evidential and historical values. Much of it will involve trying to express the aesthetic qualities or the relative value of different parts of its form or design. It is important to seek the views of others with a knowledge and appreciation of the historic asset on what they consider to be the significant aesthetic values. "

- ***Communal value.***

  This derives from the meanings that an historic asset has for the people who relate to it, or for whom it figures in their collective experience or memory. It is closely linked to historical and aesthetic values but tends to have additional or specific aspects. Communal value might be commemorative or symbolic. For example, people might draw part of their identity or collective memory from an historic asset, or have emotional links to it. Such values often change over time and they may be important for remembering both positive and uncomfortable events, attitudes or periods in Wales's history. Historic assets can also have social value, acting as a source of social interaction, distinctiveness or coherence; economic value, providing a valuable source of income or employment; or they may have spiritual value, emanating from religious beliefs or modern perceptions of the spirit of a place.

2.15 Having established the baseline, the following guidance is provided in respect of an assessment of the effect upon 'setting'; i.e.:

"*Factors to be considered when assessing the impact of a proposed change or development within the setting of a historic asset include:*

- *the visual impact of the proposed change or development relative to the scale of the historic asset and its setting*
- *the visual impact of the proposed change or development relative to the location of the historic asset*
- *whether the proposed change or development would dominate the historic asset or detract from our ability to understand and appreciate it — for example, its functional or physical relationship with the surrounding landscape and associated structures and/ or buried remains*
- *the presence, extent, character and scale of the existing built environment within the surroundings of the historic asset and how the proposed change or development compares with this*
- *the lifespan of the proposed change or development and whether or not the impact might be reversible*

- *the extent of tree cover, whether it is deciduous or evergreen, and its likely longevity*
- *the impact of artificial lighting — for example, on night-time views*
- *the capability of a landscape setting to absorb change or new development without the erosion of its key characteristics*
- *the impact of the proposed change or development on non-visual elements of the setting and character of the historic asset, such as sense of remoteness, evocation of the historical past, sense of place, cultural identity or spiritual responses*
- *the impact of non-visual elements of the proposed change or development, such as the removal or addition of noises and smell."*

2.16 In light of the above, the assessment of potential setting effects, employed in the preparation of this report included site visits in the spring and summer of 2021:

- Identifying those historic assets that are capable of being affected by the proposed scheme and the manner (if any) in which they would be affected, through initial desk-based works and subsequent field visits;
- Defining the contribution made to their significance by their setting; and
- Assessing the likely impact upon their significance or the ability to appreciate it as a result of the form of development proposed being implemented.

2.17 In light of the above, the setting assessment of this report has been prepared in a robust manner, employing current best practice professional guidance and giving due regard to the methodology detailed above.

Assessment of Significance and Importance

2.18 Historic assets are assessed in terms of their significance and importance, following the requirement in PPW[14], and taking account of the Welsh Government's guidance in TAN24[15] and Cadw's Conservation Principles[16]. Significance, in relation to heritage policy, is defined by the Conservation Principles as

"*embrace[ing] all of the cultural heritage values that people associated with it, or which prompt them to respond to it.*"[17]

[14] Planning Policy Wales v11, Wales Government 2021
[15] WG 2017
[16] Cadw 2011
[17] Ibid

2.19 Where potential impacts on the settings of historic assets are identified, the assessment of significance includes assessing whether, how and to what degree these settings make a contribution to the significance of the historic asset(s). The methodology for assessing setting is described within the Setting Assessment Methodology below.

2.20 The importance of a historic asset is the overall value assigned to it based on its heritage significance, reflecting its statutory designation or, in the case of undesignated assets, the professional judgement of the assessor (Table 2). Nationally and internationally designated assets are assigned to the highest two levels of importance. Grade II Listed Buildings and Grade II Registered Parks & Gardens are considered of medium importance. Conservation Areas are not assigned to either level of importance by PPW but their status as local designations and their omission from the National Heritage List justifies their classification here as assets of medium importance. Other non-designated assets which are considered of local importance only are assigned to a low level of importance. An historic feature which lacks a degree of significance meriting consideration in planning decisions, because of its heritage interest is not considered to be a historic asset; it may also be said to have negligible importance.

2.21 The assessment seeks to understand and define the significance of historic assets identified from the sources above.

Table 2: Criteria for Assessing the Importance of Historic Assets

Importance of the asset	**Criteria**
Very high (National / International)	World Heritage Sites and other assets of equal international importance
High (National)	Grade I and II* Registered Parks and Gardens, Scheduled Monuments, Protected Wreck Sites, Registered Battlefields, Grade I and II* Listed Buildings, and undesignated historic assets of equal importance
Medium (Regional)	Conservation Areas, Grade II Registered Parks and Gardens, Grade II Listed Buildings, historic assets on local lists and undesignated assets of equal importance
Low (Local)	Undesignated historic assets of lesser importance

Archaeological Potential

2.22 The report concludes with (1) an assessment of the archaeological potential of the Application Boundary, (2) an assessment of the significance of any archaeological

remains that may be present, and (3) an assessment of the likely effects of the proposed development on historic assets, in terms of physical impact.

2.23 Archaeological potential is determined through the following levels:

- High Potential – where historic assets of a certain period or type are known to exist or where their likelihood of being present is near certain;
- Moderate Potential – where the evidence suggests that historic assets of a certain period or type are likely to be present;
- Low Potential – where the evidence indicates that there is a slight chance for historic assets of a certain period or type to be present;
- Negligible – Where the evidence indicates that previous investigation, former disturbance, topographic location is such that no remains of a certain period or type will be present.

3. Relevant Policy Framework

National Legislation

3.1 The Ancient Monuments and Archaeological Areas Act 1979 was previously the primary legislation for protecting archaeological remains and Scheduled Ancient Monuments in Wales.

3.2 The Historic Environment (Wales) Act 2016 has three main aims as defined by Cadw:

a) to give more effective protection to listed buildings and scheduled monuments;

b) to improve the sustainable management of the historic environment; and

c) to introduce greater transparency and accountability into decisions taken on the historic environment.

3.3 THE 2016 Act amends present legislation and introduces new provisions to the Ancient Monuments and Archaeological Areas Act 1979 and also the Planning (Listed Buildings and Conservation Areas) Act 1990. It is supported by a number of planning guidance documents. The Act most specifically provides better safeguards for the protection of Scheduled Monuments, Listed Buildings and Historic Parks and Gardens. It will also include further guidance on place names.

Planning Policy Wales – Technical Advice Note 24: The Historic Environment

3.4 Planning Policy Wales was revised in February 2024. Technical Advice Note 24 'The Historic Environment' was adopted on 31st May 2017 and is unaltered by the February revisions. This replaced Circular 60/96 'Planning and the Historic Environment and Circular 61/96 'Planning and the Historic Environment: Historic Buildings and Conservation Areas'. This states that '*The purpose of this TAN is to provide guidance on how the planning system considers the historic environment during development plan preparation and decision making on planning and Listed Building (LBC) applications. This TAN provides specific guidance on how the following aspects of the historic environment should be considered:*

a) World Heritage Sites

b Scheduled monuments

c) Archaeological remains

d) Listed buildings

e) Conservation areas

f) Historic parks and gardens

g) Historic landscapes

h) Historic assets of special local interest' (Ibid para 1.4)[18]

3.5 Advice and decisions on planning applications affecting nationally significant historic environment features (or designated historic assets) is provided by Cadw acting on behalf of Welsh Government.

3.6 TAN 24 also notes the importance of The Conservation Principles document (Cadw 2011)[19] being used for the Sustainable Management of the Historic Environment in Wales '*and provide the basis upon which Cadw discharges certain statutory duties on behalf of the Welsh Ministers*'[20]. It notes that '*Conservation Principles should be used by others (including owners, developers and other public bodies) to assess the potential impacts of a development proposal on the significance of any historic asset/assets and to assist in decision making where the historic environment is affected by the planning process*'[21].

3.7 Conservation Principles includes the following six principles.

1. Historic assets will be managed to sustain their values.
2. Understanding the significance of historic assets is vital.
3. The historic environment is a shared resource.
4. Everyone will be able to participate in sustaining the historic environment.
5. Decisions about change must be reasonable, transparent and consistent.
6. Documenting and learning from decisions is essential.

3.8 The significance of a historic asset is defined in TAN 24 as comprising four heritage values which need to be understood before the significance of the asset can be assessed: Evidential value; Historical value; Aesthetic value and Communal value (see also 2.14 above).

3.9 TAN 24 discusses Heritage Impact Assessments and notes '*that they are a structured process that enables the significance of a designated asset to be taken into account*

[18] TAN 24, para 1.4
[19] Cadw 2011, Conservation Principles
[20] TAN 24, para 1.10
[21] Ibid

when considering proposals for change. Heritage impact assessments should be proportionate both to the significance of the historic asset and to the degree of change proposed, and should include sufficient information to enable both the significance of the asset and the impact of change to be understood. A Heritage Impact Assessment should be summarised in a heritage impact statement which must form part of any listed building consent, conservation area consent and, when requested, scheduled monument consent applications.'

3.10 Guidelines for the preparation of Heritage Impact Assessments in Wales have been prepared by Cadw[22].

3.11 TAN 24 discusses what the setting of a historic asset comprises in para 1.25: '*The setting of an historic asset includes the surroundings in which it is understood, experienced, and appreciated embracing present and past relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral. Setting is not a historic asset in its own right but has value derived from how different elements may contribute to the significance of a historic asset.*'[23]

3.12 It notes that the principles used for determining setting impact '*are equally applicable to all historic assets, irrespective of their designation. For any development within the setting of a historic asset, some of the factors to consider and weigh in the assessment include:*

- *The significance of the asset and the contribution the setting makes to that significance*
- *the prominence of the historic asset*
- *the expected lifespan of the proposed development*
- *the extent of tree cover and its likely longevity*
- *non-visual factors affecting the setting of the historic asset such as noise.*'[24]

3.13 Further it recognises that '*There will be cases where a proposed development will enhance the setting of a historic asset and this will be treated as a benefit resulting*

[22] Cadw 2017, Heritage Impact Assessments in Wales, May 2017
[23] TAN 24 para 1.25
[24] TAN 24 para 1.26

from the development. Mitigation of damaging effects could be achieved through good design and in some cases screening or landscaping.'[25]

3.14 Paragraph 1.9 of TAN 24 identifies that the public benefits of schemes that tackle climate change, such as renewable energy proposals should be weighed against any harm to historic assets and states: '*The multiple impacts of climate change on historic assets are a particular challenge. Some of these will be outside the planning process such as sea-level rise, flooding, changes in vegetation and agricultural land use. However, measures that need to be taken in response to the impact of climate change, such as sea and flood defences, and renewable energy projects can fall under the planning system. The public benefit of taking action to reduce carbon emissions, or to adapt to the impact of climate change, should be weighed against any harm to the significance of historic assets.'*[26]

Relevant Local Policies:

3.15 The Caerphilly County Borough Local Development Plan up to 2021 (Adopted November 2010) is the current adopted plan for the county.

3.16 For Merthyr Tydfil, the Replacement Local Development Plan 2016 – 2031 (LDP) provides a framework for the sustainable development of the Merthyr Tydfil County Borough area up to 2031 (adopted January 2020).

Table 3: Relevant Local Policies

Relevant Section	Details
Caerphilly County Borough Local Development Plan up to 2021	
Policy SP6	Development proposals should contribute to creating sustainable places by having full regard to the context of the local, natural, **historic and built environment** and its special features …
NH1.1 – Upper Rhymney Valley (relevant parts extracted from LDP Appendices, Appendix 1: Special	**Relevance against Strategic Criteria** **Need** The area represents one of the most open upland areas within the County Borough, abutting the Brecon Beacons (Bannau Brycheiniog) National Park. In terms of landscape structure it forms the northern edge of the coalfield and shows evidence of historic mine workings.

[25] TAN 24 para 1.28
[26] TAN 24 para 1.9

Landscape Areas)	**Coherence** The area covers the northern part of the Upper Rhymney Valley, primarily to the north of the A465 corridor. It provides a distinctive upland landscape unit, formed primarily by the boundaries of adjacent local authorities. It abuts the Brecon Beacons (Bannau Brycheiniog) National Park and forms a natural buffer zone to further protect the Park's nationally important landscape character and quality. **Cultural Landscapes** It is a simple, open landscape with a number of recent regeneration projects in the area, primarily in the form of the improved A465 corridor, which has both increased in scale and size. An important example of industrial heritage, with areas of reclaimed land and spoil tips. There are examples of various historic and contemporary human occupation and exploitation in the form of prehistoric monuments, redundant industrial workings and transport systems. **Visual and Sensory** Strong visual links with the Brecon Beacons. Views of the upland area are extensive and very open with minimal field boundaries and patterns. Adjacent upland areas dominate views into the landscape. Strong underlying feel of industrial past. Industrial remnants include old railway sidings and earthworks. Overhead pylons are visual detractors, and the A465 has both noise and movement impacts. Area is currently predominantly used as rough grazing and agriculture. **Historical Landscapes** An extensive area of unenclosed open moorland, forming the easternmost outline of Merthyr Common, which has remained relatively, unchanged since the 19th Century, in spite of encroachment by industrial extraction activity, in particular lime and ironstone quarries. The area contains numerous water management features that form part of the extensive remains of Dowlais Free Drainage System. There are also quarries associated with the Dowlais Ironworks,

	which together with the water management features represent a significant concentration of 19th Century industrial water-management features of considerable historical importance. **Key Policy, Management and Development Control Issues: Long Term** Future development proposals should not see the loss of any historic environment or geological or geomorphological features present within the landscape. Protect elements of Dowlais Free Drainage water management system.
Merthyr Tydfil, the Replacement Local Development Plan 2016 - 2031	
LDP Objective 9	To protect, enhance and promote all heritage, historic and cultural assets
Policy CW1: The Historic Environment	The integrity of our historic environment assets will be conserved and enhanced. Development proposals will only be permitted where it can be demonstrated they would preserve or enhance the architectural quality, character or the historic or cultural importance of our designated historic environment assets. Development affecting undesignated historic environment assets including, Locally Listed Buildings or structures, Landscapes of Outstanding Historic Interest in Wales, Urban Character Areas and Archaeologically Sensitive Areas should have regard to their special character and archaeological importance.

4. Archaeological Background

Introduction

4.1 A 10km study area around the Proposed Scheme has been used to identify designated historic assets within the area. This has returned a total of 102 scheduled monuments; there are 322 listed buildings; six registered historic parks and gardens; 12 conservation areas; and one Registered Historic Landscape (addressed in the accompanying ASIDOHL).

4.2 A 2km study area was used for a review of archaeological sites, monuments, findspots and buildings recorded on the Glamorgan Gwent, and Clwyd Powys Historic Environment Records (HER) and the National Monuments Record (NMR). A number of the NMR records corresponds with the local HER data, as well as scheduled monuments and listed buildings. Due to the quantity of data, all information is listed in Appendix 3 and quantified into site types and period for data beyond the Application Boundary's extent and within the 2km study area, although specific data is included for HER entries within the Application Boundary.

4.3 There are 319 GGAT HER records, 103 CPAT HER records and 450 NMR records within the 2km study area.

4.4 GGAT and CPAT HER records are identified by their unique PRN (Primary Record Number) and archaeological event records are identified by their ERN (Event Record Numbers). National Monument Record data is identified by their unique NPRN (National Primary Record Number).

Table 4: Timescales used in this report

Period	Approximate date	
Palaeolithic –	c.450,000 – 12,000 BC	Prehistoric
Mesolithic –	c. 12,000 – 4000 BC	
Neolithic –	c.4000 – 1800 BC	
Bronze Age –	c.1800 – 600 BC	
Iron Age –	c.600 BC – AD 43	
Roman (Romano-British) –	AD 43 – c. AD 410	Historic
Early Medieval –	c. AD 410 – AD 1086	
Medieval–	1086 –1485	
Post medieval	1485 – 1900	
Modern –	1901 – Present	

Designated Historic Assets

Scheduled Monuments

4.5 There are 102 scheduled monuments within 10km of the Application Boundary. Appendix 1 provides information on these scheduled monuments and the four stage process used to determine which require detailed assessment.

4.6 The Stage 1 process identifies the 102 scheduled monuments (Figure 6) and their location within the Zone of Theoretical Visibility (ZTV) at Hub Height that has been provided for the windfarm: none - no turbines visible; low – 1 to 2 turbines; medium 3 to 4 turbines (Figure 7); and high 5 to 6 turbines (Figure 8).

4.7 Stage 2 process removes those scheduled monuments from further assessment where they will have no intervisibility from the wind turbines (lying outside of the identified area of ZTV) or lying within a low visibility area. The proposals will therefore lead to no change within their setting which will affect the significance of those monuments. This reduces the number of scheduled monuments to 63. These are then considered in relation to the type of monument, their location and whether the proposed development would cause any change to their significance. This reduced the number of scheduled monuments down to 32

4.8 Stage 3 then looks at the remaining scheduled monuments in more detail to determine whether the proposals may cause a change in their significance and whether they need more detailed assessment. This included assessment of their evidential, historical, aesthetic and communal values. This reduces the number of scheduled monuments down to seven (Table 5).

4.9 A further site is due to be designated as a scheduled monument which lies within the Application Boundary. This is the site of a roughly oval enclosure lying southeast of Pitwellt Pond. The enclosure is defined by a collapsed stone wall around its perimeter (as shown in photographs above) and is likely to be the site of a Bronze Age or Iron Age settlement. No features were observed within the enclosure, although a number of collapsed stone structures are present around its perimeter, including roughly circular ones that could be the remains of round houses.

4.10 These are all discussed further in Section 5 below.

Table 5: Stage 4 Identification of Scheduled Monuments requiring further assessment

SM Number	Name	Period	NGR	Distance from site
BR277	Carn y Bugail and Carn Felen Round cairns	Prehistoric	SO 08829 13672	3.2km
BR278	Waun y Gwair Cairn Round cairn	Prehistoric	SO 07689 12276	1.9km
BR322	Garn Fawr round cairn	Prehistoric	SO 2350 15140	6.1km
BR389	Twyn Ceilog Round Cairn	Prehistoric	SO 09911 13105	3.0km
GM563	Morlais Hill ring cairn	Prehistoric	SO 05255 09643	3.3km
GM028	Morlais Castle	Medieval	SO 04958 09585	2.6km
GM569	Garn Pontsticill ring cairn	Prehistoric	SO 05278 11788	3.4km

Listed Buildings

4.11 There are 322 listed buildings located within the 10km study area (Figure 9). The locations of the buildings are shown on Figure 9 and listed in Appendix 2: Listed Buildings. A similar process has been used as with scheduled monuments to determine require further detailed assessment, although this has been done in a two stage process to reduce the list from 322 down to 172 by removing those that do not lie within the ZTV (Figures 10 and 11).

4.12 The second stage of the process was to consider each building in terms of its type, the reason for listing (where given) and its general location. This included assessment of their evidential, historical, aesthetic and communal values. Where there were clear views to the site ascertained from site visits or where their site type was such that a change to their setting may be considered to change their significance, they have been considered further reducing the number down to 7 listed buildings (Table 6).

4.13 The vast majority of buildings in the 10km study area are associated with the industrialisation of the area and associated buildings constructed for the managers or workers within these industries, buildings associated with their spiritual or social well-being, and structures associated with transportation. The growth of the towns around Merthyr and Caerphilly are directly linked to the exploitation of the landscape for these industries to acquire ore for metal production, coal for fuel and water for both steam power and industrial processes. The structures have always been associated with exploitation of the landscape for its resources, and changes in technology have led to constant changes in the landscape. Their heritage significance derives mostly from their evidential and historical values, which would remain unchanged by the introduction of wind turbines into the landscape. The communal value of such sites is also important, but would again be unchanged by the development proposals. The aesthetic value of the assets (which may be taken

to include their wider setting), would remain largely unaltered. It has been determined therefore that the changes posed to setting would have a neutral effect on their significance. The development proposals will introduce wind turbines and associated infrastructure into the wider landscape around the historic assets, but its general character and land use will remain the same.

Table 6: Listed Buildings for further consideration

Record Number	Name	Grade	Broad Class	ZTV	Considered further
13546	Nos 1-14 (consec) Collins Row	II	Domestic	High	Yes
13547	Nos 14-28 (consec) Lower Row	II	Domestic	High	Yes
13548	Nos 1-13 (consec) Middle Row & attached Windsor Arms PH	II	Domestic	High	Yes
13578	Church of St David	II*	Religious, Ritual and Funerary	High	Yes
21430	Penuel Baptist Church	II*	Religious, Ritual and Funerary	High	Yes
11384	Tower of Old Church of St Gwynno	II	Religious, Ritual and Funerary	Medium	Yes
81189	Hy Brasail	II	Domestic	Medium	Yes

4.14 The identified buildings include the settlement at Bute Town, which although a group of workers housing, they are presently in an isolated part of the landscape with views directly to the Application Boundary.

4.15 The Church of St David and Peneul Baptist Church are Grade II* structures within Rhymney with partial views to the Application Boundary.

4.16 The Tower of the old church of St Gwynno and Hy Brasail lie to the west of the Application Boundary and are in quite an open location with wider views part of their significance.

4.17 These are discussed further in section 5.

Conservation Area

4.18 There are 12 conservation areas within 10km of the Application Boundary (Figure 12). Four of these lie outside of the ZTV and are not considered further as there will be no direct or indirect impacts upon them from the development (Aberdare Town Centre; Cwmfelin; Tredegar Heritage Initiative and Bedwellty Park).

4.19 The remaining conservation areas are: Council Street and Urban Street; Cyfarthfa; Morgantown (Merthyr Tydfil); Town Centre (Merthyr Tydfil); Thomastown (Merthyr Tydfil); Dowlais; Bute Town; and Rhymney Town (Figure 13).

Council Street and Urban Street Conservation Area

4.20 The following information is based on the Council Street and Urban Street Conservation Area Character Appraisal and Management Plan[27]. It lies within Penydarren on the eastern side of Merthyr Tydfil. It represents the earliest examples of Council housing in the Merthyr Tydfil area which were built in 1903. The streets form a grid pattern roughly following alignments of previous field boundaries in the area. The housing was set at right angles to earlier ribbon development to the southeast. The area has subsequently been surrounded by further housing.

4.21 Historic Landscape Characterisation of Merthyr Tydfil Part 1 and 2 compiled by GGAT notes the following; '*In 1895, the Merthyr Tydfil District Council was established; the Housing of the Working Classes Act had been previously passed in 1890 with the result that in 1896 the Council considered the construction of 100 houses in Penydarren. The Council had adopted the mantel formerly held by the iron companies, that of main provider of workers' housing; and by 1902, the earliest examples of council housing had been constructed at Urban and Council Streets, Penydarren*.'

4.22 The Conservation Area Character Appraisal states that '*The two streets, formed of eight blocks of terraced housing, are built with rough stone surfaced elevations and lintels. … the views down the alleys to the rear of the rows confirm that very few buildings have been extended to the rear creating a strong rhythm of form and an excellent retention of the original shape and appearance of the structures. The names of Urban Street, District Street and Council Street record the brief existence of the Merthyr Tydfil Urban District Council between 1895 and 1903, when this housing was built. The streets form an important element in the material evidence of Merthyr Tydfil's social history, as well as creating an area with a particular aesthetic value.*'[28]

4.23 The appraisal notes that the key vistas of the conservation area are channelled by terraced dwellings and that the elevation of the area '*means that longer views over nearby buildings can be made to the south.*' This is away from the Application Boundary.

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[27] MTBC 2014a
[28] Ibid

4.24 Discussing the effect of the Proposed Scheme on the historic asset in terms of the values that define its significance:

- Effects on evidential values: As discussed above the evidential values of the Conservation Area stem principally from the historic fabric of the buildings erected by the Merthyr Tydfil Urban District Council between 1895 and 1903 within it, the layout of the streets and the information this provides regarding past ways of living and the development of the conservation area. No alteration is posed to any of the buildings within the Conservation Area, and the proposals do not pose any effect on the evidential values of the Conservation Area.
- Effects on historical values: As noted within the definition of historical value, 'Historical values are not so easily diminished by change as evidential values and are harmed only to the extent that adaptation has obliterated them or concealed them.' The proposed development will not change the historical value of the conservation area.
- Effects on aesthetic values: As noted in the definitions of aesthetic values, this does include setting as a component, and would include the association of the conservation area with the surrounding former industrial landscape although the introduction of wind turbines within it would cause very limited harm to its value and result in minimal change to the land use of the area.
- Effects on communal values: The development proposals can not have an effect upon the communal value of the conservation area, which will remain unaltered.

4.25 Overall there is considered to be no harm to the significance of the Council Street and Urban Street Conservation Area, a neutral effect.

Cyfarthfa Conservation Area

4.26 The Cyfarthfa Conservation Area Character Appraisal notes that the area comprises Cyfarthfa Ironworks, Park, Castle and the features which relate to all three. It states that '*The Conservation Area of Cyfarthfa is important as it is a lasting symbol of Merthyr Tydfil's strength during the 18th and 19th Centuries as Ironworks of Worldwide significance. This is displayed with the grand architectural scale of Cyfarthfa Castle, Cefn Viaduct and the Blast Furnace bank. In addition, the designated area consists of 16 structures which are of national importance. The Conservation Area provides additional protection for the setting of such monuments,*

it adds fortification to the link between the Ironworks and Cyfarthfa Park and recognises further the historic merits of Cyfarthfa Park and Castle'. [29]

4.27 It notes that its significance is that '*the Cyfarthfa Ironworks site was at the centre of the industrial revolution in the South East Wales coalfield while the buildings and archaeological remains of the Cyfarthfa Ironworks Landscape form just one part of the wider landscape character of Merthyr Tydfil. The site at Cyfarthfa provides a detailed account of the Town's beginnings, and is at the centre of the town's history. The Ironworks was involved in many of the historical events of Merthyr Tydfil, such as the early industrial revolution, the Merthyr Rising of 1831, the lockout of 1874-9 and the depression of the mid to late 19th Century to name but a few. Such events are important in presenting the evolution of the Town'*.[30] Thus a large part of its significance derives from its evidential and historical values.

4.28 It is located at the head of the Taf Valley and set outside the centre of Merthyr Tydfil. It also notes that '*The wider landscape of the Conservation Area contains the mines, quarries, transport and water features which provided resources to the Cyfarthfa Iron Works. Visible remains are also apparent on mountains above Heolgerrig and Winch Fawr as well as towards the aesthetically striking Gurnos Quarry to the North East. … Areas of modern and semi-modern housing development exist around the fringes of the Conservation Area including the Gurnos and Gellideg Estates. These have reduced the areas connection with the wider historic landscape.'*[31]

4.29 The key views and vistas which form part of the Area's character are identified as mostly being internal to the area associated with interconnection between the ironworks, castle and its park. Wider views are noted to the west and southeast but those to the north are blocked by the Gurnos Estate.

4.30 Discussing the effect of the proposed development on the historic asset in terms of the values that define its significance:

- Effects on evidential values: As discussed above the evidential values of the conservation area stem principally from the structures and features associated with the Cyfarthfa Ironworks, as well as the park and Cyfarthfa Castle. No alteration is posed to any of the buildings or structures within the conservation area, and the proposals do not pose any effect on the evidential values of the conservation area.
- Effects on historical values: As noted within the definition of historical value, 'Historical values are not so easily diminished by change as evidential values

[29] Davies 2009a
[30] Ibid
[31] Ibid

and are harmed only to the extent that adaptation has obliterated them or concealed them.' The proposed development will not change the historical value of the conservation area.

- Effects on aesthetic values: As noted in the definitions of aesthetic values, this does include setting as a component. Given that the proposals will not alter any of the designed views or views which have been identified within the conservation area appraisal as integral to the character, appearance and significance of the conservation area, it is considered that the proposals will have a neutral effect on its aesthetic value.
- Effects on communal values: The development proposals will not have an effect upon the communal value of the conservation area.

4.31 Overall there is considered to be no harm to the significance of the Cyfarthfa Conservation Area, a neutral effect.

Dowlais Conservation Area

4.32 The Dowlais Conservation Area Character Appraisal and Management Plan[32] notes that it lies to the north-east of Merthyr Tydfil on an exposed hillside. It covers a collection of historic buildings associated with the Dowlais and Ivor Iron Works. Dowlais runs along a shallow valley and the conservation area is in two parts separated by later 20th century housing. To the south lies the former Dowlais ironworks and to the north are a collection of listed buildings, including a church, library and the Dowlais Stables buildings.

4.33 The appraisal notes that the '*Conservation Area is grouped around a collection of classical and industrial Georgian and Victorian buildings surrounded by suburban housing. These imposing buildings are of a larger scale than the residential properties with the appropriate dimensions to create a sense of prestige. … The close association of these buildings also creates an area with a distinct historical identity. The location of Dowlais, set on an incline and close to open countryside contributes to the area's landscape character. … The Conservation Area affords good views towards the east and south enveloping a number of bare hills, which are resultant from former and existing industrial activity, and towards the west, down the valley towards the centre of Merthyr Tydfil and western hillside of the town.*'[33]

4.34 Based on the information within the conservation area appraisal, the proposed development to the north of the area is unlikely to be intervisible with the conservation area, as confirmed by site visit, and will not change any of the wider

[32] MTBCB 2014b
[33] Ibid

views from the area. There will be no effects on the evidential, historical or aesthetic or communal values of the conservation area resulting in a neutral impact to the conservation area and it will not be discussed further.

4.35 Discussing the effect of the proposed development on the historic asset in terms of the values that define its significance:

- Effects on evidential values: As discussed above the evidential values of the conservation area stem principally from the historic fabric of the buildings within it, the layout of the streets and the clear hierarchy of buildings as noted in the conservation area appraisal, and the information this provides regarding past ways of living and the development of the area. No alteration is posed to any of the buildings within the conservation area, and the proposals do not pose any effect on the evidential values of the conservation area. The development proposals will be located on land adjacent to features associated with the Dowlais Free Drainage System that is associated with the Dowlais Ironworks, but the proposals will lead to limited change of the land use of the area or the features of the Dowlais Free Drainage System.
- Effects on historical values: As noted within the definition of historical value, 'Historical values are not so easily diminished by change as evidential values and are harmed only to the extent that adaptation has obliterated them or concealed them.' The proposed development will not change the historical value of the conservation area.
- Effects on aesthetic values: As noted in the definitions of aesthetic values, this does include setting as a component. Given that the proposals will have no intervisibility with the conservation area, it is considered that the proposals will have a neutral effect on its aesthetic value.
- Effects on communal values: The development proposals will not have an effect upon the communal value of the conservation area.

4.36 Overall there is considered to be no harm to the significance of the Dowlais Conservation Area from the development proposals, a neutral effect.

Merthyr Tydfil Town Centre Conservation Area

4.37 Merthyr Tydfil Town Centre Conservation Area Character Appraisal[34] notes that the area comprises a number of landmark buildings of particular architectural quality, as well as a dense urban environment with mainly narrow street frontages giving a sense of enclosure.

[34] Davies 2009b

4.38 It also notes that it has '*Attractive views along street lines to focal points, landmark buildings and out to mountain scenery … The town centre stands on the east bank of the River Taff amidst a mountainous setting. It contains the historic commercial, religious and administrative centre of the industrial district that developed between the mid-18th and early 20th centuries, creating the first major industrial town in Wales*.[35]

4.39 It also notes the key vistas from the conservation area as being '*southwards from Lower High Street framed by the Merthyr Common and Mynydd Cilfach-yr-encil to the south east and Mynydd Gethin to the south west … Vistas west and south west from Castle Street and Swan Street to Mynydd Aberdar and Mynydd Gethin including the historic iron and coal extraction landscape above Heolgerrig.*'[36] The views towards the Pen March Wind Farm are not recognised as part of the identified vistas that are recognised in the conservation area appraisal.

4.40 Discussing the effect of the Proposed Scheme on the historic asset in terms of the values that define its significance:

- Effects on evidential values: As discussed above the evidential values of the conservation area stem principally from the historic fabric of the buildings within it, the layout of the streets and the buildings within this dense urban environment, and the information this provides regarding past ways of living and the development of the area. No alteration is posed to any of the buildings within the conservation area, and the proposals do not pose any effect on the evidential values of the conservation area.
- Effects on historical values: As noted within the definition of historical value, 'Historical values are not so easily diminished by change as evidential values and are harmed only to the extent that adaptation has obliterated them or concealed them.' The proposed development will not change the historical value of the conservation area.
- Effects on aesthetic values: As noted in the definitions of aesthetic values, this does include setting as a component. Given that the proposals lie within an area which is not identified as one of the identified vistas within the conservation area appraisal, it is considered that the proposals will have a neutral effect on its aesthetic value.
- Effects on communal values: The development proposals will not have an effect upon the communal value of the conservation area.

[35] Davies 2009b
[36] Ibid

4.41 Overall there is considered to be no harm to the significance of the Merthyr Tydfil Town Centre Conservation Area from the development proposals, a neutral effect.

Morgantown Conservation Area

4.42 Morgantown Conservation Area Character Appraisal summarises the area as containing '*a number of historic elements. This includes the site of the former Vulcan Brewery, which was the oldest independent brewery in Merthyr Tydfil and Vulcan House which was centre to chartist activity in the early 19th Century. The homes on the rectangular shaped terraces of David Street, Garth Street and Cambrian Street were also workers dwellings for workers at the Cyfarthfa Ironworks. The area developed as the Ironworks reached the peak of its powers by the end of the 19th Century.*'[37]

4.43 It is located to the northeast of Merthyr Tydfil Town Centre. The appraisal notes that it can be split into two areas, with the east containing higher class Edwardian properties and the west containing smaller industrial workers' cottages. The evidential and historical values of the conservation area stem principally from the buildings within it, their form and layout, and form a major part of its significance.

4.44 The key views noted in the appraisal are looking out towards the historic landscape of Merthyr Tydfil from high points to the north and from the high point of Brecon Road views towards the Brecon Beacons can be seen, '*incorporating much of Merthyr Tydfil's Industrial Landscape. This fits in such structures as the Cefn Viaduct, and vaguely the Cyfarthfa Ironworks Blast Furnaces*'.[38] The area has very limited if any views to the northeast and the area of the proposed windfarm.

4.45 Discussing the effect of the proposed development on the historic asset in terms of the values that define its significance:

- Effects on evidential values: As discussed above the evidential values of the conservation area stem principally from the historic fabric of the buildings within it, industrial workers cottages to the east and higher class Edwardian properties to the west, and the information this provides regarding past ways of living and the development of the area. No alteration is posed to any of the buildings within the conservation area, and the proposals do not pose any effect on the evidential values of the conservation area.
- Effects on historical values: As noted within the definition of historical value, 'Historical values are not so easily diminished by change as evidential values and are harmed only to the extent that adaptation has obliterated them or

[37] Davies 2009c
[38] Ibid

concealed them.' The proposed development will not change the historical value of the conservation area.

- Effects on aesthetic values: As noted in the definitions of aesthetic values, this does include setting as a component. Although glimpsed views towards the proposed development may be possible, these will not result in changes to the aesthetic value of the conservation area as they are small scale.
- Effects on communal values: The development proposals will not have an effect upon the communal value of the conservation area.

4.46 Overall there is considered to be no harm to the significance of the Morgantown Conservation Area from the development proposals, a neutral effect.

Thomastown Conservation Area

4.47 Thomastown Conservation Area Character Appraisal and Management identifies the areas as being located '*to the east of Merthyr Tydfil Town Centre. It sits on a steep slope on the eastern side of the Merthyr Tydfil basin and commands impressive views across the town and across the valley over the wider historic landscape. The area is particularly steep to the east of Union Street and a round hillock rises in the area between Church Street and Newcastle Street. Prior to the development of Thomastown, the area was separated into a number of parcelled fields.*'[39]

4.48 It is noted as being an integral part of Merthyr Tydfil and developed during the late 18th and 19th centuries, growing uphill to the east leading to views overlooking the town centre to the west. A major part of its significance derives from its evidential and historical significance. The appraisal notes the important views from the area are to the west across Merthyr and not northeast towards the Pen March Wind Farm.

4.49 Discussing the effect of the Proposed Scheme on the historic asset in terms of the values that define its significance:

- Effects on evidential values: As discussed above the evidential values of the conservation area stem principally from the historic fabric of the buildings within it, and the information this provides regarding past ways of living and the development of the area. No alteration is posed to any of the buildings within the conservation area, and the proposals do not pose any effect on the evidential values of the conservation area.
- Effects on historical values: As noted within the definition of historical value, 'Historical values are not so easily diminished by change as evidential values and are harmed only to the extent that adaptation has obliterated them or

[39] MTCBC 2009c

concealed them.' The proposed development will not change the historical value of the conservation area.

- Effects on aesthetic values: As noted in the definitions of aesthetic values, this does include setting as a component. The conservation area appraisal highlights views to the west as being important to the historic asset, overlooking Merthyr Tydfil and not towards the development proposals, and they will not result in changes to the aesthetic value of the conservation area.
- Effects on communal values: The development proposals will not have an effect upon the communal value of the conservation area.

4.50 Overall there is considered to be no harm to the significance of the Thomastown Conservation Area from the development proposals, a neutral effect.

Bute Town Conservation Area

4.51 Bute Town Conservation Area Appraisal & Conservation Area Management Plan summarises the area as follows: *'Bute Town, also known locally as Drenewydd, was built by The Bute Ironworks Company c.1830 as three rows of terraced workers' housing on an exposed and isolated site at the head of the Rhymney Valley, in the foothills of the Brecon Beacons. What made Bute Town most unusual amongst early industrial workers' housing was that it was such an elaborate formal architectural composition, built to such a high quality and exemplary in its complex mix of planned social housing.* [40]

4.52 The appraisal continues that it was '*conceived as a 'new town' comprising four rows of industrial workers' housing (although only three were constructed) and was built on an exposed and isolated site at the head of the Rhymney Valley. The development was formally laid out with a 'gridiron' plan, an orthogonal grid of streets intersecting at right angles. This grid was laid out perpendicular to the adjacent toll road with its main central axis leading towards the works, thereby avoiding direct views of the associated ironworks from within the houses*.'[41]

4.53 Part of its significance is that as it is located someway from the main urban centres it has survived as an isolated and complete example of planned workers housing, which forms a major part of its historical value. This historical value would not be denuded in any regard by the proposals. The appraisal notes that '*Constructed as terraced rows with rear lane access, the streets are the focal point of the rows with all of the houses having introspective aspects. The concession to the introspective nature of the terraces is the views out of the collective at each end of the rows to the*

[40] CBC2015
[41] Ibid

distant rolling heads of the valleys, which when they were first constructed would have given a distant view of the impressive furnaces.'[42]

4.54 Views to the north-northwest look towards the Pen March Wind Farm area and this will cause a change in its setting and potentially a change to its significance. This will be discussed further in section 5 below.

4.55 Discussing the effect of the Proposed Scheme on the historic asset in terms of the values that define its significance:

- Effects on evidential values: As discussed above the evidential values of the conservation area stem principally from the historic fabric of the buildings within it, their road layout and association with the former ironworks and the information this provides regarding past ways of living and the development of the area. No alteration is posed to any of the buildings within the conservation area, and the proposals do not pose any effect on the evidential values of the conservation area.
- Effects on historical values: As noted within the definition of historical value, 'Historical values are not so easily diminished by change as evidential values and are harmed only to the extent that adaptation has obliterated them or concealed them.' The proposed development will not change the historical value of the conservation area.
- Effects on aesthetic values: As noted in the definitions of aesthetic values, this does include setting as a component. The conservation area appraisal notes that the views from the end so the terraces lookout over the surrounding landscape, and as constructed in this isolated location, the wider vistas were important to the historic asset. The proposed development will have a visual intrusion into the setting of the historic asset and cause harm to its aesthetic value.
- Effects on communal values: The development proposals will not have an effect upon the communal value of the conservation area.

4.56 Overall there is considered to be harm to the significance of the Bute Town Conservation Area due to a visual change in its setting and it is assessed further in Section 5 below.

Rhymney Town Conservation Area

4.57 Rhymney Town Conservation Area has no appraisal as yet. The area encompasses the centre of Rhymney Town. It includes a number of listed buildings, including the

[42] Ibid

Grade II* listed buildings of Church of St David and the Penuel Baptist Church. Both of these buildings have limited views towards the proposed windfarm glimpsed through roads and alleyways heading to the north.

4.58 When in the centre of the Conservation Area the views out of the town are along the main road through, directly north and south, but not towards the Pen March Wind Farm. The centre of the town also drops down to the south such that there are no views to the north at the southern end of the Conservation area. It encompasses the heart of the town that expanded during the 19th century due to surrounding industries and this is from where its significance derives. Major parts of its significance are related to historical and evidential values, which will not be affected by the development proposals.

4.59 Discussing the effect of the proposed development on the historic asset in terms of the values that define its significance:

- Effects on evidential values: As discussed above the evidential values of the conservation area stem principally from the historic fabric of the buildings within it, their layout and the information this provides regarding past ways of living and the development of the town. No alteration is posed to any of the buildings within the conservation area, and the proposals do not pose any effect on the evidential values of the conservation area.
- Effects on historical values: As noted within the definition of historical value, 'Historical values are not so easily diminished by change as evidential values and are harmed only to the extent that adaptation has obliterated them or concealed them.' The proposed development will not change the historical value of the conservation area.
- Effects on aesthetic values: As noted in the definitions of aesthetic values, this does include setting as a component. It was noted that some views may be present from the northern edge of the conservation area towards the development proposals, although for the most part the proposals will not be visible. The extent of visual intrusion into the setting of the historic asset is minimal and overall the development proposals will cause no change to its aesthetic value.
- Effects on communal values: The development proposals will not have an effect upon the communal value of the conservation area.

4.60 Overall there is considered to be no harm to the significance of the Rhymney Town Conservation Area from the development proposals, a neutral effect.

Registered Historic Parks and Gardens

4.61 There are six Registered Parks and Gardens (RPG) within the 10km search area: Cyfarthfa Castle (reference PGW(Gm)1(MER)); Aberfan: Cemetery, Garden of

Remembrance and Former Tip and Slide Area (ref. PGW(Gm)69(MER)); Cefn Coed Cemetery & Jewish Burial Ground (ref. PGW(Gm)70(MER)); Aberdare Park (ref. PGW(Gm)2(RCT)); Bedwellty Park (ref. PGW(Gt)39(BLG)) and Buckland House (PGW(Po)6(POW)). (Figure 14)

4.62 Buckland House RPG only just encroaches into the study area and the majority lies over 10km distant to the northeast and does not lie within the ZTV. Aberdare Park lies 10km to the southwest and also does not lie in the ZTV. Bedwellty Park RPG lies outside of the ZTV. The significance of these RPGs will not be changed by the proposals.

4.63 The Cyfarthfa Castle RPG lies mostly outside of the ZTV and may have limited views to the northeast. As discussed in the conservation area above, the majority of important vistas lie within the conservation area, between industrial buildings, the castle and park. Views outside are to the south. The proposals will cause no harm to and have a neutral effect on the significance of this RPG.

4.64 The Cefn Coed Cemetery and Jewish Burial Ground lies to the north of Merthyr Tydfil to the east of the A478 to Brecon. A natural burial ground lies just beyond the northern edge of the main area. The topography on the eastern side of the cemeteries comprises a steep valley side such that there is no intervisibility with the Application Boundary, but with clear views to the north and west. A small area to the southeast is shown as lying within the ZTV, although a site visit makes this unlikely. The cemeteries are neatly laid out amongst paths within walled enclosures. The Jewish Burial Ground opened in 1860 and reflects the presence of a thriving Jewish community in Merthyr Tydfil in the nineteenth century. The proposals will cause no harm to and have a neutral effect on the significance of this RPG.

4.65 The Aberfan: Cemetery, Garden of Remembrance and Former Tip and Slide Area RPG is summarise as being of '*great national importance and meaning. The event that led to its existence was the disastrous collapse of a coal tip above Aberfan on 21st October 1966. Two parts of the site – the cemetery and Garden of Remembrance – are the haunting burial place of and memorial to those who lost their lives in this tragedy. A distinct part of the cemetery is devoted to graves of the victims, a memorial cross and a small pavilion and garden. The area is dominated visually by the two rows of linked arches of glistening white stone, each arch at the head of a grave. The Garden of Remembrance is simply laid out on the site of the school that was engulfed by the tip. Significant Views: Open views across the valley from Aberfan cemetery. Views towards the landscaped former tip and slide area from the opposite hillside. Open views from the playground to the opposite hillside.*' (PGW(Gm)69(MER))

4.66 The RPG lies over 700m from the Application Boundary and although it much of it is said to lie within the ZTV, the views to the northeast towards the site are limited and

very distant. The proposals will cause no harm to and have a neutral effect on the significance of this RPG.

Registered Historic Landscape

4.67 The western edge of the Application Boundary lies partly within the Merthyr Tydfil registered Historic Landscape (HLW (MGL) 2). This is discussed within the separate ASIDOHL report.

Local and National Monuments Records

4.68 A 2km study area was used for a review of archaeological sites, monuments, findspots and buildings recorded on the Glamorgan Gwent, and Clwyd Powys Historic Environment Records (HER) and the National Monuments Record (NMR). A number of the NMR records corresponds with the local HER data, as well as scheduled monuments and listed buildings. Due to the quantity of data, all information is listed in Appendix 3 and quantified into site types and period for data around the Application Boundary, although specific data is included for information within it.

4.69 There are 79 GGAT HER records within the Application Boundary, and 319 records in total within the study area.

4.70 There are no CPAT HER records within the Application Boundary and 103 records within the 2km study area.

4.71 There are nine NMR records within the Application Boundary and 412 records in total within the study area.

4.72 GGAT and CPAT HER records are identified by their unique PRN (Primary Record Number) and archaeological event records are identified by their ERN (Event Record Numbers). National Monument Record data is identified by their unique NPRN (National Primary Record Number).

Prehistoric

4.73 The GGAT HER records 10 prehistoric sites within the study area, 4 of which lie within the Application Boundary (Figure 16). The CPAT HER records 50 prehistoric sites within the 2km study area (Figure 17) and the NMR records 57 sites (Figure 18). This is a total of 117 prehistoric records. No CPAT or NMR records lie within the Application Boundary.

4.74 The most numerous site types recorded on the HERs are cairns, for which there are 81 records. The majority of these lie north of the Application Boundary on the upland hills in two main groups at Cefn Yr Ystrad to the northwest and Twyn Ceiliog to the northeast. Many of the NMR and CPAT records are duplicated, but indicate a

substantial number of cairns. Cairns are typically Bronze Age burial mounds placed in relatively prominent places to be visible to the wider area.

4.75 There are two cairns recorded within the Application Boundary (PRNs GGAT04893m and GGAT03139m). These lie on the western side of the Application Boundary close to an outcrop of limestone and the site of the large enclosure defined by stone banks (GGAT04892m) which is in the process of being scheduled.

4.76 There are nine prehistoric enclosures recorded within the study area, including the one due to be scheduled (GM623; GGAT04892m) which lies within the Application Boundary. A prehistoric field boundary is recorded within the Application Boundary (GGAT04886m).

4.77 No further prehistoric site types are recorded within the Application Boundary, but within the 2km study area are a further five settlement sites, seven possible buildings or hut circles, one standing stone, two stone circles (one of which may be modern), two banks and six walls.

4.78 Peat surveys have been undertaken across the Application Boundary which have identified areas and depths where peat deposits survive. This includes areas of peaty soils. Where peat survives at depth, it has the potential to contain well preserved environmental remains, typically of prehistoric date (although later environmental evidence may also survive). The waterlogged conditions of deeper peat deposits lead to anaerobic conditions that can preserve organic material, such as wood or leather for example. The peat surveys were undertaken at the beginning of the project design and where possible the turbine locations and infrastructure have avoided any deeper areas of peat, although do mostly cross areas of shallow peaty soil deposits where the perseveration of organic remains and organic material is far less likely as the anaerobic conditions required for survival of such remains is not present.

4.79 Based on the peat surveys, the turbines all lie in areas of less than 40cm depth (a typical topsoil depth) where survival of environmental remains is unlikely. The crane pad areas partially encroach into the 50 – 75cm depth, where there is also a low potential for surviving environmental remains. The indicative construction working areas (including access roads) also avoid any peats deeper than 50 – 75cm, excluding a small part of an area adjacent to Turbine 3 which slightly encroaches into an area of around 1m depth.

4.80 Overall the design of the Pen March Wind Farm avoids those areas of peat where the depth is such that there is a potential for environmental information or organic material to be present, excluding one small area on the edge of the likely working area around Turbine 3.

4.81 The potential for archaeological remains dating to the prehistoric period is considered to be moderate, as prehistoric monuments are known in the area although none

within the actual development area itself. The site visit did not identify any further possible prehistoric sites within the development boundary, although a number of probable stone built hut circles were noted around the enclosure to be scheduled which are also visible on aerial photographs. No possible prehistoric sites were visible from interrogation of Lidar data within the development area.

4.82 Due to the large number of cairns in the vicinity of the Pen March Wind Farm, it is possible that hitherto unidentified remains of cairns are present at the site which would be considered of regional (moderate) importance. Further prehistoric settlement or unenclosed hut circles could be present on the southwestern side of the proposed development area where the stone banked enclosure lies. These could be considered of regional (moderate) to national (high) importance if present.

Roman

4.83 The GGAT and CPAT HERs record two Roman roads within the study area, these include a roughly north to south aligned road directly west of the Application Boundary and a further possible branch running from a point directly northwest of the Application Boundary and heading southeast running partly through southwestern edge (RR621-02a) (Figure 19). No sign of this road was noted during site visits or through analysis of Lidar data.

4.84 There are no Roman sites recorded on the NMR within the study area.

4.85 The paucity of records Roman within the study area indicates that the potential for further archaeological remains of Roman date to be present is low. If remains were to be present they may be considered of local (low) to regional (moderate).

Early Medieval

4.86 No records of early medieval date area recorded within the study area. The potential for remains of this date to be present is considered low. If present, remains of this date would be of at least local (low) significance

Medieval

4.87 The GGAT holds six records of medieval date within the study area, two of which lie within the Application Boundary (Figure 19). The CPAT HER has one record and the NMR four records within the study area (Figure 19). In total there are 14 medieval records within the study area.

4.88 The sites recorded within the proposed development area include the supposed site of a medieval battle named Rhyd Y Milwyr, located within the far eastern edge (GGAT00441m). The GGAT HER notes that the authority of the battle is considered a forgery and that the record should actually be rejected. The second record is of a

medieval house platform lying in the southwestern part of the Application Boundary (GGAT04894m).

4.89 Two further battlefields are recorded within the study area, which are located 350m southwest of the rejected Rhyd Y Milwyr battlefield site. These are for the Traed-y Milwyr battlefield (GGAT01236m and NPRN404854) both of which are thought to be spurious.

4.90 Other records include the former site of a medieval building (presumably agricultural), a medieval clearance cairn, the locations of three further medieval buildings, a farmstead, an enclosure and the site of a deserted medieval village.

4.91 The upland area of the Application Boundary is unlikely to have seen much medieval activity other than in the form of isolated farmsteads, field boundaries or shelters for livestock. There is considered to be a low potential for archaeological remains of medieval date to be present. If they were then they would be of local (low) archaeological importance.

Post Medieval

4.92 By far the most numerous sites recorded are of Post medieval date and mostly associated with the later part of the period and the effects of the industrial revolution on the area.

4.93 The GGAT HER holds 262 records of post medieval date within the study area. A total of 35 records of post medieval date are recorded on the GGAT HER within the Application Boundary (Figures 20 to 23).

4.94 A number of these features are associated with the Dowlais Free Drainage System. This is described by the GGAT HER (GGAT05066m) as 'an ingenious system of reservoirs and leats, …. *fed by gravity and which in part dates to c. 1818'* it *'was crucial to the expansion of the ironworks at Dowlais and indeed Penydarren. It supplied water to the coal mines and ironworks of Dowlais via an extensive above-ground network of leats and reservoirs and underground U-shaped channels, built to the `Dowlais pattern' within various levels, such as the Brew House Level, and Buxton's or the Purple Level. The system acted to drain a variety of coal seams including the Lower Four Feet seams of the Cwm-bargoed, Trecatty and Trehir area and the Upper, and Lower Four Feet, Big Coal, Red, Blue and Spotted Vein in the Pantywaun, Rhaslas, and South Tunnel areas, before eventually draining into a water*

pit at Tyle Dowlais Pit, from where water could either be pumped back to the surface system or allowed to drain to the charging levels of the Penydarren furnaces[43]*.'*

4.95 Both Pitwellt Pond (GGAT02700m) and Jepson's Pond (GGAT86808m) lie within the site and are noted as being the two most prominent features of the drainage system. Although the HER records Pitwellt Pond as being an existing reservoir and some of the adjacent leats still active, at the time of the site visit the reservoir no longer contained water.

4.96 Pitwellt Pond (GGAT02700m) is the largest of the reservoirs and is directly connected on its western side to 'Sluice 2' (GGAT02709m) a sluice which connects to 'Leat 1' (GGAT02139m), described as an '*active leat on the Dowlais Free Drainage System running east - west, (flowing east), from Pitwellt Pond towards the lower slopes of Merthyr Common'*. The Pitwellt Pond Sluice House (GGAT02140m) connects '*Pitwellt Pond with Merthyr Common Leat 1, of breezeblock construction nine courses high, with a sturdy cast iron door set in the north-eastwards looking face and a concrete roof. Possibly modern replacement of an earlier feature*'.

4.97 On the southern edge of Pitwellt Pond lies 'Leat 2' (GGAT02221m) again described as an '*active leat on the Dowlais Free Drainage System running north - south, (flowing south), out of Pitwellt Pond*. Just to the south of this is the site of the Pitwellt Pond Well, a feature marked on the 1919 Ordnance Survey map (GGAT02110m). At the southern end of 'Leat 2' lies the Pitwellt Pond Reservoir (GGAT02118m), which comprises a pair of two small adjacent reservoirs, and the GGAT HER notes that it was '*built in c. 1902 by the Merthyr Tydfil Corporation as part of further sanitation improvement, in an effort to prevent further out breaks of disease'*.

4.98 Some 500m to the north of Pitwellt Pond lies 'Sluice 1' (GGAT02708m) which is recorded as being '*marked as a sluice on the First Edition (1875) Ordnance Survey map but is marked as a weir on the Third Edition (1919) Ordnance Survey map*.' 'Leat 3' (GGAT04193m) lies adjacent to 'Sluice 1' and is described as '*step banked active leat on the Dowlais Free Drainage System running north - south, (flowing south), linking the Nant Morlais with Pitwellt Pond.'* A crossing Point (GGAT04194m) runs across 'Leat 3' and is described as an '*area of cobbles, measuring 10 m in length and 3 m in width, placed in a now dried up streambed or leat to create an artificial ford*.'

4.99 Jepson's Pond (GGAT86808m) is an extant water filled reservoir which is actually recorded as a modern feature rather than post medieval, although it is shown on the

[43] Owen 1977, 67-8

1875 Ordnance Survey map. The map also records a sluice house to the south of the reservoir (GGAT02713m)[44]

4.100 A number of quarries are recorded within the site including Dowlais Quarry (GGAT02122m) to the east of Jepson's Pond which is marked as an 'old quarry' on the 1919 Ordnance Survey map. Cefn Ystrad Quarry (GGAT02418m) lies east of Pitwellt Pond and comprises a '*series of six scoops, none measuring more than 20 m in diameter, which have been created by the quarrying of outcropping rock. A number of small faces survive amongst piles of large angular boulders*. This quarry site lies on the southern edge of the proposed substation for the development.

4.101 To the west of Pittwelt pond lies a possible Millstone Quarry (GGAT02138m) recorded as a '*line of four rectangular scoops running north - south down the slope of Merthyr Common for approximately 40 m, with a maximum width of 3.5 m. The removed stone may possibly have been used to create millstones*.'

4.102 To the southeast of Pittwelt Pond lies Merthyr Common 'Quarry 3' (GGAT03187m) which comprises '*a series of squared platforms and piles of quarried stone possibly graded into specific sizes, adjacent to associated quarry workers huts'*. The adjacent former quarry workers huts (GGAT04890m) which is recorded as being '*a complex of quarrymen's huts, adjacent to the associated quarry workings. Some of the huts may have been built on the sites of Prehistoric settlement features*.' This area lies on the slopes above the proposed scheduled monument (GM623) prehistoric enclosure.

4.103 'Quarry 1' (GGAT03200m) lies northeast of Pitwellt Pond and is recorded as a '*quarry scoop that measures approximately 12 m in length, with width of 5 m and has a depth of 2 m. The scoop is located on a west facing slope overlooking Pitwellt Pond and probably provided stone for the construction of the pond'*. This quarry area lies directly adjacent to the proposed substation. Pitwellt Pond Quarry (GGAT04884m) lies directly on the northwestern side of Pitwellt Pond and '*measures 30 m in length, with a width of 10 m and has a depth of 2 m. The stone from this quarry was probably used to construct Pitwellt Pond*.'

4.104 Jepson's Pond Tips (GGAT03148m) lie in the southern part of the Application Boundary and are very visible features in the landscape '*located to the north of the A465, and west of Blaencarno Common are a number of heavy scratches which extend over 150m2. Linear in form, these features overlie earlier coal-tips.*'

4.105 A number of other records within the Application Boundary relate to the former rail and tramways that provided transportation to and from the numerous quarries in the area, most notably the Twynau Gwynion quarries to the west of the Pen March Wind

[44] The grid reference for GGAT02713m is slightly wrong and should be located at SO 08561 09131

Farm. These include two junctions (GGAT08513m and GGAT08497m), bridge abutments of large triangular shaped earthen banks on either side of the Nant Morlais (GGAT04887m), an adjacent Tramroad Causeway '*comprising linear stone bank near boulder strewn stream*' (GGAT08510m), a revetment (GGAT08512m) and two 2 broken sections of dual-purpose vandyked plate (GGAT08511m) all lying on the western edge of the Application Boundary adjacent to the Twynau Gwynion quarries.

4.106 A railway was present along the southern part of the Application Boundary, and a railway junction (GGAT08509m) is recorded directly north of Jepson's Pond. An area of concrete railway posts lies to the north of the road along the southern side of the Application Boundary (GGAT03124m) which are said to '*delineate the northern width of the MT & A Railway. To the south of the posts are the remnants of a raised platform which marks the limit of a double track width*.' These lie close to the proposed contractors compound and access road to the windfarm.

4.107 Agricultural features within the Application Boundary include the general drystone and turfstone walled landscape of Blaencarno Common (GGAT03129m); a sheepfold on the northern side of the Application Boundary (GGAT02714m); two shooting butts located to the east of Pitwellt Pond and close to the proposed sub-station (GGAT 03059m) and another north of Pitwellt Pond (GGAT03138m); and a revetted platform formed by an approximately 9m length of slightly curving drystone wall (GGAT04896m) located southeast of Pitwellt Pond. Close to this is a record of a collapsed feature (GGAT02471m) comprising a '*large rectangular feature which measures 7 m in width and 11 m in length with a depth of approximately 1m'*. It is uncertain what this represents.

4.108 The final two records within the Application Boundary held on the GGAT HER are associated with water management and it is uncertain if they are separate from the Dowlais Free Drainage System. These include enhancement works to the Nant Morlais (GGAT04885m) where a large '*flat face forming part of the gorge that the Nant Morlais passes through, approximately 100 m long with an approximate depth of 50 m. This area of the ravine would appear possibly to have been artificially enhanced for use in hushing*'. This lies directly northwest of Pitwellt Pond. A springhead is also recorded (GM04889m) where a '*drystone wall built around* (the springhead) *to act as a well. The remaining drystone walling is approximately 0.75 m tall and survives on at least two sides'*. This lies southeast of Pitwellt Pond.

4.109 The CPAT HER records 33 sites of post medieval date (Figure 20 and 21). None of these lie within the Application Boundary.

4.110 The NMR holds records of 320 post medieval sites within the study area (Figures 24 to 27). Eight of these lie within Site which include three sheepfolds (NPRN 243161,

NPRN 243162 and NPRN 243163), a limestone quarry (NPRN 243167) and a shooting butt (NPRN 243159).

4.111 The other records are associated with Blaen Carno quarry in the southern part of the area (NPRN 80459), Jepson's Pond (NPRN 86808), and a general number for the Merthyr Common Free Drainage System (NPRN 402950).

4.112 All of the records of post medieval date recorded on the HERs and NMR within the study area can be split up into a number of overall categories: agriculture; coal mining; drainage; iron foundries; mineral extraction and transport; social; and transportation

4.113 Agricultural records can be split into boundaries, including walls, boundary stones and banks (13 records); sheepfolds and shelters (20 records); limekilns for soil improvements (9 records); shooting butts and rifle ranges (7 records); farmsteads (4 records); enclosures (4 records); clearance cairns (4 records); a barn and a mill.

4.114 Site types associated with coal workings include: collieries (20 records); shafts (5 records); and general mining features (6 records).

4.115 There are numerous site types associated with drainage in the area, including many associated with the Dowlais Free Drainage System. These include: reservoirs and a pond (25 records); leats (33 records); drainage ditches (13 records); dams (5 records); sluices (5 records); sluice house (2 records); valve houses or valve tower (4 records); filter houses (2 records); a pumping station; drainage systems or stream enhancement (2 records); water channels (3 records); a footbridge; stepping stones (1 record); a crossing point; a pipeline; a water tank; and a weir.

4.116 Mineral extraction across the study area is extensive and there are 53 records of quarries or pits and 21 records for spoil heaps or ironstone tipping. A record for a magazine, presumably to house blasting material is also recorded in the study area and an aqueduct to transport water to the workings. Records for five earthworks, three linear features and an inspection road all likely associated with mineral extraction are also recorded.

4.117 Associated with the former quarries and mineral extraction (and collieries) are a network of former railways and tram roads that crossed the study area (some were used for passenger travel also). Associated railway records include railways (39 records); railway bridges (2 records); railway cuttings (2 records); inclined planes (2 records); revetments (2 records); railway stations, station houses and station lock ups (4 records); one railway tunnel, ventilation or air shafts (6 records); a signal box; an embankment; a record of concrete posts; a culvert; and a record of railway sleepers.

4.118 There are records of 27 tram roads; tram road cuttings (3 records); tram road revetments (5 records); tram road bridges (3 records); associated trackways and pavements (4 records); a passing loop; and tram road blocks (1 record).

4.119 A single road and four further bridges are recorded in the study area of post medieval date.

4.120 Iron processing is apparent in the area and was a major employer in the region and catalyst for the growth of the surrounding towns and villages, although many of the former buildings have been lost. Within the study area are the records for six ironworks; two blast furnaces; two furnaces; one engine house; one ironworks office; records of three associated stables; a smithy; and a laundry.

4.121 As more workers came into the area to work in the various mineral extraction sites, Iron works and associated industries and infrastructure sites there was a need for substantial development of workers housing in the region. The HERs and NMR have 75 records of workers housing in the region, all of which would almost entirely be of 19th century and later date.

4.122 With the increase in the population came the need for additional churches (9 records), non-conformist chapel sites (43 records) and Mission Churches (2 records) to meet their religious and spiritual needs. For other needs there are two recorded breweries, two inns, two hotels and a club house. A Memorial Hall, three schools, a Sunday School, a garden, a well, a fever hospital and two cemeteries are also recorded.

4.123 Other records of post medieval date on the HERs and NMR may be associated with earlier settlement or non-workers housing, including other buildings and houses (19 records); a village;; a settlement site and a house platform.

4.124 Post medieval records are known to be located within the Application Boundary, including the known sites associated with agriculture, mineral extraction and associated drainage schemes. The potential for hitherto unknown sites to be present within the Application Boundary is also considered high. The importance of such assets of post medieval date would be of local (low) importance.

Modern

4.125 The HERs and NMR record 45 records of modern date within the study area (Figure 28). The GGAT HER has 10 records, three of which lie within the Application Boundary. One of these is a modern sluice gate added to the Dowlais Free Drainage System near Pitwellt Pond (GGATG04192m). Two further records lie within the Application Boundary, a dew pond (GGAT03198m) and an air craft crash site of a Vampire VV618 on the southeastern side of the area (GGAT05180m).

4.126 The CPAT HER has seven records in the study area, though none within Site.

4.127 The NMR holds 26 records, of which one lies within the Application Boundary. This is a record for the same air craft crash site of the Vampire VV618 in the southeastern part of the Application Boundary (NPRN 243539) which notes it crashed on 27th October 1953. A further air craft crash site is recorded on the western side of the Application Boundary of an Armstrong Whitworth Whitley II K7246 in later 1941 (NPRN 515332). Although no archaeological remains of the crash have been recorded and it is said that the crewmen survived, the remains of this aircraft are designated as a Controlled Site under the Protection of Military Remains Act 1986, which makes it an offence to interfere with the wreckage of any crashed, sunken or stranded military aircraft without a licence. The final record on the NMR lies within the western side of the Application Boundary and is a marker cairn (NPRN 243251).

4.128 The overall records comprise a large mix of site types and include: air craft crash sites (5 records, three of which are discussed above and the others lie outside of the Application Boundary); marker cairns (3 records); allotments (1 record); a blast engine house; a modern chapel; a chemical works; a cinema; a compensation basin; a dam; a sluice; a Constitutional Club; a cricket ground; a drill hall; a filter house; a hut; a library; a limekiln; a railway and signal box; a sculpture; a park; a pond; a quarry; an opencast coal mine; part of a World War II stop line (defensive line); a swimming pool; excavations of then Ynys Fach Iron Works; and surprisingly, the first McDonalds restaurant built at Merthyr Tydfil.

4.129 There is a moderate potential for further modern sites to be present within the Application Boundary, although they would be of local (low) to negligible archaeological importance.

Multi-Period Sites

4.130 The NMR hold records of one multi-period sites, that of the village of Pontsticill. This settlement has medieval origins and continues to be occupied today.

Undated or Natural Features

4.131 The GGAT HER records 28 undated sites or natural features within the study area (Figure 19). Twelve of these records lie within the Application Boundary.

4.132 Of these sites a number are natural features: a natural rock outcrop (GGAT00780m); a cairn later determined to be natural (GGAT00781m); a stone circle, subsequently dismissed (GGAT04196m); and two possible circular features later determined to be natural (GGAT04897m and GGAT04898m)

4.133 A possible quarry scoop (GGAT04895m); and a possible rectangular enclosure now destroyed (GGAT07578m); a linear bank of large boulders (GGAT04905m); a group of four undated sheep shelters (GGAT00782m) are also recorded within the Application Boundary. Many of these could potentially be of medieval or later date (post medieval is most likely).

4.134 Three further records marked as undated are actually post medieval in date including a tramroad junction associated with the Twynau Gwynion tramroad on the western side of the Application Boundary leading to the quarries (GGAT08496m); Blaen Carno Quarry within the southern part of the Application Boundary (GGAT08170m); and Jepson's Pond also within the southern part of the Application Boundary (GGAT08171m).

4.135 The CPAT HER holds records of three undated sites and the NMR 4 records. None of these lie within the Application Boundary. Overall 35 undated or natural sites are recorded in the study area.

4.136 The records comprise two banks, one building, one cairn, a circular mound and ditch, five enclosures, one field system, a leat, a limekiln, one record of gullies and earthworks, three findspots, a mound, four quarries, one platform, a reservoir, a possible quarry, a pit and adjacent features, a road, a sheepfold, a shelter, a tramroad, a wall and one archaeological investigation. Seven natural features are also recorded.

4.137 Many of the records are likely to be of post medieval date as noted above, but have not been more closely dated.

Previous Archaeological Work

Table 7: Archaeological events recorded within the 2km study area

EPRN	Name	Event type	Organisation	Year
E001994	Field visit Rhymney Tramroad Branch	Field visit	GGAT	2005
E001995	Field visit Morlais Tramroads (East and West)	Field visit	GGAT	2005
E001167	Field visit Garn Ddu cairn XIX	Field visit	GGAT	2006
E001156	Field visit to Cefn Pyllau Duon round cairn	Field visit	GGAT	2006
E001227	Field Visit, Merthyr Common Field Boundary 2	Field Visit	GGAT	2009
E000959	A185 desk based assessment	Desk based assessment		
E001250	Field Visit, Merthyr Common Enclosure	Field Visit	GGAT	2009
E001226	Field Visit, Merthyr Common Field Boundary 1	Field Visit	GGAT	2009
E003751	East Merthyr Land Reclamation Scheme	Desk Based Assessment	GGAT	1993
E003775	East Merthyr Opencast/Reclamation Phase III	Fieldwork	RCAHMW/CADW	1993
E001181	Field visit to Merthyr Common ring cairn	Field visit	GGAT	2006
E001180	Field visit to Merthyr Common kerb cairn	Field visit	GGAT	2006

4.138 The GGAT HER holds records for 12 previous archaeological investigations within the study area. These comprise numerous field visits which have identified features recorded on the GGAT HER, especially those related to the iron industry of the area, the results of which are shown on Figure 29.

4.139 A few records relate to archaeological desk-based assessments prepared for specific projects.

4.140 No intrusive archaeological investigations are recorded within the Application Boundary.

Map Regression, Aerial Photographs and LiDAR data

4.141 The earliest map that shows any detail of the site is the 1813 Original Surveyor's Drawings of Brecknock and Aberdare (Figure 30) (Abergavenny 1814 map is also included for completeness). The map shows that the majority of the Application Boundary is empty of features. A pond on the northwestern side of the Application Boundary associated with Nant Morlais, which is likely to be Pwll Mare, a natural spring. Along the southern edge of the Application Boundary lies either a road way or tram line. This diverges off to the northwest and heads up to the lime works at Twynau Gwynion. None of the man-made water features within the Application Boundary had been constructed by this time.

4.142 A review of Tithe Maps was undertaken including The 'Apportionment of the rent-charge in lieu of tithes in the parish of Gellygaer in the County of Glamorgan 1841' which covers the eastern edge of the Application Boundary and the 'Plan of the parish of Merthyr Tydfil in the County of Glamorgan 1850' which covers the western edge. These do show the reservoirs of Pitwellt Pond and Jepson's Pond and the course of the Nant Morlais but no further detail within site. These are not illustrated.

4.143 The 1875 Ordnance Survey (OS) map (Figure 31) shows the Application Boundary after the construction of the Dowlais Free Drainage System, with Pitwellt Pond and Jepson's Pond both shown(as well as Rhymney Reservoir just to the southeast of the Application Boundary), with associated leats, sluices and sluice houses. These are mostly located in the southwestern part of the Application Boundary. A large man made water channel runs from northeast to southwest across the area just below Jepson's Pond. This water channel is still present as a clear feature today. The access road to the wind farm will run across the channel. The railway south of the Application Boundary is also shown. Extensive quarry features are shown directly to the southwest. The workers housing at Bute Town had been erected by this time.

4.144 Little change had occurred within the Application Boundary by the 1901 map (Figure 32), but areas of old quarry workings are noted at Blaen Carno southeast of Jepson's

Pond and around Pitwellt Pond. Little development had occurred around the edges of the Application Boundary. The quarry to the southwest of the Application Boundary is labelled as 'Old Quarries'.

4.145 The 1948 OS map (Figure 33) shows a similar layout to the earlier maps within the Application Boundary, but additional development has occurred to the west at Caeracca.

4.146 The 1978 OS map (Figure 34) shows similar details as the old maps, but with more development and road lines around its perimeter. The former railway has been removed and the A465 is shown following its route. Extensive drainage works had been carried out to the east of the Application Boundary around Nant Pitwellt. The old quarry workings to the southwest are labelled as 'tip' indicating the old quarries had been backfilled, presumably with colliery waste. This was later stabilised and the existing factories, warehouses and superstore were built upon it.

4.147 A review of available aerial photographs has not indicated any other features than shown on the earlier mapping. Sources including the Royal Commission on the Ancient and Historic Monuments of Wales and online sources were used. The only features of interest have already been recorded, including the stone lined enclosure on the western side of the Application Boundary which is due to be scheduled (GM623).

4.148 As part of the development proposals, aerial photography using a drone was undertaken across the Application Boundary. The aerial photographs have provided some interesting views of the soon to be scheduled enclosure and some of the possible hut circles or shelters around it (including the cover photograph).

4.149 Publicly available Lidar data was analysed, although this is only at 2m resolution for the Application Boundary and does not provide much detail. A more detailed Lidar survey was undertaken for the project to assist with amongst other things, archaeological prospection. Overviews of the data are shown on Figures 35 – 37. The information is clear enough to show good detail of the Application Boundary and this has been viewed in order to ascertain if any potential archaeological features can be identified. It shows up the Dowlais Free Drainage System features clearly, as well as indications of old quarrying. Figure 37 shows a sample detail of the data in the area of Pitwellt Pond, which also includes the site of the future scheduled monument (GM623) where archaeological remains are visible in the landscape. These do show up in the Lidar data. Numerous scars in the landscape are visible in the data, which are caused by natural anomalies in the exposed areas of limestone. Other features may indicate well used sheep tracks and former tramway routes. A number of mounds are visible within the data which could potentially be Bronze Age cairns or burial mounds, mostly of a size of 15 – 20m across (Figure 37). These were not confirmed during the site visit and may be natural features.

5. Impact Assessment

The Development

5.1 The development comprises the following elements (Figure 2):

- Six wind turbines;
  - Up to 6.0MW output;
  - Foundation depths 22m diameter, depth 3.5m;
  - Hardstanding footprints around bases of around 9416.7m^2;
  -
- Access tracks:
  - Total area 3.204ha;
  - 5.5m width with a *c.*1m shoulder verge to either side;
  - 12 passing places width 1.5m; length 30m, 5m graded turn in each end;
  - Total length of 5.376km (including 1.502km from Site Entrance to turbine T6, and 1.524km from Site Entrance to T4);
  - Two water course crossings, one just north of entrance and second on approach to T1;
- Construction Compound:
  - one temporary construction and storage compound, located close to the site entrance (50m x 50m = 2500m^2);
  - one temporary construction and storage compound located south of Turbine T3 which will become the control room substation and energy storage facility. (50m X 50m = 2500m^2);
  - During operation the compound near T3 will be the Battery Energy Storage;
- Control Building and Substation;
  - Total area of the substation is 50m x 50m = 2500m^2 (and will be situated adjacent to the Battery energy storage compound);
- Battery Energy Storage:
  - Battery Storage located south of T3 (50m x 50m=2500m2)
- Control Building and Substation

- Total area of the substation is 50m x 50m = 2500m2 (and will be situated adjacent to the Battery energy storage compound);

- Battery Energy Storage:
  - Battery Storage located south of T3 50m x 50m = 2500m^2;
  - Control Building and Substation 50m x 100m = 5000m^2;
  - Indicative output MW/MWh to be confirmed;
  - Contents to be confirmed.
- Grid Connection:
  - The grid connection route has yet to be determined, but it is proposed to go to the existing electricity substation located at NGR SO 07161 08799 adjacent to Pengarnddu 1.3km southwest of the substation.

Factors Affecting Archaeological Survival of Buried Remains

5.2 Archaeological remains can survive as earthworks and as below ground archaeological features, finds and layers. Part of the assessment process is to consider what factors may have affected archaeological survival. That is to say, what conditions would have enhanced the chances of survival and what conditions would have reduced the chances of survival.

5.3 The subject of archaeological preservation has been covered comprehensively elsewhere[45], and it is a subject which is subject to ongoing review as our understanding grows. The following addresses some familiar scenarios for assessment reports such as this, to allow the reader an insight into some 'typical' scenarios.

5.4 The Site area lies on an upland area to the northeast of Merthyr Tydfil. It is most likely that any below ground remains would be sealed by a relatively thin series of layers. Typically a topsoil of c.100-200mm and a subsoil of 0 – 100mm. Therefore, they may be sealed by 100-300mm of deposits. There are variations to this including landscapes affected by colluvial or alluvial deposits. The Site may have colluvial deposits on its lower slopes close to its southern boundary, but alluvial deposits are unlikely. Peat deposits are known to be present within the Application Boundary as has been confirmed by peat surveys. The design of the proposals has taken these into account and they have been avoided to leave them unaffected.

[45] Historic England 2016. Preserving Archaeological Remains. Decision-taking for Sites under Development

5.5 Earthworks are most common in areas not subject to modern, mechanised ploughing, as this area is. Industrial activity and water management is known within the Application Boundary, although the proposals avoid these areas (excluding one crossing point across a leat associated with the Dowlais Free Drainage System close to the southern access point.

5.6 Overall if archaeological remains are present within the Application Boundary, they would lie at a shallow depth beneath the present ground surface and in a relatively good state of preservation. Analysis of Lidar data has not shown any clear earthworks that may be associated with archaeology, but the presence of buried features cannot be discounted.

Assessment of Significance and Effects

5.7 This section assesses the potential impact of the Wind Farm upon the significance of the designated assets whose settings it is determined could be affected. The first steps of the four-step approach to setting assessment described in the Cadw guidance has already been completed in Appendix 1 and 2, and above. They are shown on Figure 38.

This section discusses the significance of the identified designated assets and identifies what impacts could occur. Planning policy in Wales determines that impacts will be either beneficial, neutral or negative.

Scheduled Monuments

BR277	Carn y Bugail and Carn Felen Round cairns
BR278	Waun y Gwair Cairn Round cairn
BR389	Twyn Ceilog Round Cairn
BR322	Garn Fawr round cairn

5.8 This group of scheduled monuments is considered together as they all lie to the north of the Application Boundary and likely have visible interconnection and association between them. Three of the cairns lie within 2km to the north of the site and the third around 6km to the northeast.

5.9 Carn y Bugail and Carn Felen Round cairns (BR277) lie 3.2km north of the Application Boundary. They are the remains of two round cairns on a hilltop. The scheduling description states: *The monument comprises the remains two burial cairns, Carn y Bugail and Carn Felen, probably dating to the Bronze Age (c. 2300 - 800 BC) which dominate the skyline of Cefn yr Ystrad. The cairns measure 19m and 16m in diameter and stand to a height of over 2m.'*

5.10 Waun y Gwair Cairn Round cairn (BR278) is described as comprising '*the remains a burial cairn, probably dating to the Bronze Age (c. 2300 - 800 BC) which is intervisible with other cairns to the north. The cairn measures 8m in diameter and*

stands to a height of 1m and although a central hollow suggests some past disturbance most of the cairn is intact.'

5.11 Twyn Ceilog Round Cairn (BR389) '*comprises the remains of a burial cairn, probably dating to the Bronze Age (c.2300 BC - 800 BC) and situated in open moorland on the summit of the E-facing crags of Twyn Ceilog in the Eastern Brecon Beacons. The stone-built cairn is circular on plan and measures about 8m in diameter and 1.5m in height. The cairn appears undisturbed, although a drystone wall extends to the N to form a shelter. It is situated on the crest of a limestone ridge and is intervisible with many similar cairns in the surrounding landscape. Distinct stretches of kerb are visible, particularly on the SW side*.'

5.12 Garn Fawr round cairn (BR322) is described as comprising ' *the remains of a burial cairn, probably dating to the Bronze Age (c.2300 BC - 800 BC) and situated on a local summit on the plateau of Mynydd Llangyndir. The massive stone built cairn is circular on plan and measures about 20m in diameter and up to 2.5m in height. There is a large central crater, but the majority of the base of the cairn appears undisturbed.'*

5.13 All of the scheduled cairns have the following site type description: '*The monument is of national importance for its potential to enhance our knowledge of prehistoric burial and ritual practices. The monument is an important relic of a prehistoric funerary and ritual landscape and retains significant archaeological potential, with a strong probability of the presence of both structural evidence and intact burial or ritual deposits.*' Cairns may be part of a larger cluster of monuments and their importance can further enhanced by their group value.

5.14 All of the cairns lie on hilltops north of the Application Boundary and as noted in some of their individual descriptions, there is intervisibility between these cairns and other unscheduled ones as well. The proposals will not intrude into this intervisibility, but the turbines will be clearly visible in the background when looking between some of these cairns. The presence of the turbines will pose a visual effect (negative impact) within the setting of the historic assets, but this does not alter other aspects of their setting (e.g. their topographic siting, intervisibility with these and other cairn sites, which contribute to their understanding).

5.15 Discussing the effect of the proposed development on these historic assets in terms of the values that define its significance:

- Effects on evidential values: As discussed above the evidential values of each of these historic assets derives from '*its potential to enhance our knowledge of prehistoric burial and ritual practices. The monument is an important relic of a prehistoric funerary and ritual landscape and retains significant archaeological potential, with a strong probability of the presence of both structural evidence and intact burial or ritual deposits*. No alteration is posed

to any of the cairns, and the proposals do not pose any effect on their evidential value.

- Effects on historical values: As noted within the definition of historical value, 'Historical values are not so easily diminished by change as evidential values and are harmed only to the extent that adaptation has obliterated them or concealed them.' The proposed development will not pose any change to the historical values of these scheduled cairns.
- Effects on aesthetic values: As noted in the definitions of aesthetic values, this does include setting as a component. The cairns are located on high points of ground with clear views around, including intervisibility with one another and other similar unscheduled monuments. The proposals will not intrude into this intervisibility, but the turbines will be clearly visible in the background when looking between some of these cairns. The introduction of wind turbines within it would cause very limited harm to its value and result in minimal change to the land use of the area.
- Effects on communal values: The development proposals will not have an effect upon the communal value of the cairns.

5.16 Overall there will be a visual change in the setting of these scheduled cairns, which could be considered a negative effect, but this is small scale change and impacts on only a small part of their significance. Mitigation to reduce this impact is not possible.

GM563 Morlais Hill ring cairn

GM569 Garn Pontsticill ring cairn

5.17 These two ring cairns lie close to the west of the Application Boundary, lying across the Nant Morlais valley on its western side. The ZTV suggests that intervisibility will not include all of the turbines for the monuments.

5.18 Morlais Hill ring cairn (GM563) '*comprises the remains of a ring cairn, probably dating to the Bronze Age (c.2300 BC - 800 BC). It is situated on a ridge between two fairways on Morlais Hill Golf Course. The ring cairn is circular on plan and measures 26m in diameter within a grass-covered earthen bank spread to 2.5m in thickness and up to 0.4m in height. There are several stones visible within the bank material and the internal surface of the monument is uneven. There is a gap in the south-south-east side of the ring bank, measuring about 3m in breadth. An unusual sub rectangular spur of earth and stone extends about 9m from the north side of the ring bank and measures about 4m in thickness. This stony protrusion is probably the result of clearance*.'

5.19 Garn Pontsticill ring cairn (GM569) '*comprises the remains of a ring cairn, probably dating to the Bronze Age (c.2300 BC - 800 BC). It is situated within open moorland on the gentle north-facing slope above Pontsticill. The ring cairn is situated on the*

leading edge of a low narrow north-facing ridge and is circular on plan, measuring about 13m in diameter within a stone ring bank 1.5m in thickness and up to 0.2m in height. The interior of the ring cairn is largely clear of stone.'

5.20 Again both monuments are described as for the ring cairns above as being of national importance for their '*potential to enhance our knowledge of prehistoric burial rites and ritual, social organisation and the environment. The feature is an important relic of a prehistoric funerary and ritual landscape and retains significant archaeological potential, with a strong probability of both structural evidence and the presence of intact burial or ritual deposits.'*

5.21 Both cairns lie on upper hillslopes west of the Application Boundary and there is likely to be intervisibility between them and other unscheduled ones as well. The proposals will not intrude into this intervisibility, but the turbines will be clearly visible in the background when looking between some of these cairns. The presence of the turbines will pose a visual effect (negative impact) within the setting of the historic assets, but this does not alter other aspects of their setting (e.g. their topographic siting, intervisibility with these and other cairn sites, which contribute to their understanding).

5.22 Discussing the effect of the proposed development on these historic assets in terms of the values that define its significance:

- Effects on evidential values: No alteration or direct physical impact is posed to any of the cairns, and the proposals do not pose any effect on their evidential value.
- Effects on historical values: As noted within the definition of historical value, 'Historical values are not so easily diminished by change as evidential values and are harmed only to the extent that adaptation has obliterated them or concealed them.' The proposed development will not change the historical value of these scheduled cairns.
- Effects on aesthetic values: As noted in the definitions of aesthetic values, this does include setting as a component. The cairns are located on high points of ground with clear views around, including intervisibility with one another and other similar unscheduled monuments. The proposals will not intrude into this intervisibility, but the turbines will be clearly visible in the background when looking between some of these cairns. The introduction of wind turbines within it would cause very limited effect to this value and result in minimal change to the land use of the area.
- Effects on communal values: The development proposals will not have an effect upon the communal value of the cairns.

5.23 Overall there will be a visual change in the setting of these scheduled cairns, which could be considered a negative effect, but this is small scale change and impacts on only a small part of their significance. Overall, the Proposed Scheme will not cause harm to their significance. Mitigation to reduce this impact is not possible.

GM028 Morlais Castle

5.24 Morlais Castle (GM028) is of medieval date. The description states that it '*comprises the remains of a castle, dating to the medieval period. It is situated at the northern border of the lands of Senghennydd Uwch Caeach on a high limestone ridge. When begun in 1288, this land had been newly annexed by the lord of Glamorgan, Gilbert de Clare and the castle was intended to control this territory, a position viewed as provocative by the neighbouring lord of Brecon, Humphrey de Bohun. The result in 1290 was warfare between the two brought under control by their imprisonment in the Tower of London by Edward 1. In 1294 the castle was captured during a Welsh rebellion by Madog ap Llywelyn and it may have been abandoned shortly afterwards. The remains are now almost completely collapsed but represent a curtain walled enclosure measuring about 130m north-south by 60m wide outside of which is a rock-cut ditch and counterscarp bank. Towers were situated around the wall at the angles; one on the west side, three on the east and one each at the north and south ends. The latter two were about 20m diameter and would have served to dominate the skyline. The basement of the south tower is intact and has a central pillar with twelve vaulting ribs that supported the floor above now capped in concrete. The castle is subdivided into inner and outer wards with the inner ward at the north end showing traces of internal buildings that might have included a hall and chapel while the outer ward has further indications of buildings and includes a great rock-cut water cistern. Outside of the castle ditch on the south side is a further court protected by earthworks alone.*

5.25 The monument is considered of '*national importance for its potential to enhance our knowledge of medieval defensive and domestic practices and has strong historical associations. The monument is well-preserved and an important relic of the medieval landscape. It retains significant archaeological potential, with a strong probability of the presence of both structural evidence and intact associated deposits.*'

5.26 The castle is located on a small hilltop directly west of the Application Boundary. Views to the east from the castle will clearly see the windfarm. The castle was located to dominate the Nant Morlais valley, but is also located to provide clear wider views in all directions. The wind farm will be visible from the castle and this will cause a visual change to its setting which could be considered negative. The extent of this negative change is limited as the turbines will only impact upon its visual setting, but will not impact on its topographic location or any intervisibility with its main association with the Morlais Valley.

5.27 Discussing the effect of the proposed development on these historic assets in terms of the values that define its significance:

- Effects on evidential values: As discussed above the evidential value of this historic asset derives from its '*potential to enhance our knowledge of medieval defensive and domestic practices and has strong historical associations. The monument is well-preserved and an important relic of the medieval landscape. It retains significant archaeological potential, with a strong probability of the presence of both structural evidence and intact associated deposits.*' No alteration is posed to the monument, and the proposals do not pose any effect on its evidential value.
- Effects on historical values: As noted within the definition of historical value, 'Historical values are not so easily diminished by change as evidential values and are harmed only to the extent that adaptation has obliterated them or concealed them.' The proposed development will not change the historical value of Morlais Castle.
- Effects on aesthetic values: As noted in the definitions of aesthetic values, this does include setting as a component. It is noted that the castle was located to dominate the Nant Morlais valley, but is also located to provide clear wider views in all directions. The wind farm will be visible from the castle and this will cause a visual change to its setting which could be considered negative. The introduction of wind turbines within it would cause very limited harm to its value and result in minimal change to the land use of the area.
- Effects on communal values: The development proposals will not have an effect upon the communal value of Morlais Castle.

5.28 Overall there will be a visual change in the setting of Morlais Castle, which could be considered a negative effect, but this is small scale change and impacts on only a small part of its significance. Mitigation to reduce this impact is not possible as the visibility of the turbines from this vantage point is inevitable.

Monument due to be scheduled (GM623), HER Ref GGAT0489m

5.29 The large enclosure lying southeast of Pitwellt Pond is being forwarded for scheduling (provisional number GM623). Based on the Historic Environment (Wales) Act of 2016, this will therefore mean that the site needs to be considered as a scheduled monument. It lies within the Application Boundary area and within approximately 150m of the proposed site of the substation. The monument lies at the base of a relatively steep slope comprising exposed rock and up to the plateau on which Pitwellt pond lies. These restrict views to the majority of the proposed wind turbine area, but Turbines 1, 3 and 6 are likely to be visible, as will possibly the southern edge of the substation.

5.30 The GGAT HER description states that it is a '*large irregular 'D' shaped drystone wall enclosure, with a possible animal pen in the northwest corner, which is associated with the prehistoric hut circle settlement. …. D-shaped enclosure made of unworked stone material of varied size, presumably sourced locally, situated on a SE facing hillside with a slight rise to the S. Located to the W and S of the enclosure, slightly uphill, lies a group of four huts. External enclosure measurements of 36m NE-SW, and 39.70m NW-SE. Straight NW segment of enclosure wall measures 21m NE-SW. Wall width 2.60m, height c. 0.40m. Part of the NW wall segment and part of the E wall segment eroded by a small bog stream running through the enclosure in NW-SE direction. Scree of boulders and rocks of various size, as well as outcrops of solid bedrock, present to the N and E of enclosure. N wall segment blurred by stone scree and bedrock outcrops. Possible entrance into the enclosure to the S, although the gap found there could be a result of erosion. Buried stones found throughout the enclosure centre. Small rectangular pen-like structure (SO 08131 09631) located in the W corner of the D-shaped enclosure. From NW to SE, wall length is 7.30m, and from NE to SW the length is 4.10m. The pen has a wall width of 0.50m, the average wall diameter of 1.20m and a height of 0.50m. There is a possible entrance in the NW wall of the small enclosure / pen, with large light stones significantly different from the rest of the pen. Also found was a possible small circular enclosure or hut abutting the outer wall side of main enclosure to NE. … Recorded as a Locally Listed Building by Merthyr Tydfil Council (Merthyr Tydfil Council).*'

5.31 The monument is likely to be of Bronze Age or Iron Age date. The site visit noted the surrounding hut stone building remains around the monument which could indicate it is an animal enclosure with living accommodation outside of the boundary. Any internal buildings may now be obscured by vegetation and it could be an enclosed settlement (the shape and size perhaps favouring an Iron Age date).

5.32 As noted, the setting of the monument will be impacted upon by the proposals, although the main views from the site are to the northwest, west, southwest, south and southeast, with views to the east and northeast obscured by the steep natural slope. The enclosure may have been positioned here to take advantage of shelter from this slope.

5.33 The proposals will cause no direct impacts upon the monument but there will be a negative impact upon its setting, albeit on the higher ground above the monument which has limited intervisibility. The development proposals could impact upon hitherto unidentified associated archaeological remains.

5.34 Discussing the effect of the proposed development on the prehistoric enclosure in terms of the values that define its significance:

- Effects on evidential values: The evidential value of the prehistoric enclosure derives from its potential to enhance our knowledge of such sites and it will

retain significant archaeological potential, with a strong probability of the presence of both structural evidence and intact associated deposits. These could assist in confirming the date and function of the enclosure. No alteration is posed to the monument, and the proposals do not pose any effect on its evidential value. Indirect effects could come from disturbance of associated deposits lying within the proposed development area, although no such deposits are known to exist at this time.

- Effects on historical values: As noted within the definition of historical value, '*Historical values are not so easily diminished by change as evidential values and are harmed only to the extent that adaptation has obliterated them or concealed them.*' The proposed development will not change the historical value of the enclosure.
- Effects on aesthetic values: As noted in the definitions of aesthetic values, this does include setting as a component. Although the majority of views will be unaffected by the proposed wind development, it is possible that turbines could be visible in views to the northeast, although would be mostly obscured by the sloping ground in the area. A visual change to the setting of the enclosure could be considered negative.
- Effects on communal values: The development proposals will not have an effect upon the communal value of the enclosure.

5.35 Overall there will be a visual change in the setting of Morlais Castle, which could be considered a negative effect, but this is small scale change and impacts on only a small part of its significance. Mitigation to reduce this impact is not possible as the visibility of the turbines from this vantage point is inevitable.

Listed Buildings and Conservation Areas

5.36 Following the assessment process seven listed buildings are considered for furthermore detailed assessment.

13546 Nos 1-14 (consec) Collins Row
13547 Nos 14-28 (consec) Lower Row
13458 Nos 1-13 (consec) Middle Row & attached Windsor Arms PH
Bute Town Conservation Area

5.37 The three rows of terraces at Bute Town, are also designated as a Conservation Area. All are listed at grade II level and comprise Nos 1-14 (consec) Collins Row (13546); Nos 14-28 (consec) Lower Row (13547) and Nos 1-13 (consec) Middle Row & attached Windsor Arms PH (13458).

5.38 The listed building descriptions state that they were constructed at some point after 1828 to house the iron workers of the Union Ironworks north of Rhymney. They are

of better quality than most of the workers housing in the area, and situated away from other areas of urban development, leaving them quite isolated. They lie southeast of the Application Boundary.

5.39 It is thought that further terraces were planned, and the footings of a planned fourth row were laid out, but never finished due to the exhaustion of the iron workings. The area was originally called New Town but later changed to Bute Town as part of the ironworks was constructed on land owned by the Marquis of Bute.

5.40 To the west of the terraces lies the Bute Town reservoir, which was also associated with the ironworks. This is at a raised level above the housing, but there are still views from the ends of the terraces directly towards the wind farm site. The wind turbines will be clearly visible from the listed buildings and conservation area.

5.41 As has been noted previously, the cottages were originally built for ironworkers and situated in an industrialised landscape exploiting resources for iron production and power. It is only in recent years that the landscape has become less industrialised and more rural. The wind turbines will create a further change to this landscape, but this their purpose is again to exploit resources to generate power.

5.42 There will be a change from the development proposals through the introduction of wind turbines into the visual setting of the listed buildings and conservation area in Bute Town, which would be a negative impact to the aesthetic value and its significance. The proposed development will have no impact upon the evidential, historical or communal value of the listed tower.

13578 Church of St David
21430 Penuel Baptist Church

5.43 The Church of St David (13578) and Penuel Baptist Church (21430) lie to the southeast of the Application Boundary within the centre of Rhymney and on the northern edge of the Rhymney Conservation area. Both buildings have limited views to the northeast towards the proposed wind farm.

5.44 Both buildings were constructed in around 1839 to provide for the spiritual needs of the increasing population of Rhymney. The church is set in a walled churchyard with a number of larger trees around its perimeter. The chapel is set in a lawned enclosure with no trees. Both buildings are taller than those in their surroundings, many of which are terraced houses.

5.45 The proposed development will introduce wind turbines into the visual setting of the two listed buildings, although the overall impact will be as discussed above for the Rhymney Conservation Area, where it will only be the setting which forms part of its aesthetic value that will be partially impacted upon. The proposed development will have a neutral impact upon the two historic assets.

11384 Tower of Old Church of St Gwynno

5.46 The Tower of the Old Church of St Gwynno (11384) lies to the southwest of the new church built in 1870. The surviving remains are that of a medieval church and the former parish church of Vaynor. They lie within woodland.

5.47 The church was demolished in 1870 but much of the tower remains intact. The old church tower would have been a focal point within the landscape in all directions during the medieval period, when it would have served the surrounding communities and farms within the parish. It is now less visible than it once was. It lies 2.6km west of the windfarm. Some of the wind turbines are likely to be visible from the church.

5.48 There will be a change from the development proposals through the introduction of wind turbines into the visual setting of the listed tower, which would be a negative impact to the aesthetic value of its significance. The proposed development will have no impact upon the evidential, historical or communal value of the listed tower.

81189 Hy Brasail

5.49 Hy Brasail (81189) is a grade II listed house lying some 2.7km west of the proposed windfarm. It is located on the western side of the road to Pontsticill with its main façade pointing east.

5.50 The building is listed due to its 'finely executed and theatrically designed Italian-style villa of Edwardian date' added in 1912 to a former standard late 19th century house. The listing description says that the '*story that the house was built to lure an Italian Contessa to Wales is not proven. The additions on a grand scale and of finely detailed Bath stone add very little in terms of living space, a monumental stair in the main tower and one long room above an open loggia, the second tower having no rooms at all.*' The building is certainly a bit of an anomaly in this area.

5.51 The eastern views from the building may include the wind turbines. It was presumably built in this location to make the most of the rural views which will be encroached upon by the wind turbines. There will be a change from the development proposals through the introduction of wind turbines into the visual setting of the listed building, which would be a negative impact to the aesthetic value of its significance. The proposed development will have no impact upon the evidential, historical or communal value of the structure.

Archaeological Sites recorded on the HERs and NMR

5.52 The proposed turbine locations and associated connecting tracks, cabling and earthing tails avoid the locations of known archaeological sites recorded on the GGAT HER and NMR.

5.53 The main access track from the south will cross one of the leats associated with the Dowlais Free Drainage System. The proposed substation will be located adjacent to a possible prehistoric ring cairn just east of Pitwellt pond, a number of quarries (some seen on Lidar data) and a post medieval shooting butt.

5.54 The archaeological potentials by period across the site are as follows:

- Prehistoric – moderate potential, possibly associated with hitherto unrecorded cairns, buildings or field boundaries;
- Roman – low potential, if present may be associated with land divisions adjacent to the projected Roman road lines;
- Early medieval – low potential and if present may be associated with dispersed agricultural remains;
- Medieval – a low potential, and if present probably in the form of isolated farmsteads, field boundaries or shelters for livestock;
- Post medieval – remains are known to be present within the Application Boundary area, and although nothing is known within the areas of proposed development, there is quite a high likelihood for agricultural remains to be present, such as field boundaries or shelters. There is also a high potential for mineral extraction remains, such as further quarries, and a high potential for further remains associated with the Dowlais Free Drainage System;
- Modern – there is a moderate potential for modern remains to be present within the Application Boundary associated with mineral extraction and improvement of the Dowlais Free Drainage System.

5.55 A direct impact from the development proposals could come through initial topsoil stripping activities across the road lines, turbine bases, contractors compounds and substation. Archaeological remains are likely to be quite shallow and so would be impacted upon by any ground works.

5.56 Whereas it would not be possible to mitigate changes to the settings of surrounding features of the historic environment, mitigation could be implemented for direct impacts in the form of initial investigations across the proposed site area (evaluation) followed by excavation or other forms of recording as appropriate to any remains revealed. Based on the assessment it is not anticipated that below ground archaeological remains of such a high significance to present a constraint to development will be present, and that any such remains can be dealt with through appropriate mitigation.

6. Conclusions

6.1 This historic environment desk-based assessment has been prepared for the proposed Pen March Windfarm to comprise 6 turbines and associated infrastructure on land to the northeast of Merthyr Tydfil. The site crosses the Merthyr Tydfil and Caerphilly County Borough Councils administrative areas.

6.2 The report has analysed data from the Glamorgan Gwent and Clwyd Powys Archaeological Trusts, the National Monuments Record and data held by Cadw to provide a detailed assessment of known elements of the historic environment within and around the Application Boundary. A study area of 2km was used for HER and NMR data and a 10km search area used for designated historic assets. This has included scheduled monuments, listed buildings, conservation areas and registered historic parks and gardens. The impact of the proposals on the Registered Historic Landscape of Merthyr Tydfil is dealt with in a separate ASIDOHL report[46]. There are no World Heritage Sites or registered battlefield sites within the Application Boundary or study area.

Scheduled Monuments

6.3 Of the 102 Scheduled Monuments identified within the 10km study area, only seven of these have been considered where changes to their significance may have occurred. An additional site of a defended enclosure lying southeast of Pitwellt Pond has also been added as it is due to be scheduled (provisional reference GM623).

6.4 A group of 4 prehistoric cairns (burial mounds) lies on upland within 2km to the north of the Application Boundary, Carn y Bugail and Carn Felen Round cairns (BR277); Waun y Gwair Cairn Round cairn (BR278), and Twyn Ceilog Round Cairn (BR389). A fourth cairn lies somewhat further to the north but is located close enough to the other four for their possibly to have been association, Garn Fawr round cairn (BR322).

6.5 The proposals will not intrude into this intervisibility of these cairns, but the wind turbines will be clearly visible in the background when looking the cairns. This would be a negative impact to the aesthetic value of their significance, but it should be noted that the development proposals will have no impact upon the evidential, historical or communal value of the significance of the cairns.

6.6 Two further prehistoric cairns lie to the west of the Application Boundary where the wind turbines will likely be quite visible from them due to their proximity, Morlais Hill

[46] HCUK 2022

ring cairn (GM563) and Garn Pontsticill ring cairn (GM569). These two ring cairns lie on the western side of the Nant Morlais valley. The ZTV suggests that intervisibility will not include all of the turbines for the monuments.

6.7 Both cairns lie on upper hillslopes west of the Application Boundary and there is likely to be intervisibility between them and other unscheduled ones as well. The proposals will not intrude into this intervisibility, but the turbines will be clearly visible in the background and will create a change to the settings of the monuments. This would be a negative impact to the aesthetic value of their significance, but it should be noted that the development proposals will have no impact upon the evidential, historical or communal value of the significance of the cairns.

6.8 The medieval Morlais Castle (GM028) is located on a high limestone ridge to the west of the Application Boundary. Views to the east from the castle will see the windfarm. The castle was located to dominate the Nant Morlais valley, but is also located to provide clear wider views in all directions. This would be a negative impact to the aesthetic value of the significance of Morlais castle, but it should be noted that the development proposals will have no impact upon its evidential, historical or communal value.

6.9 The prehistoric enclosure southeast of Pitwellt pond due to be scheduled (GM623; HER Ref GGAT0489m) lies at the base of a relatively steep slope on its eastern comprising exposed rock and up to the plateau on which Pitwellt pond lies. This would be a negative impact to the aesthetic value of their significance through the introduction of wind turbines into the visual setting of the monument. There is a potential for associated remains, as yet unidentified, to be present within the area of the proposals, which could cause indirect harm to its evidential value, though the evidential value of the proposed scheduled area would remain unchanged. The development proposals will have no impact upon the historical or communal value of the significance of the cairns.

6.10 With all of the scheduled monuments, mitigation to reduce the visibility of the windfarm from these monuments would not be possible.

Listed Buildings and Conservation Area

6.11 The assessment process has found that of the 322 listed buildings within 10km of the Application Boundary there are only seven where a possible harm to the significance of the features may result from the proposals. A single conservation area has also been identified.

6.12 The vast majority of buildings in the 10km study area are associated with the late 18th to 20th century industry of the region and associated buildings constructed for the managers or workers within these industries, buildings associated with their

spiritual or social well-being, and structures associated with transportation. The growth of the towns around Merthyr are directly linked to the exploitation of the landscape for these industries to acquire ore for metal production, coal for fuel and water for both steam power and industrial processes. The structures have always been associated with exploitation of the landscape for its resources, and changes in technology have led to constant changes in the landscape. The introduction of wind turbines into the landscape is further evolution in this process and cannot be said to cause any harm to the significance of the structures.

6.13 Of the buildings that are further assessed, these include the three rows of terraces at Bute Town, which is also designated as a Conservation Area. All are listed at grade II level and comprise Nos 1-14 (consec) Collins Row (13546); Nos 14-28 (consec) Lower Row (13547) and Nos 1-13 (consec) Middle Row & attached Windsor Arms PH (13458).

6.14 They were constructed at some point after 1828 to house the iron workers of the Union Ironworks north of Rhymney. They are situated away from other areas of urban development, leaving them quite isolated. They lie southeast of the Application Boundary and there are views directly to the windfarm location from the ends of the terraces and the conservation area. Although associated with the industrialisation of the area, this collection of houses has always been somewhat isolated from other settlements and more recently the surroundings have become rural rather than industrial.

6.15 The proposed development will introduce wind turbines into the visual setting of the listed buildings and conservation area which will be a negative effect on their aesthetic value and overall significance. The development proposals will have no impact upon the evidential, historical or communal value of the significance of the listed buildings and conservation area.

6.16 The Church of St David (13578) and Penuel Baptist Church (21430) lie to the southeast of the Application Boundary within the centre of Rhymney and on the northern edge of the Rhymney Conservation area. They have limited views to the windfarm and there is quite a distance between them. The proposed development will introduce wind turbines into the visual setting of the two listed buildings which will be a negative effect on their aesthetic value and overall significance. The development proposals will have no impact upon the evidential, historical or communal value of the significance of the two listed buildings.

6.17 The Tower of the Old Church of St Gwynno (11384) lies to the southwest of the new church built in 1870. The church was demolished in 1870 but much of the tower remains intact. It would have originally been a focal point within the landscape in all directions during the medieval period. It lies 2.6km west of the windfarm and some of the turbines are likely to be visible. The proposed development will introduce

wind turbines into the visual setting of the listed tower which will be a negative effect on their aesthetic value and overall significance. The development proposals will have no impact upon the evidential, historical or communal value of the significance of the listed tower.

6.18 Hy Brasail (81189) is a grade II listed house lying some 2.7km west of the proposed windfarm and comprises a 1912 Italian style addition to a standard 19th century building. It is located on the western side of the road to Pontsticill with its main façade pointing east.

6.19 The building was presumably built in this location to make the most of the rural views which will be encroached upon by the wind turbines. The proposed development will introduce wind turbines into the visual setting of the listed building which will be a negative effect on its aesthetic value and overall significance. The development proposals will have no impact upon the evidential, historical or communal value of the significance of the listed building.

6.20 For the effects on the settings of the listed buildings and conservation area mitigation is not feasible. It should be noted that the setting impacts identified will be present through the lifespan of the project and will be reversible.

6.21 In terms of policy, Paragraph 1.9 of TAN 24 identifies that the public benefits of schemes that tackle climate change, such as renewable energy proposals should be weighed against any harm to historic assets. '*The public benefit of taking action to reduce carbon emissions, or to adapt to the impact of climate change, should be weighed against any harm to the significance of historic assets.*' [47]

Archaeological Remains

6.22 Based on the information within the HERs and NMR, supplemented by historic mapping, the Pen March Wind Farm is considered to have the following potentials for archaeological remains by period as indicated in Table 9. The likely archaeological importance of such remains by period, are also provide in the table.

Table 9: Archaeological Potential and Importance

Period	Archaeological Potential	Archaeological Importance
Prehistoric	Moderate	Regional to national
Roman	Low	Local to regional
Early Medieval	Low	Local

[47] TAN 24 para 1.9

Period	Archaeological Potential	Archaeological Importance
Medieval	Low (settlement), Moderate to High (agricultural)	Local
Post medieval	High	Local
Modern	Moderate	Local to negligible

6.23 The majority of the Application Boundary area has not been subject to previous development and appears to have been used as open Common Land possibly since the medieval period. Where previous development has occurred it has been associated with mineral extraction (quarries and spoil tips) and water management features associated with the various surrounding industries, including the Dowlais Free Drainage System.

6.24 Archaeological remains could become exposed, damaged or destroyed by groundworks associated with the proposals. Archaeological remains are likely to be quite shallow and so would be impacted upon by any ground works.

6.25 Based on the assessment it is not anticipated that below ground archaeological remains of such a high significance to present a constraint to development will be present, and that any such remains can be dealt with through appropriate mitigation.

6.26 The scope of any further archaeological works that would be needed in advance or during development of the Pen March Wind Farm would need to be discussed and agreed with the archaeological advisors (Planning Services section of Glamorgan Gwent Archaeological Trust) to the Merthyr Tydfil and Caerphilly County Borough Councils as local planning authorities. Cadw would respond on issues regarding the designated historic assets in the study area.

Sources Consulted

Glamorgan Gwent Historic Environment Record

Clwyd Powys Historic Environment Record

National Monument Record of Wales, Royal Commission on the Ancient and Historical Monuments of Wales, Aberystwyth

Primary Sources

1813 Original Surveyor's Drawings Brecknock; 1813 Aberdare and 1814 Abergavenny

1875, 1901, 1903, 1921, 1922, 1948, 1965, 1978, 1982, 2001, 2010, 2020 Ordnance Survey maps

1841 Apportionment of the rent-charge in lieu of tithes in the parish of Gellygaer in the County of Glamorgan

1850 Plan of the parish of Merthyr Tydfil in the County of Glamorgan 1850

Secondary Sources

CCBC 2015 Bute Town Conservation Area Appraisal & Conservation Area Management Plan, Supplementary Planning Guidance to the LDP, Caerphilly County Borough Council

CIfA, 2020 Standard and guidance for the preparation of Historic Environment Desk-Based Assessments, Chartered Institute for Archaeologists

Davies, A. N., 2009a Cyfarthfa Conservation Area Character Appraisal, Merthyr Tydfil County Borough Council

Davies, A. N., 2009b Merthyr Tydfil Town Centre Conservation Area Character Appraisal, Merthyr Tydfil County Borough Council

Davies, A, N., 2009c Morgantown Conservation Area Character Appraisal, Merthyr Tydfil County Borough Council

Owen, J A, 1977 The History of the Dowlais Iron Works, 1759-1970, The Starling Press, Risca. Newport.

MTCBC 2014a Council Street and Urban Street Character Appraisal and Management Plan, Merthyr Tydfil County Borough Council

MTCBC 2014b Dowlais Conservation Area Character Appraisal and Management Plan, Merthyr Tydfil County Borough Council

MTCBC 2014c Thomastown Conservation Area Character Appraisal and Management Plan, Merthyr Tydfil County Borough Council

WAT 2018 Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs), Welsh Archaeological Trusts July 2018 (reviewed 2019)

Internet Sources

Cadw: https://www.cadw.gov.wales

British Geological Society online viewer: www.bgs.ac.uk/data/mapViewers/home.html

Google Earth: www.googleearth.co.uk

Lle Geoportal: http://lle.gov.wales/home

Welsh Tithe Maps: https://places.library.wales/

Britain From Above website

7. Figures

The Figures and Appendices have not been updated as part of this exercise, please refer to the Environmental Statement Chapter 11 on PEDW's website.

Appendix 3: Green Infrastructure Statement

PEN MARCH WIND FARM

RWE RENEWABLES UK SWINDON LTD

REF. DNS/3253147

APPENDIX 3: GREEN INFRASTRUCTURE STATEMENT

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General notes

Title:	Regulation 15(2) Response – Appendix 3
Client:	RWE Renewables UK Swindon Ltd
Issue Date:	21 February 2024
Issuing Office:	Cardiff, UK

Authorised by:	Pernille Thomson	Project Manager	Date:	February 2024
Authorised by:	Tamzin Wood	Technical Reviewer	Date:	February 2024

Authors:	RSK Environment Ltd SLR Consulting Ltd David Bell Planning	Technical reviewer:	Tamzin Wood
Signature		Signature	
	Pernille Thomson		
Date:	February 2024	Date:	February 2024

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4 Application of the Step-Wise Approach to the Proposed Scheme....10
5 Conclusions....15

1 Introduction

1.1 Introduction

1.1.1 Updates to Chapter 6 of Planning Policy Wales (PPW) were published in 'a letter to Heads of Planning' on 11 October 2023[1]. This iteration of PPW states that a Green Infrastructure Statement (GIS) should be submitted with all planning applications and should describe how green infrastructure has been incorporated into the proposal. The level of detail in the statement should be proportionate to the scale and nature of the proposed development.

1.1.2 In broader terms, PPW defines green infrastructure as the network of natural and semi-natural features, green spaces, rivers, and lakes that intersperse and connect places (see section 2.1 for a fuller definition).

1.1.3 The updates have now been incorporated into PPW12 published on 5 February 2024.

1.1.4 On 20 December 2023, the Applicant received a letter from PEDW, on behalf of the appointed Inspector, outlining that further information was required under Regulation 15(2) of the Developments of National Significance (Wales) Regulations 2016 [2].

1.1.5 The requirement for development to accord to the step-wise approach was not in place in the early design stages of the Proposed Scheme, or at the time of submission, however in light of the above, this GIS has been prepared retrospectively, to support the DNS application for the Proposed Scheme. No new information is being included in this document and a wayfinding table is set out below.

1.1.6 The purpose of this GIS is to outline the wider context of natural and semi-natural features that exist in the surrounding context of the Site and how this has influenced the design of the Proposed Scheme, including any avoidance and minimisation of harm, mitigation, compensation, and enhancement commitments.

1.1.7 In line with updated PPW policy that states green infrastructure statements should highlight the baseline data considered and surveys and assessments undertaken, the following **Table 1-1** details the location within the Environmental Statement (ES) of relevant baseline data, surveys and assessments undertaken for the Proposed Scheme.

1.1.8 This GIS should be read in conjunction with the ES and other planning documents submitted to PEDW as part of the DNS application. **Table 1-1** provides the location of relevant supporting information which has informed this GIS.

[1] https://www.gov.wales/sites/default/files/publications/2023-10/addressing-the-nature-emergency-through-the-planning-system.pdf

[2] https://planningcasework.service.gov.wales/api/documents/download/A48846290?hash=6e9314e901260f214c3ccc46b3197e9fcaeba374fda4daeb6b1c457683659107

Table 1-1: Document wayfinding

Document / Relevant Information	Location
Environmental Statement	
	Volume 2 - Written Text Chapter 2 - Site Selection and Design Evolution Chapter 3 - Proposed Scheme Chapter 5 - Landscape and Visual Impact Chapter 6 - Geology, Hydrology, Hydrogeology and Peat Chapter 7 - Ecology Chapter 8 - Ornithology Chapter 12 - Other EIA Topics (in particular Section 12.6 Climate Change) **Volume 4 – Technical Appendices** Data and surveys detailed in: Technical Appendices 5.1 to 5.7 (LVIA) Technical Appendices 6.1 to 6.5 (Geology, Hydrology, Hydrogeology and Peat) Technical Appendices 7.1 to 7.6 (Ecology), particularly Appendix 7.6 Outline Habitat Management Plan Technical Appendices 8.1 to 8.6 (Ornithology) Technical Appendix 12.3 Carbon Calculator
Pre-Application Consultation (PAC) Report Supporting Planning Statement Design and Access Statement Common Land Report	

1.2 Structure of this statement

1.2.1 Acknowledging the content of PPW and reflecting the assessment undertaken for the Proposed Scheme, this GIS is structured as follows:

- Context;
- Policies and plans;
- The Application of the Step-wise Approach to the Proposed Scheme; and
- Conclusion.

2 Context to Green Infrastructure

2.1 What is Green Infrastructure?

2.1.1 In line with PPW and the Well-being of Future Generation (Wales) Act 2015, Green Infrastructure (GI) encourages a wider, sustainable and problem solving outlook, focusing on integrating and addressing multiple issues.

2.1.2 Further to the summary definition of Green Infrastructure given by PPW in section 1, the definition states as follows:

'component elements of green infrastructure can function at different scales and some components, such as trees and woodland, are often universally present and function at all levels. At the landscape scale green infrastructure can comprise entire ecosystems such as wetlands, waterways, peatlands and mountain ranges or be connected networks of mosaic habitats, including grasslands. At a local scale, it might comprise parks, fields, ponds, natural green spaces, public rights of way, allotments, cemeteries and gardens or may be designed or managed features such as sustainable drainage systems. At smaller scales, individual urban interventions such as street trees, hedgerows, roadside verges, and green roofs/walls can all contribute to green infrastructure networks.'

2.1.3 GI measures on a small development scale can include landscaping, grass verges and sustainable drainage systems. Larger scale development mitigation can consist of species rich meadows, woodlands and the improvement of linkages between areas of biodiversity value.

2.2 Declaration of a Climate & Nature Emergency

2.2.1 The Welsh Government declared a climate emergency in 2019 and recognised that climate change threatens health, economy, infrastructure, and the natural environment. As part of their response to the threat to the natural environment, the need for nature recovery was recognised, specifically in the form of a Nature Recovery Action Plan to enhance ecosystem resilience and reverse habitat decline.

2.2.2 The Welsh Government has since declared a nature emergency on 30 June 2021. The Senedd, through the Climate Change, Environment, and Infrastructure Committee are undertaking work to identify outcomes of COP15 and how this is and will shape the Welsh Government's response to the nature emergency and related matters. As part of this work, the Committee is considering how Wales can implement the COP15 international agreement on biodiversity at a local level, whether through legislation or updating policies.

2.2.3 Merthyr Tydfil County Borough Council (MTCBC) has yet to declare a climate emergency, however has stated their support to the Welsh Government's ambition for the public sector to be Carbon Neutral by 2030 in response to climate change.
In 2019, MTCBC took a significant step by preparing the Merthyr Tydfil Nature Recovery Action Plan (MTNRAP). This plan replaces the previous Merthyr Tydfil Biodiversity

Action Plan (MTBAP) from 2014-2019. The Council's current Local Development Plan also identifies opportunities for green infrastructure improvement.

2.2.4 Caerphilly County Borough Council (CCBC) formally declared a climate emergency as a Notice of Motion on 4 June 2019. The Council has also prepared a Biodiversity Duty Plan which emphasizes integrating green infrastructure into their operations and in 2020, prepared a Green Infrastructure Strategy.

2.3 Planning Policy Wales

2.3.1 PPW states that the GIS should be '*proportionate to the scale and nature of the development proposed and will describe how green infrastructure has been incorporated into the proposal*'. In addition, PPW envisages '*the Green Infrastructure Statement as being an effective way of demonstrating positive multi-functional outcomes which are appropriate to the Site, and also demonstrate how the step-wise approach has been applied*'.

2.3.2 PPW notes that the GIS should highlight any baseline data considered and surveys and assessments undertaken, including habitats and species surveys, arboricultural surveys and assessments, and landscape and ecological management plans.

2.3.3 PPW states that the quality of a development should be enhanced through integrating GI through appropriate site selection and use of creative design. Section 6.2 'Integrating Green Infrastructure and Development' states:

'With careful planning and design, green infrastructure can embed the benefits of biodiversity and ecosystem services into new development and places, help to overcome the potential for conflicting objectives, and contribute to health and wellbeing outcomes'.

2.3.4 PPW goes on to outline that the 12 'Building with Nature standards'[3] represent good practice and are an effective prompt for developers to improve the quality of their schemes and demonstrate the sustainable management of natural resources.

2.4 The DECCA Framework

2.4.1 PPW states that development should not cause any significant loss of habitat or population of species, locally or nationally. It must work alongside nature and provide a net benefit for biodiversity and improve, or enable the improvement of the resilience of ecosystems. A net benefit for biodiversity is the concept that development should leave biodiversity and the resilience of ecosystems in a significantly better state than before, through securing immediate and long-term, measurable and demonstratable benefit, primarily on or immediately adjacent to the Site.

2.4.2 Under the Environment (Wales) Act 2016, Natural Resources Wales (NRW) and other bodies must seek to maintain and enhance biodiversity and the resilience of

[3] https://www.buildingwithnature.org.uk/

ecosystems. NRW has developed a framework for evaluating ecosystem resilience based on five attributes, referred to as the DECCA framework.

- **Diversity** between and within ecosystems;
- The **extent** or scale of ecosystems;
- The **condition** of ecosystems including their structure and functioning;
- The **connections** between and within ecosystems; and
- **Adaptability** of ecosystems including their ability to adapt to, resist and recover from a range of pressures likely to be placed on them through climate change, for example.

2.4.3 In identifying opportunities for net benefit, regard must be given to promoting the resilience of ecosystems through the DECCA framework.

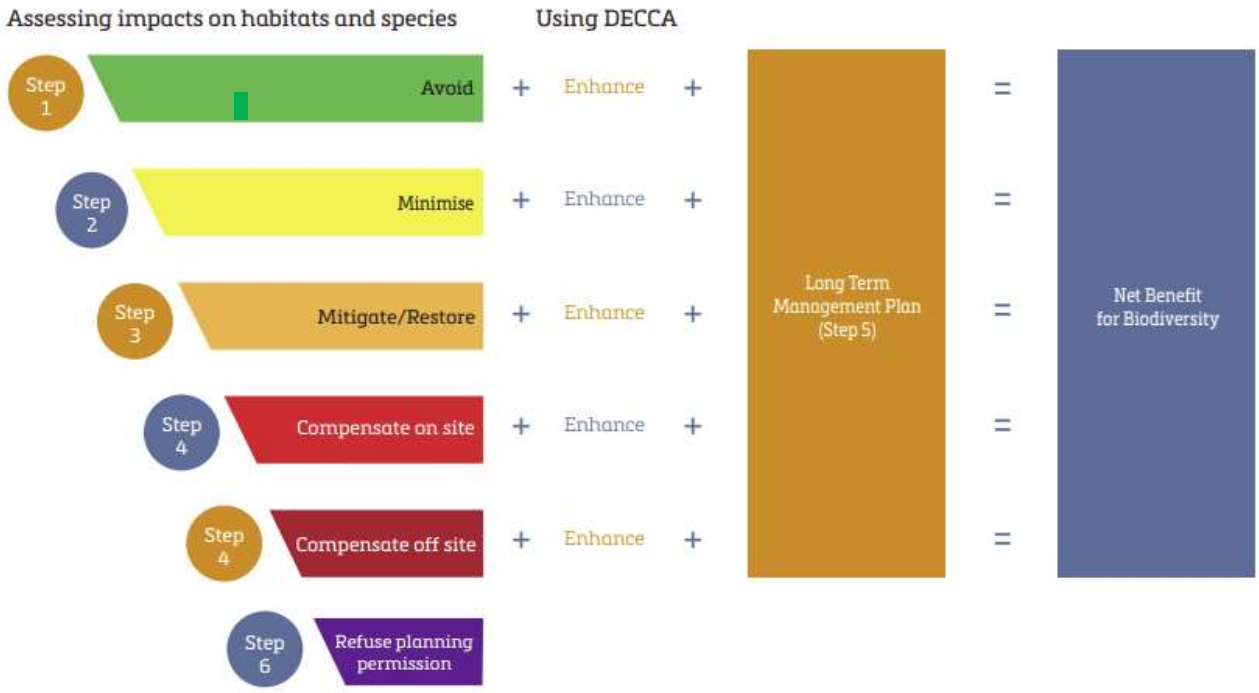
2.4.4 PPW notes that a proactive and creative approach facilitating the delivery of biodiversity and ecosystem resilience outcomes must be taken by all those participating in the planning process. The step-wise approach (please refer to **Section 2.5**) will help in securing a net benefit for biodiversity and applicants must bring forward proposals in a way which will achieve a net benefit for biodiversity and demonstrate how they have used the step-wise approach.

2.5 The Step-Wise Approach

2.5.1 Paragraph 6.4.5 of PPW notes that the step-wise approach is the means of demonstrating the steps which have been taken towards securing a net benefit for biodiversity, with regards to the DECCA framework.

2.5.2 The step-wise approach should be worked through iteratively, with the result being a scheme of enhancement secured through the proposed development to provide a net benefit for biodiversity, with the improvement of ecosystem resilience, particularly improving the connectivity to the immediate surroundings, being a key contribution to on-site avoidance, minimisation, and mitigation strategies and enhancement.

Figure 2-1: PPW Summary of the step-wise approach



Source: Planning Policy Wales 12

2.6 Designated Sites

2.6.1 In considering biodiversity and ecological networks within PPW, the third bullet point in paragraph 6.4.3 of PPW notes the need to '*ensure statutorily and non-statutorily designated sites and habitats are properly protected and managed and their role at the heart of resilient ecological networks is safeguarded*'.

2.6.2 As noted in paragraph 6.4.18 of PPW, both statutorily and non-statutorily designated sites make a vital contribution to protecting biodiversity, maintaining the resilience of ecosystems and are important in providing opportunities for achieving wider well-being objectives. Paragraph 6.4.19 continues on this theme, noting that all designated sites must be able to continue to protect the biodiversity and features for which they were designated and contribute to the resilience of ecosystems at the appropriate scale. This ability should not be compromised by inappropriate development or other activity.

2.6.3 The following designated sites are subject to a higher-tier of protection within the step-wise approach where development should be avoided: Special Areas of Conservation, Special Protection Areas, RAMSAR sites, Sites of Special Scientific Interest, and National Nature Reserves. Non-statutory and development plan designations should be considered in line with the step-wise approach.

2.7 Net Benefit for Biodiversity

2.7.1 A net benefit for biodiversity is the concept that development should leave biodiversity and the resilience of ecosystems in a significantly better state than before, through

securing immediate and long-term, measurable and demonstrable benefit, primarily on or immediately adjacent to the site.

2.7.2 Furthermore, PPW notes that '*all development must deliver a net benefit for biodiversity and ecosystem resilience from the baseline state (proportionate to the scale and nature of the development proposed). Even if the biodiversity value has been maintained, there must still be a pro-active process to look for and secure enhancement through the design and implementation of the development*'.

3 Policies and Plans

3.1 Introduction

3.1.1 Section 3 provides an overview of the setting in which GI and green infrastructure assessment (GIA) policies and plans currently being developed by CCBC and MTCBC will sit. It also includes an overview of Area Statements which identify areas where action at the right scale can maximise ecological networks and ecosystem benefits.

3.2 Caerphilly County Borough Council

3.2.1 CCBC has not yet produced a GIA. In 2020, TACP UK Environmental Consultants were appointed by CCBC to prepare a GI Strategy for its administrative area.

3.2.2 The Vision for the GI Strategy reflects the success over the last 20 years of the implementation and development of the Countryside Strategy. The suggested vision for the GI Strategy is as follows:

"Caerphilly will be a green and healthy place to live with an established, multi-functional green infrastructure of high-quality spaces interlinked by a network of corridors that benefit both people and nature".

3.2.3 The strategy aims to deliver the following in order to achieve its vision:

"The planning and management of the green infrastructure network is based upon sustainable principles that reflect the diversity of the County Borough's landscape, heritage and biodiversity resource, all working within a thriving economy. These will ensure resilience is built into the strategy which will assist in tackling climate change.

Caerphilly's green infrastructure provides enjoyment, relaxation, inspiration and wellbeing for local people and visitors. This enhances a distinct local identity and resulting sense of place and an expression of the cultural heritage of the area".

3.2.4 The strategy provides a CCBC-wide framework against which programmes, and projects can be developed but it does not include detailed GI Action Plans.

3.3 Merthyr Tydfil County Borough Council

3.3.1 MTCBC has not yet produced a GIA.

3.3.2 The Merthyr Tydfil County Borough Council Replacement Local Development Plan (2016 - 2031) identifies sites in which opportunities for improved GI and open space can be provided.

3.3.3 Policy SW11: Sustainable Design and Placemaking states that where appropriate, new developments should:

"Contribute to the provision of green infrastructure, including open space in accordance with the Council's standards, sustainable drainage systems where appropriate, and ensure that the County Borough's network of green infrastructure is accessible and connected".

3.4 NRW's Area Statements

3.4.1 In 2020, NRW published the first version of the Area Statements which cover seven, different, diverse parts of Wales. The Area Statements set out the key challenges and opportunities to strengthen ecological networks and ecosystem services at a local scale. They identify areas where taking action at the right scale can maximise benefits.

3.4.2 NRW's Area Statements are delineated by local authority boundaries and in this case, the line between the South East and South Central is defined, by the boundaries of Caerphilly and Merthyr Tydfil. As such the Site and Proposed Scheme are located both within the South East and South Central area.

3.5 NRW's South East Area Statement

3.5.1 One of the themes includes 'Linking our Landscape', identifying local opportunities for protected sites, and natural and built environment to contribute towards the resilience of wider priority habitat networks in the region[4].

3.6 NRW's South Central Area Statement

3.6.1 One of the themes includes 'Building Resilient Ecosystems', including protecting and improving the resilience of ecosystems whilst enhancing the benefits they provide and preventing the loss of biodiversity. The statement also includes the 'Connecting People with Nature' theme, aimed at promoting engagement with the natural environment and enhancing well-being through nature experiences.

[4] https://naturalresources.wales/about-us/what-we-do/strategies-and-plans/area-statements/south-east-wales-area-statement/?lang=en

4 Application of the Step-Wise Approach to the Proposed Scheme

4.1 Introduction

4.1.1 As highlighted in Section 1, the requirement for development to accord to the step-wise approach was not in place in the early design stages of the Proposed Scheme, or at the time of submission, however, this section demonstrates how the principles set out in the step-wise approach have inherently informed the Site selection and design of the Proposed Scheme, in line with the DECCA framework. This section also highlights the positive biodiversity and habitat outcomes that will be realised as a result of the Proposed Scheme.

4.1.2 This section describes how the following 4 step-wise steps have been undertaken throughout the design evolution of the Proposed Scheme:

- Step 1 Avoid
- Step 2 Minimise
- Step 3 Mitigate
- Step 4 Compensate (on-site firstly, off-site as a last resort)

4.1.3 PPW Edition 12 notes that pre-application surveys, research and data searches by developers will be necessary to establish the baseline state of biodiversity and ecosystem resilience on site taking into account the site's contribution to resilient ecological networks through its diversity, extent, connectivity and condition and the provision of ecosystem services.

4.1.4 In support of the Proposed Scheme, and informed by both pre-application dialogue and the EIA scoping direction process, the Applicant has prepared and submitted a robust suite of supporting information, including an ES which includes chapters focusing on: landscape; geology, hydrology, hydrogeology and peat; ecology; ornithology; noise; traffic and transport; and cultural heritage.

4.1.5 These ES chapters are supplemented by assessments which include baseline data, survey methodology and results, and assessment methodology and results. This information is contained within the ES Volume 2 Written Statement Chapters 5-12, ES Volume 3 Figures, and also within ES Volume 4 Technical Appendices.

4.2 Step 1 – Avoid

4.2.1 Paragraph 6.4.15 (1b) of PPW Edition 12 highlights that proposals in statutory designated sites are, as a matter of principle, unacceptable and therefore must be excluded from site searches undertaken by developers. It goes on to state that this principle also extends to those sites containing protected species and habitats which are irreplaceable.

4.2.2 ES Chapter 2: Site Selection and Design Evolution outlines the Site selection process and evolution of the project design. As set out in ES Chapter 7: Ecology (paragraphs 7.5.1-7.5.5), the Site does not contain any statutory designated sites (the closest biological SSSI is 1.6 km distant). This highlights that the Site selection process

avoided sites subject to statutory nature conservation designations, in accordance with PPW Edition 12. It is also noted that The Peatlands of Wales map[5] does not show peatland being present within the Site and therefore the presence of peatland was not known at the Site selection stage.

4.3 Step 2 – Minimise

4.3.1 The following paragraphs describe both avoidance and minimisation, as the two steps are inter-related.

4.3.2 Once options for avoiding damage to biodiversity have been exhausted, paragraph 6.4.15 (2) of PPW Edition 12 requires that applicants must seek to minimise the initial impact on biodiversity and ecosystems by e.g.: maintaining the largest possible area of existing habitat supporting biodiversity and functioning ecosystems, particularly Section 7 habitats and species[6] where present; ensuring that retained habitats continue to be well connected to adjacent habitats; and retaining existing features.

4.3.3 Chapter 2 of the ES describes how the presence of Section 7 habitats and species, and underlying peat, were taken into consideration in the design process. ES Chapter 6: Geology, Hydrology, Hydrogeology and Peat describes how the Proposed Scheme has been designed to minimise peatland biodiversity and ecosystem impacts by avoiding areas of peat, particularly areas of deeper peat, and associated peatland habitats as far as possible. ES Chapter 7 (paragraph 7.4.59) explains that the Proposed Scheme has also been designed to minimise impacts on areas of non-peat-related habitats of conservation importance, by avoiding areas such as dry heath and by the inclusion of a development-free buffer of at least 50 m for all significant watercourses and waterbodies, except where watercourse crossings are required. ES Chapter 8: Ornithology (paragraphs 8.4.52-53) describes how the wind turbines have been located away from identified curlew territories as far as possible.

4.3.4 The outcome of this is a development layout that seeks to maintain the largest possible area of existing Section 7 habitats, all larger areas of deep peat and the largest possible area of habitat supporting Section 7 species (curlew). It also ensures that retained habitats continue to be well connected to adjacent habitats, and that directly affected areas of deep peat and peat soil are kept to a practical minimum through careful infrastructure design.

4.4 Step 3 – Mitigate

4.4.1 Paragraph 6.4.15 (3a) of PPW Edition 12 states that where, after measures to minimise impact, biodiversity and ecosystems could still be damaged or lost, a proposed development should mitigate that damage to limit the negative effects of the development.

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[5] https://datamap.gov.wales/maps/peatlands-of-wales-maps/

[6] Habitats and species of principal importance for the purpose of maintaining and enhancing biodiversity in relation to Wales included under Section 7 of the Environment (Wales) Act 2016.

4.4.2 Mitigation measures to minimise effects on peat and Section 7 habitats and peat are set out in the ES Chapter 6: Geology, Hydrology, Hydrogeology and Peat, Chapter 7: Ecology, Technical Appendix 3.1: Outline Construction Environmental Management Plan (CEMP) and Technical Appendix 6.2: Outline Peat Management Plan. Mitigation measures include reinstatement of habitats subject to temporary loss or damage during construction.

4.4.3 ES Chapter 7: Ecology (paragraphs 7.6.9-14) also sets out mitigation measures to protect protected and notable species during construction, including the employment of a suitably qualified Ecological Clerk of Works for the duration of the construction and reinstatement periods. ES Chapter 8: Ornithology (paragraphs 8.6.6-11) sets out mitigation measures to avoid disturbance to sensitive bird species.

4.5 Step 4 – Compensate

4.5.1 Paragraph 6.4.15 (3b) of PPW Edition 12 notes that where like-for-like mitigation measures are not possible it may be necessary to consider on-site compensation measures in the first instance.

4.5.2 ES Chapter 7: Ecology states that significant effects on Section 7 habitats are likely despite the avoidance, minimisation and mitigation measures set out above. Similarly, Chapter 8: Ornithology predicts significant effects on Section 7 species (curlew and snipe) due to possible displacement during wind farm operation, despite the avoidance and mitigation measures incorporated. ES Technical Appendix 7.6: Outline Habitat Management Plan (OHMP) therefore sets out proposed habitat restoration and management measures, designed to compensate for the loss of upland habitats and the potential displacement of Section 7 bird species, and provide additional biodiversity enhancement. The OHMP includes details of measures within and immediately adjacent to the application boundary to the east, as shown in Figure 01 in ES Technical Appendix 7.6. Measures are required outside the application boundary because the potential to provide beneficial measures within the application boundary is limited, due primarily to most of the Site being actively grazed common land, making delivery of habitat enhancements very challenging. The management areas included in the OHMP have the benefit that their management is able to be controlled by the Applicant.

4.5.3 The measures set out in the OHMP comprise two elements:

- Within the application boundary: Undertake restoration and management activities over an area of 22.6 ha that should in time lead to increased cover of dwarf shrubs and other heathland plant species and facilitate the area's recovery back to upland heathland.
- Immediately adjacent to the application boundary: Undertake restoration and management activities over an area of up to 149.3 ha, containing a range of upland habitats, that should lead to a significant increase in the extent and quality of priority habitats including modified bog and heathland and provide significant benefits for curlew and snipe.

4.5.4 OHMP objectives will be achieved, in summary, by the following commitments to ecologically-led management:

- Initial restoration via control of purple moor-grass (*Molinia caerulea*) and other dominant grass or rush species (through repeated cutting, herbicide treatment or controlled grazing outside the bird-breeding season);
- Blocking of ditches and drains within peatland areas to raise the water table in the adjacent peat;
- Ongoing management via controlled grazing (or cutting if grazing is not possible) outside the bird breeding season;
- Heather seeding (if required);
- Predator control, specifically between February and July during and immediately prior to the breeding season to benefit curlew and snipe productivity; and
- Temporary electric fencing of curlew nests to prevent predation.

4.5.5 Paragraph 6.4.15 (4) of PPW Edition 12 indicates that measures that are immediately proximate to the Site may be regarded as on-site compensation. Paragraphs 6.4.5 and 6.4.11 of PPW Edition 12 also state that net benefit for biodiversity should be provided either on or immediately adjacent to the site. On this basis the measures proposed in the OHMP should be regarded as on-site compensation under the step-wise approach.

4.5.6 ES Chapter 6: Geology, Hydrology, Hydrogeology and Peat states that significant effects on peat are likely despite the avoidance and mitigation measures set out above. ES Technical Appendix 6.2: Outline Peat Management Plan (OPMP) therefore sets out proposed peat restoration measures, designed to compensate for the loss of existing peat and to provide additional habitat and biodiversity enhancement as part of the peat restoration process. The OPMP mainly includes details of measures that are proposed outside the application boundary, owing to the challenges inherent in undertaking effective peat restoration within actively grazed common land where grazing restrictions are not likely to be possible. As with the OHMP, these measures are located immediately adjacent to the Site to the east and are therefore also considered to be on-site compensation under the step-wise approach.

4.5.7 The measures proposed in the OHMP and OPMP are of a significant magnitude, which would fully compensate for any loss (and provide substantial biodiversity enhancement). Positive management would be secured over 171.9 ha via the OHMP, which compares against the temporary and permanent loss of 25.95 ha of degraded habitat with limited future prospects of ecosystem service-led management (due to its status as common land). A net benefit for biodiversity will therefore be achieved.

4.6 Ongoing Monitoring

4.6.1 The Proposed Scheme will include management and monitoring over the lifetime of the scheme that will provide long-term control and security of the enhancements noted.

4.6.2 A water quality monitoring programme would also be established at key locations around the Site. Monitoring would begin prior to any construction works, to allow pre-construction baseline quality to be determined. Groundwater monitoring boreholes would be installed at all proposed turbine locations prior to construction works beginning.

4.7 Green Infrastructure Improvements in the context of Climate Change

4.7.1 In the context of achieving benefits for GI through addressing the consequences of climate change, the Proposed Scheme provides significant positive outcomes for carbon losses and savings as described in the ES Chapter 12 Other EIA Topics Section 6 Climate Change, and Technical Appendix 12.3 Carbon Calculator. The results presented in these documents show that the Proposed Scheme is likely to produce a certain amount of CO_2 emissions, mainly from the construction and decommissioning stages, however these losses would be paid back within approximately 1.4 years of it becoming operational through the displacement of fossil fuel generated electricity in the National Grid.

4.7.2 Whilst indirect, the Proposed Scheme will make a considerable contribution to the reduction of greenhouse gas emissions and climate change which would otherwise result from fossil fuel electricity generation, thereby indirectly providing a benefit to the ecosystems and GI within and around the Proposed Scheme.

5 Conclusions

5.1.1 As this Statement, and the Environmental Statement submitted with the application demonstrates, the Proposed Scheme has been developed in accordance with a range of legislative and policy matters, including but not limited to: Planning Policy Wales (12th edition); Future Wales, Caerphilly County Borough Council Local Development Plan, Merthyr Tydfil County Borough Council Local Development Plan, relevant NRW area statements, and the Well-being of Future Generations (Wales) Act 2015.

5.1.2 The requirement for development to accord to the step-wise approach was not in place in the early design stages of the Proposed Scheme, or at the time of submission, however, the principles set out in the step-wise approach have inherently been followed in the design of the Proposed Scheme. This is demonstrated by the retrospective application of the step-wise approach applied here (see Section 4).

5.1.3 The Site is located 1.6 km from the closest statutory designated site for nature conservation and impacts on statutory designated sites for nature conservation have therefore been avoided. The Proposed Scheme has been designed to avoid areas of peat, particularly areas of deeper peat, as far as possible. It has also been designed to avoid habitats of conservation importance, including those associated with peat, watercourses and waterbodies, as far as possible. A range of mitigation measures is also proposed to further reduce adverse effects.

5.1.4 Where it has not been possible to avoid or mitigate for effects on peat and Section 7 habitats and species, on-site compensation is proposed. The OHMP (ES Technical Appendix 7.6) includes details of proposed measures within and immediately adjacent to the application boundary that are designed to fully compensate for the loss of upland habitats and the potential displacement of Section 7 bird species and provide additional biodiversity enhancement. The measures include restoration and management of a range of upland habitats across an area of 171.9 ha, plus additional measures to benefit curlew and snipe breeding productivity. The OPMP (ES Technical Appendix 6.2) also sets out proposed peat restoration measures, designed to fully compensate for the loss of existing peat and provide additional enhancement.

5.1.5 The measures proposed in the OHMP and OPMP are of a significant magnitude, which would fully compensate for any loss and provide substantial biodiversity enhancement. A net benefit for biodiversity will therefore be achieved by the Proposed Scheme.

5.1.6 The approach to the scheme design and the proposed on-site compensation measures will create an improved network of natural and semi-natural features, that will contribute to and enhance GI. The enhancement of the condition of habitats within and immediately adjacent to the Site, and the benefits for important species such as curlew, will also provide improved connectivity with habitats and species populations in the surrounding area. In turn this will contribute to the resilience of areas beyond the application Site boundary and achieve greater ecosystem resilience overall. The positive enhancements resulting from the Proposed Scheme will therefore support wider local, regional and national objectives in enhancing biodiversity and green infrastructure in Wales.

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