Environmental Statement

For the Repowering of Bears Down Wind Farm with four wind turbines, up to 150m in height.

Bears Down Wind Farm, Trevilledor Cross, Newquay, TR8 4HQ.

August 2025

cleanearth
WIND · SOLAR

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1.0 Introduction

1.1 Application Details

1.1.1 This Environmental Statement (ES) accompanies a planning application by CleanEarth Energy Ltd (The Applicant) to Cornwall Council for full planning permission for the repowering of Bears Down Wind Farm with five wind turbines on Land at Bears Down, St Eval, Cornwall.

1.1.2 The existing wind farm consists of 16 x 57m to tip turbines (planning references: E1/98/1286, C2/00/00611) and maintains the same development area.

1.1.3 In August 2025, The Applicant submitted a proposed modification to reduce the scale of the development from five wind turbines to four. The turbine proposed for removal is identified as Turbine 1 (T1). This ES has been revised to incorporate and reflect this change

1.1.4 To support the proposed modification, updated technical reports and supplementary addendums have been provided to Cornwall Council. These documents have been submitted separately from this ES and are appended to the formal modification request. Relevant chapters within this ES have been updated where necessary; however, many of the original conclusions from the technical assessments remain unchanged.

1.1.5 The proposed Bears Down wind farm will comprise of:

'Four wind turbines, with a maximum tip height of 150m, along with associated infrastructure, including access tracks, crane pads, cables, electrical housing and entrance modifications.'

1.1.6 This proposal was designed in response to national and regional policy and aims to contribute to the reduction of carbon emissions and support the attainment of renewable energy targets. The fundamental objective of the proposal is to generate renewable energy to supply the grid, helping to meet Government targets and reduce the UK's dependence on fossil fuels. The proposal will help secure Cornwall's long-term energy future and make a significant contribution to Cornwall's 2030 net zero target.

1.1.7 This ES and the accompanying technical appendices report the work undertaken in support of the proposed development. This document outlines:

- The details of the proposed development;

- The planning policy framework from which the application should be determined;
- The environmental benefits of the scheme; and,
- The potential impacts on key environmental issues associated with a wind farm development of this scale.

1.1.8 The contributors to each section are identified in **Table 1**. All the supporting surveys, documents, and assessments have been specifically completed for the assessment of this proposal by a team of consultants with a strong knowledge of the industry and proposed location.

1.1.9 The Applicant looks to develop sites with a minimal environmental impact; therefore, the proposed site has been assessed in terms of the proximity and visual amenity of sensitive receptors, operational noise constraints, ecological constraints, existing infrastructure, and locally and nationally designated features.

Table 1: Contributors to this Environmental Statement

Section and Topic	Contributor(s)
Chapter 1: Introduction	CleanEarth Energy Ltd
Chapter 2: The Proposed Development	CleanEarth Energy Ltd
Chapter 3: EIA Screening and Scoping	Cornwall Council
Chapter 4: Energy & Planning Policy Appraisal	CleanEarth Energy Ltd
Chapter 5: Landscape & Visual Impact Assessment	Amalgam Landscape
Chapter 6: Ecological Impact Assessment	Western Ecology
Chapter 7: Archaeological and Heritage Statement	Southwest Archaeology
Chapter 8: Operational Noise Impact Assessment	TNEI
Chapter 9: Flood Risk Assessment	Engineering and Development Solutions (EDS)
Chapter 10: EMI and Aviation Assessment	Ministry of Defence, Joint Radio Company & Atkins
Chapter 11: Shadow Flicker Assessment	CleanEarth Energy Ltd
Chapter 12: Transport Route Assessment	CleanEarth Energy Ltd & Pell Frischman
Chapter 13: Public Consultation	CleanEarth Energy Ltd
Chapter 14: Socioeconomic Assessment	CleanEarth Energy Ltd

1.1.10 This Environmental Statement will be submitted to Cornwall Council as the Local Planning Authority (LPA). It may be inspected at the Council during normal office hours subject to any restrictions that may be in place.

1.1.11 The Environmental Statement and other planning application documents will also be available to view on both the Council's planning portal and the Applicant's website at:

- https://planning.cornwall.gov.uk/online-applications/
- https://cleanearthenergy.com/

1.1.12 Alternatively, copies of the ES may be obtained from CleanEarth Energy at the following address: Unit 2a Bess Park Road, Trenant Industrial Estate, Wadebridge, PL27 6HB.

1.1.13 The purchase costs are:

- *Main report - £100*
- *Technical Appendices £20 per report*
- *Non-Technical Summary - £50*
- *Digital copies of the above on a CD or USB - £20*

1.1.14 Comments on the application should be forwarded to Cornwall Council during its consideration and determination of the planning application.

1.2 Site Location

1.2.1 The repowering proposal is located on Land at Bears Down, St Eval, Cornwall. The site is centred on National Grid Reference X: 190170, Y: 067702 and at an elevation of approximately 161m AOD (Above Ordnance Datum).

1.2.2 The proposed development site accommodates an existing wind farm – Bears Down - which is nearing the end of its operational life. The site is located in an open agricultural landscape type, comprising a variety of fields used for arable crop farming and animal grazing.

1.2.3 The proposal sits in an area identified as suitable for wind turbine development in the recently published Cornwall Climate Emergency Development Plan (CEDPD)[1].The suitability of the area for wind turbine development is further evidenced by the presence of the existing wind turbines on site known as Bears Down Wind Farm (E1/98/1286, C2/00/00611) and the adjacent Denzell Downs wind farm which sits to the south of the proposed development site - consisting of 4 x 100m to tip wind turbines (PA11/01429, PA13/04805).

[1] Cornwall Climate Emergency development plan- 2023.
https://www.cornwall.gov.uk/media/uxgjk4jn/climate-emergency-dpd.pdf

2.0 The Proposed Development

2.1 The Proposal

2.1.1 The Applicant proposes to repower the Bears Down wind farm - which is coming to the end of its operational life – with the introduction of four wind turbines with a maximum blade tip height of up to 150m.

2.1.2 The proposal will be for a fixed term of 35 years, at the end of which the development will be removed and the land reinstated back to its original condition, or a condition agreed with the Local Planning Authority (LPA).

2.1.3 The Applicant requests a micro-siting allowance of 40m for the proposed turbine locations – with an associated 40m micro-siting for all ancillary infrastructure including access tracks, crane pads, electrical housing, and cabling.

2.1.4 The proposed wind turbines are centred on the National Grid References listed in **Table 2**, at average base elevations of approximately 161m AOD (Above Ordinance Datum).

Table 2: *Proposed turbine locations*

Turbine	Easting	Northing
Turbine 2 (T2)	190149	067648
Turbine 3 (T3)	190342	067418
Turbine 4 (T4)	190494	067713
Turbine 5 (T5)	190687	067444

2.1.5 The development site contains the operational Bears Down Wind Farm, comprised of planning permissions E1/98/1286 and C2/00/00611. The existing development consists of 16 x 57m to tip turbines, each with a capacity of 600kW, and was commissioned in 2000. Historically wind turbine operational phases have lasted for 20-25 years therefore, consistent with other repowering projects in Cornwall and throughout the UK, Bears Down is now due to be repowered with more efficient wind turbines. The repowering project seeks to maximise the potential for renewable energy generation from the site while adhering to site specific constraints and utilising existing infrastructure where possible. Therefore, complying the policies outlined in the CEDPD and supporting Cornwall's Net Zero ambition.

2.1.6 The existing scheme at Bears Down currently generates a total of approximately 19,000 MWh per year, powering approximately 4200 homes (Renewable Energy Foundation, 2021).

2.1.7 The Applicant estimates that the proposed repowering at Bears Down would generate approximately 68,000 MWh per year, enough to power over 15,000 Cornwall homes[2], while offsetting approximately 550,000 metric tonnes of carbon over its lifetime. The proposal would therefore power more than three times the number of homes that the existing wind turbines do, representing a substantial advance in Cornwall's clean energy adoption and a testament to the significant advances in wind turbine technology and efficiency. The proposed development would ultimately aid Cornwall Council in achieving its 2030 net zero goals, reduce the causes of climate change, and support the transition to a low carbon economy by encouraging and enabling the use of low and zero carbon technologies.

2.1.8 Following the decommissioning and removal of the operational turbines on the site, the proposed wind turbines will be sited to a design appropriate with the characteristics of the site and the adjacent existing developments.

2.1.9 The proposed development site, covering approximately 19.37ha of land, has been consistently identified as being a suitable area for wind turbine development by Cornwall Council, and most recently in the CEDPD[3]. The proposed site is in an area consisting of several wind turbine developments including the Denzell Downs wind farm (PA11/01429, PA13/04805) and the repowered St Breock Downs wind farm (PA12/02907). Additionally, multiple single-turbine developments exist in the area, including at Ennis Barton Farm (PA11/00579), and Rosedinnick Farm (PA11/07592).

2.1.10 The proposed site is within the *St Breock Downs character area (CA24)* which has **medium-low (low-moderate)** sensitivity[4] to wind turbine development. The landscape is determined to have the capacity to accommodate the repowering of existing wind farms of Band D[5] scale which is

[2] https://www.gov.uk/government/statistics/regional-and-local-authority-electricity-consumption-statistics

[3] SD03 Climate Emergency DPD Policy Map (2021)
https://www.cornwall.gov.uk/media/jpkbn24q/sd03-climate-emergency-dpd-policy-map.pdf

[4] The determination of sensitivity of the landscape character areas is derived from Cornwall Renewable Energy Advice, Annex 1: An assessment of the landscape sensitivity to on-shore wind energy and large-scale photovoltaic development in Cornwall, Cornwall Council, March 2016

[5] Landscape Sensitivity Assessment: EB022 - RLU 14 - Cornwall CA: 18 – St Breock Downs (2022)
https://www.cornwall.gov.uk/media/genhmhz1/eb022-rlu-14-st-breock-downs.pdf

supported by the National Planning Policy Framework (NPPF) (2023) which states that significant weight should be given to the benefits of utilising an established site.

2.1.11 In an area heavily influenced by wind turbines, the proposed repowering project will ultimately reduce the number of visible wind turbines within the open landscape while substantially increasing the power output. This is because the proposal would be replacing 16 existing wind turbines with a smaller number of more efficient turbines. The chapters outlined within this ES discuss the policy, environmental, and socioeconomic factors in support of the proposed siting of the development and outline any necessary mitigation measures to be implemented to minimise any potential adverse impacts on the proposed site.

2.1.12 Overall, the site location is deemed appropriate to accommodate the proposed scale and number of wind turbines. CE have considered the existing wind turbines in the landscape and taken the necessary design measures to ensure that sensitive receptors in the area will not experience serious harm to living conditions or visual amenity as a result of the proposed development. The proposed layout was also designed to adhere to noise limits at the surrounding properties. **Figure 1** indicates the proposed wind turbine layout, please see the accompanying planning plans in **Appendix B** for further details.

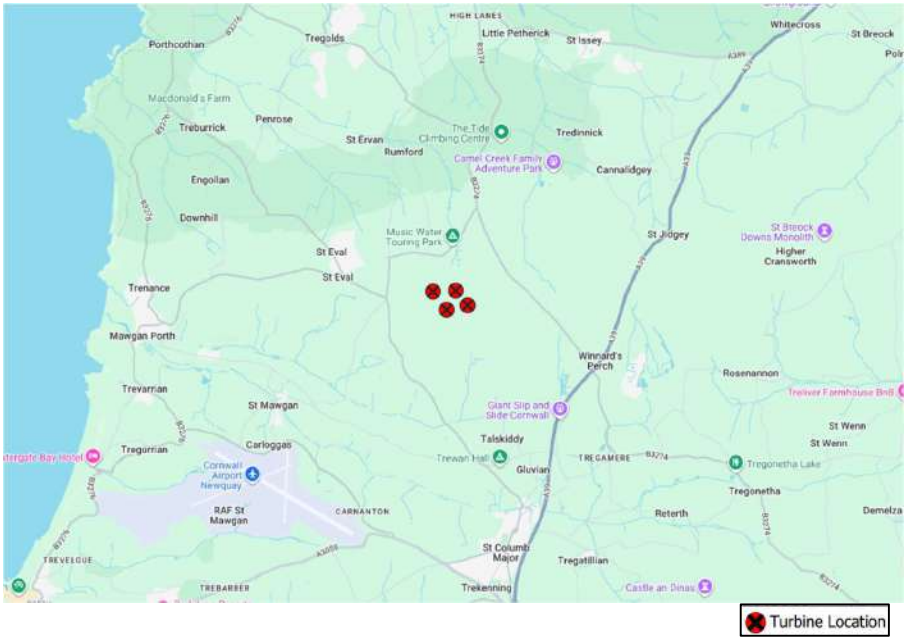

Figure 1: *Proposed turbine locations*

2.2 Outline Construction Process

2.2.1 It is anticipated that the construction phase of the development will last approximately 14 months. Specific timings within the construction phase are general at this stage and may be subject to modifications during later stages of the development. The construction phase will, however, commonly involve the following stages:

- Ground investigation survey;
- Setting out and groundwork preparation;
- Laying steel reinforced concrete bases to prepare for turbine foundation anchor;
- Foundation concrete pour and curing;
- The arrival of two cranes;
- Installation of earthing and electrical connection
- Turbine component delivery on heavy goods vehicles (HGVs), tower foundations, tower sections, blades, nacelles, hubs, and generators;
- On-site assembly of the wind turbines into the foundation;
- Commissioning;
- Reinstatement works; and,
- Demobilisation from site.

2.2.2 The erection of the wind turbines will typically last 4-5 days each, with all four being completed in approximately a 12-week period. Within this period, two cranes will be taken to and from the site, the turbine components will be delivered via HGVs, and the turbines will be assembled. The proposed delivery route follows existing public highways and will utilise the existing access track. An initial assessment has been completed in relation to the number of vehicle movements and subsequent timescale for the transport proposed, further details are provided within **Appendix K.**

2.2.3 As is common for wind turbine proposals, further ground and site investigations that occur after the planning consideration period may identify that a slight variance is required in the final location of the proposed turbines and associated infrastructure. Subject to environmental constraints and ground conditions, an allowance for potential micro-siting of the turbines by up to 40m and the infrastructure by up to 40m is requested as part of this planning application.

2.2.4 Electrical connection will be installed on-site to facilitate the export of the generated electricity into the National Grid. Where possible and economic to do so, the Applicant will endeavour to

use local installers, contractors, and manufacturers in a bid to support the local supply chain and further reduce carbon emissions associated with the construction of the renewable energy project. The Applicant has established relationships with suppliers in the UK and will consider UK manufactured equipment where possible.

2.2.5 The operational lifespan of the proposal is 35 years, after which the wind turbines would be decommissioned. The site will then be reinstated to its former state, or a condition agreed with Cornwall Council.

2.3 Evaluation of the Repowering Proposal

2.3.1 The proposal was designed in response to Cornwall Council's declaration of a 'climate emergency' made on 22nd January 2019, through the collective support of 117 councillors[6]. Following the preparation of the Climate Action Plan in 2019, and now adopted Climate Emergency Development Plan Document (CEDPD), the council have enforced the idea of a movement towards a more positive decision-making process in determining renewable energy proposals.

2.3.2 During the meeting, members stated that '*more solar farms and wind turbines should be built in Cornwall to embed the culture of supporting climate change measures*.'[7] Acknowledging the commitments made by the council to transition to a carbon neutral County by 2030.

2.3.3 The proposed development would provide significant environmental benefits and greatly contribute towards the carbon reduction targets set by the Council. The benefits must be considered in association with existing policy, which should be interpreted in presumption of favour towards the proposal, as a renewable energy development, as specified within the NPPF (2023)[8]. Further to this, repowering proposals should be given significant weight as to the benefits of using an already established site.

Requirement for the Proposal

[6] Cornwall Council, Minutes of Meeting 22nd January 2019. Accessed via: https://democracy.cornwall.gov.uk/documents/g8343/Printed%20minutes%2022nd-Jan-2019%2010.30%20Cornwall%20Council.pdf?T=1 (Accessed 2nd October 2023).
[7] Cornwall Council, Minutes of Meeting 22nd January 2019. Accessed via: https://democracy.cornwall.gov.uk/documents/g8343/Printed%20minutes%2022nd-Jan-2019%2010.30%20Cornwall%20Council.pdf?T=1 (Accessed 2nd October 2023).
[8] National Planning Policy Framework. Accessed via: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1182995/NPPF_Sept_23.pdf (Accessed 20th October 2023)

2.3.4 According to the Cornwall Council Planning Portal, since January 2019, when Cornwall Council declared a climate emergency, only five wind turbines have been approved within the county: Longstones (ref: PA20/09318); Ventonteague (ref: PA19/10116); Wheal Martyn (ref: PA21/07216); East Karslake (ref: PA21/12493), and the repowering of a turbine near Camelford (ref: PA20/07108). This showcases the need to significantly increase the rate of introduction of renewable energy in Cornwall to support the target of carbon neutrality by 2030.

2.3.5 The urgent and pragmatic approach needed to tackle climate change cannot be associated with slow progression and movement - as reminded to councillors *'Cornwall was the sweet spot of the UK for renewable energy having the best resource in Western Europe'*. Decision makers of all levels must recognise the need to push boundaries and support renewable energy projects through the interpretation of existing policies.

2.3.6 The proposal will facilitate investment into the local economy and infrastructure through the securement of a grid connection directly to the national network, aligning with the NPPF guidance outlined in **Chapter 4**. Grid constraints in Cornwall limit the options and opportunities available for renewable energy proposals with respect to both location and capacity; however, this proposal is associated with a secured grid connection which will allow for a significant contribution to carbon reduction targets locally and nationally.

2.3.7 All generation will be exported directly to the local network or local offtake and will power the equivalent of over 15,000 Cornish homes annually as per the latest annual average consumption figures for Cornwall (2023)[9].

Suitability of The Proposed Location

2.3.8 The proposal is aligned in scale and location with the Cornwall Renewable Energy Planning Advice (2016)[10] which states that wind turbines up to 150m in height would be deemed to be suitably located within the proposed landscape character area of St Breock Downs (CA24). Further relevant policies and siting guidance are discussed in **Chapter 4.**

2.3.9 The proposal has been sited to maximise the wind resource available in line with **Policy 14** of the Cornwall Local Plan, Strategic Policies 2010-2030. This recognises the necessity to increase the use of renewable generation by supporting proposals that *'maximise the use of*

[9] Subnational Electricity Consumption Data. Accessed via: https://www.data.gov.uk/dataset/480984d5-13d7-48b1-93c8-2a0871ef5543/sub-national-electricity-consumption-data (Accessed 6th June 2023)
[10] Cornwall Renewable Energy Planning Advice, March 2016. Accessed via: Renewable energy planning advice (cornwall.gov.uk) (Accessed 3rd October 2023)

available resource by developing installations with the greatest energy output practicable.'[11] The proposed site has an average windspeed of 8 - 8.2ms^{-1} and is situated in an open area, with minor tree cover, complimenting wind development in the area.

2.3.10 The proposed location and surrounding area are arguably one of the most suitable areas for wind turbine development in Cornwall, this is due to the high elevation on site, extremely low population density, high wind speeds, and the open and expansive nature of the area. The proposed location is sited within the Breock Downs (RLU14) landscape unit and has been assessed to have the lowest landscape sensitivity (**Low-moderate**) to Band D scale wind energy developments in the County. Further to this the Bears Down Wind Farm site has been selectively identified as suitability for the repowering of Band D scale wind turbines, such as this proposal.

2.3.11 In line with **Policy G1** – Green Infrastructure Design and Maintenance of the CEDPD, the proposed development has also been planned with consideration given to the protection and enhancement of nature. The Green Infrastructure Statement associated with the proposal can be viewed in **Appendix N.**

[11] Cornwall Local Plan, Strategic Polices 2010-2030. Accessed via: https://www.cornwall.gov.uk/media/ozhj5k0z/adopted-local-plan-strategic-policies-2016.pdf (Accessed 3rd October 2023).

3.0 EIA Screening and Scoping

3.0.1 Wind turbines are industrial installations for the production of electricity and therefore fall under category 3a of schedule 2 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017.

3.0.2 Schedule 2 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 requires developments that may have a significant impact on the environment to be screened by the Local Planning Authority prior to application, in order to assess the need for an Environmental Impact Assessment.

3.0.3 A formal screening opinion request was submitted to Cornwall Council on 7th November 2023. The screening opinion dated 23rd November 2023 (Planning ref: PA23/08718), deemed that the proposal would likely have significant effects on the environment by virtue of the scale, location, and cumulative impact of the development proposed.

3.0.4 The proposal therefore constitutes an EIA development, as such an Environmental Impact Assessment and Environmental Statement have been prepared.

3.0.5 The screening response can be found in **Appendix A.**

4.0 Energy and Planning Policy Appraisal

4.1 Introduction

4.1.1 The planning policy context relating to this planning application for a repowering proposal at Bears Down Wind Farm is described within this chapter. Other specific legislation and planning policies pertinent to the environmental studies required by Cornwall Council to accompany and inform this supporting statement (noise, landscape and visual impact assessments etc.) are provided in the respective technical sections of this document.

4.1.2 Since the publication of the United Nations Framework Convention of Climate Change (1992), it has been the policy of successive governments to stimulate the exploitation and development of renewable energy sources wherever they have prospects of being economically attractive and environmentally acceptable. The policy has its foundations in environmental imperatives and concerns over carbon dioxide emissions, climate change, the security and diversity of the national energy supply, and the need for sustainable development have further endorsed the policy.

4.1.3 At a European level, the Directive 2009/28/EC of the European Parliament and of the Council on the Promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (formerly the EU 2009 Renewables Directive), placed an obligation for the UK to generate 15% of its total energy requirements (i.e., not just electricity) from renewable energy by 2020.

4.1.4 The UK passed the Climate Change Act 2008 (2050 Target Amendment), Order 2019 which commits the UK to 'net zero' or a 100% reduction in carbon emissions by 2050, compared to 1990 levels. The original act, passed in 2008, committed the UK to an 80% reduction of greenhouse gas emissions by 2050, compared to 1990 levels. The UK was the first country to introduce legally binding long-term carbon budgets into legislation, through the Climate Change Act 2008. Subsequently, six carbon budgets have been put into law to eliminate the UK's contribution to climate change by 2050 and to target net zero emissions.

4.1.5 Following the Prime Minister's speech on 19th April 2021, the UK Government announced new targets to cut emissions by 78% by 2035, compared to 1990 levels. This set the world's most ambitious climate change target into law. This latest target, enshrined in the UK's 6th Carbon

Budget for 2033 to 2037, extends the net-zero commitment as the UK breaks records in renewable electricity generation, which has more than quadrupled since 2010.

4.1.6 The Government committed to reduce emissions in the 2015 global climate agreement struck at the United Nations Conference on Climate Change in Paris, ratifying the agreement in November 2016. This set out a clear long-term goal of net zero emissions by the end of the century, where progress against this goal will be independently assessed in 2018 and every five years thereafter. This long-term goal sends a strong signal to investors, businesses, and policymakers about the shift to a low carbon economy. To date, 196 countries[12] have adopted the agreement, only emphasising the global movement towards climate action.

4.1.7 On the 4th November 2021 the UK signed the Statement on International Public Support for the Clean Energy Transition at the United Nations Climate Change Conference UK 2021 (COP26) which committed to fully prioritising support towards the clean energy transition.

4.1.8 The National Infrastructure Commission (NIC), the official advisor to the Government on infrastructure, has recommended that to meet the 2050 target of net zero carbon emissions the energy generation mix needs to meet up to approximately 90% renewables.

4.1.9 The Government updated its British Energy Security Strategy in April 2022. The strategy states that the government will '*improve national network infrastructure and, in England, support a number of new projects with a strong local backing.*'[13]

4.1.10 Since the original submission of the application for the repowering of Bears Down Wind Farm in December 2023, there have been several significant changes in UK policy regarding onshore wind. Notably, the government has removed the de facto ban on onshore wind in England and revised planning policies to treat onshore wind applications similarly to other energy development proposals. To ensure the application aligns with current policies the appraisal below has been updated.

[12]United Nations Climate Change – The Paris Agreement, Accessed via: https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement (Accessed 8th September 2023)
[13] British Energy Security Strategy, Accessed via: https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy (Accessed 8th September 2023)

4.1.11 The planning policy appraisal sets out the current legislation and guidance that is relevant to the proposed repowering development at Bears Down, St Eval. The policy documents include:

- Policy Statement on Onshore Wind, 8th July 2024;
- The National Planning Policy Framework (NPPF) 2024;
- Clean Power 2030 Action Plan (CP30) 2024;
- Planning Practice Guidance (PPG) on Renewable and Low Carbon Energy;
- Cornwall Local Plan Strategic Policies 2010-2030;
- Cornwall Council Climate Emergency Action Plan 15th July 2019;
- Cornwall Council Climate Emergency Development Plan Document February 2023;
- Cornwall Renewable Energy Planning Advice March 2016;
- Annexe 1: An assessment of the landscape sensitivity to onshore wind energy and large-scale photovoltaic development in Cornwall;
- Annexe 2: Cumulative Impact Assessment Guidance for Cornwall – Wind Turbines and;
- Renewable Energy in the context of the application.

4.2 Decision Taking

4.2.1 The starting point for the decision maker is Section 38(6) of the Planning and Compulsory Purchase Act (2004) which requires that applications are determined in accordance with the development plan unless material considerations indicate otherwise. This duty is also provided for in the National Planning Policy Framework (NPPF) - Paragraphs 2 and 47.

4.2.2 In practice this requires the decision maker to first determine whether the proposal is in accordance with the relevant development plans; Cornwall Local Plan Strategic Policies 2010-2030 (CLP), and the Climate Emergency Development Planning Document (CEDPD).

4.2.3 While the NPPF does not have the status of a development plan document it is a material consideration and relevant to the legislation set out in Section 38(6).

4.2.4 Cornwall Council have also produced several Supplementary Planning Documents and other planning guidance notes. Of particular relevance in the context of this planning application is the Cornwall Renewable Energy Planning Advice Supplementary Planning Document (SPD). Whilst the SPD does not attract full weight in the decision-making process, it nonetheless provides a useful guide to the interpretation of policy.

4.2.5 Similarly, the Government's Planning Practice Guidance (PPG) provides further advice and guidance on renewable energy development.

4.3 Policy Statement on Onshore Wind, 8th July 2024

4.3.1 In July, 2024 the UK government published a policy statement lifting the de facto ban on onshore wind development that had been in place since 2015. Marking a pivotal shift in the UK's approach to renewable energy, particularly onshore wind. Placing onshore wind proposals on equal footing with other renewable energy technologies within the National Planning Policy Framework (NPPF). Footnotes 57 and 58, which had previously imposed additional restrictions on onshore wind developments were removed. The removal of these footnotes aims to simplify the approval process for onshore wind proposals, aligning them with other renewable energy developments. The policy statement underscores the government's commitment to doubling onshore wind capacity in the UK by 2030, reflecting the broader agenda to enhance energy independence, reduce energy costs, and tackle the climate crisis.

4.4 The National Planning Policy Framework (NPPF) 2024

4.4.1 The recent changes to the National Planning Policy Framework (NPPF), published in December 2024, have introduced significant changes that impact planning and development of onshore wind projects in England. This appraisal evaluates the implications of these changes for the repowering of Bears Down Wind Farm.

4.4.2 For the first time, the NPPF explicitly references the UKs legally binding target of achieving net zero by 2050. Paragraph 161 emphasises the planning systems role in supporting this transition. The updates provide stronger policy support and clearer pathways for renewable energy projects. These changes mark a pivotal positive shift in the UK governments policies and attitudes to renewable energy developments.

4.4.3 The Updated NPPF formalised the changes laid out in the Policy Statement on Onshore Wind and completely consequently removed footnotes 57 and 58, placing onshore wind on an equal footing with other forms of renewable energy. Paragraph 168 now outlines the considerations local authorities should take when determining planning applications for all forms of renewable and low carbon energy developments. Applicants are still not required to demonstrate the

overall need for renewable or low carbon energy but planning authorities should now 'give significant weight to the benefits associated with renewable and low carbon energy generation and the proposals contribution to a net zero future'.

4.4.4 Section c of paragraph 168 has been updated to reinforce that local planning authorities should give significant weight to the benefits of utilising an established site when determining applications for repowering. This guides planning authorities to view repowering applications favourably, recognising the value of upgrading existing renewable energy installations to increase capacity and efficiency, the policy also recognises the environmental benefits of using established sites. and encourages recognition of the reduced environmental impact whilst increasing energy production from existing sites.

4.4.5 The development site contains the existing Bears Down Wind Farm (E1/98/1286 and C2/00/00611). This development consists of sixteen turbines nearing the end of their operational lifetime. This repowering proposal consequently benefits from using an established wind farm site and should be given significant weight in support of this. The repowering proposal will also reduce visual clutter by reducing the number and spread of wind turbines in the landscape, while increasing energy generation by over 300%.

4.4.6 The NPPF emphasizes the benefit of repowering existing wind energy sites – given that all relevant material considerations are considered, and any potential adverse impacts are or can be made acceptable. This ES assesses all potential impacts of the proposed development as outlined in the subsequent chapters of the document.

4.5 Clean Power 2030 Action Plan (CP30), 2024

4.5.1 The Clean Power 2030 Action Plan (CP30), central to the UK Government's net-zero strategy, aims to expand renewable energy to meet 70% of electricity demand by 2030. The plan highlights the importance of onshore wind as a cost-effective, scalable technology for decarbonisation. This summary outlines how the proposed repowering of Bears Down Wind Farm aligns with the plan's key priorities and objectives.

Decarbonisation and Renewable Energy Targets

4.5.2 The repowering of Bears Down Wind Farm would significantly enhance locally generated clean energy, reducing reliance on fossil fuels. By upgrading the exiting turbines, with turbines of higher capacity and efficiency, the proposed development will support the broader goal of decarbonising the electricity grid. This aligns with the UK Government's commitment to doubling the capacity of onshore wind from 15GW to 30GW by 2030.

4.5.3 The proposed repowering of Bears Down Wind Farm is expected to generate more than 70GWh of renewable energy per year, which is an increase of more than 50GWh. The repowering will be able to power approx. 14,600 Cornish homes, an uplift of 250% on the capacity of the existing wind farm. Additionally, the repowering will save around 17,000 tonnes of carbon each year, equating to almost 600,000 tonnes over its operational lifetime. These figures demonstrate significant benefits from upgrading the established site.

Community Benefits

4.5.4 CP30 emphasises tangible benefits for local communities. This repowering project will provide a community benefit fund, offering financial support for local initiatives and fostering community engagement.

4.5.5 A percentage of the proposed wind farms income, equating to approximately £50,000-60,000, will be allocated to a community benefit fund each year. This fund will be distributed directly to the local parishes to decide how the fund will best serve their own communities.

Environmental and Social Balance

4.5.6 The proposed repowering has been designed and sited to minimise visual, noise and ecological impacts. Detailed assessments have addressed these considerations in line with CP30s principles of environmental protection and social acceptability. Utilising and upgrading the established site will help to preserve natural habitats and reduce land use changes across Cornwall.

4.5.7 The proposed wind farm has been designed to reduce the spread of wind turbines in the surrounding landscape and will utilise the existing access tracks and substation, reducing the scale of new infrastructure required for the proposed development. In addition to this the proposed repowering will introduce a 12.02% biodiversity net gain for habitats onsite, and an additional 11.20% gain specifically for native hedgerow habitat.

4.6 Planning Practice Guidance on Renewable and Low Carbon Energy

4.6.1 The Department for Communities and Local Government (DCLG) published the Planning Practice Guidance for Renewable and Low Carbon Energy in July 2013 which has since been updated in June 2015. The PPG provides advice on the planning issues associated with the development of renewable energy. Local Planning Authorities are advised to consider the following planning considerations when determining the outcome of a wind turbine application:

- Noise (using ETSU-R-97);
- Air traffic and safety;
- Interference with Electromagnetic Transmissions;
- Ecology;
- Heritage;
- Shadow Flicker;
- Energy output of the turbine;
- Cumulative Landscape and Visual Impact;
- Decommissioning and reinstatement; and,
- If the proposal addresses the concerns of local community.

4.6.2 These planning considerations have been fully addressed throughout the investigative process for this proposal, which is supported by the detailed assessments further discussed in the respective technical chapters in this Environmental Statement.

4.7 Cornwall Local Plan (CLP) Strategic Policies 2010-2030

4.7.1 The Cornwall Local Plan Strategic Policies document (CLP) was adopted in November 2016 and provides a guide to the planning approach and policies adopted for Cornwall between 2010-2030. Details of the strategic policies relevant to the repowering proposal are detailed below:

4.7.2 Policy 1: Presumption in Favour of Sustainable Development - This policy emphasises the requirement for decision-makers to comply with the NPPF approach, and states that when making decisions the Local Planning Authority should *'take a positive approach that reflects the presumption in favour of sustainable development'*. The local council should commit to

'*work with applicants and the local community wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.*' [14]

4.7.3 Policy 2: Spatial Strategy - This policy outlines the spatial strategy that encourages a sustainable approach to future development, which should accommodate the growth of economic, social, and environmental benefits for Cornwall. The policy emphasises that planning proposals should aim to increase community resilience to current and future issues, including climate change, by delivering a range of renewable energy and low carbon technologies. Furthermore, it states that proposals which improve conditions for investment in Cornwall, by supporting sectors including renewable energies will be welcomed by the Council.

4.7.4 Policy 3: Role and Function of Places - This policy sets a hierarchy in relation to the role and function of places and the associated considerations given to development. It is stated that '*development will be supported where it is in accordance with the other policies of this plan and can demonstrate that it conserves and enhances the landscape character.*'[15]

4.7.5 Policy 14: Renewable and Low Carbon Energy – This policy specifically relates to renewable and low carbon energy. Policy 15 relates to the safeguarding of renewable energy. Policies RE1 and RE2 in the recently adopted Climate Change DPD have replaced these policies.

4.7.6 The repowering proposal is in LCA CA18 – St Breock Downs, which has been deemed suitable to accommodate Band D scale wind turbine developments – up to 150m to tip. The proposal will generate over 70GWh annually, contributing a significant amount to Cornwall Council's overarching aim of becoming a carbon neutral County by 2030. It is estimated that the proposed development would save over 595,000 metric tonnes of carbon during its operational lifetime of 35 years. Furthermore, the proposal is fully aligned with the aims set out in Policy 2: Spatial Strategy by contributing to improving investment in Cornwall through supporting renewable energies. Being a repowering development, the proposal aligns with strategy to; accommodate the growth of economic, social, and environmental benefits for Cornwall. Therefore, it should be deemed acceptable that this repowering proposal is positively welcomed by the local planning authority.

[14] Cornwall Local Plan, Strategic Policies 2010-2030. Accessed via: https://www.cornwall.gov.uk/media/ozhj5k0z/adopted-local-plan-strategic-policies-2016.pdf (Accessed 8th September 2023)
[15] Cornwall Local Plan, Strategic Policies 2010-2030. Accessed via: https://www.cornwall.gov.uk/media/ozhj5k0z/adopted-local-plan-strategic-policies-2016.pdf (Accessed 8th September 2023)

4.7.7 The CLP refers to applications for repowering of sites which benefit from extant planning consent. This repowering proposal will replace the existing wind farm coming to the end of its life whereby planning was previously approved.

4.7.8 Policy 21: Best Use of Land and Existing Buildings. This policy encourages sustainable development and a considerate approach to the use of land, with preference given to proposals which focus on previously developed land that is not of historic value. The proposed site is within the St Breock Downs area characterised by prominent wind farm and mast development. The proposed repowering development will also utilise land that has existing wind farm development.

4.7.9 Policy 23: Natural Environment. This policy relates to the natural environment and the need for proposals to sustain local distinctiveness and character by ensuring the development is an appropriate scale, whilst respecting the landscape area of both designated and undesignated sites.

4.7.10 The repowering proposal scale is in accordance with the Renewable Energy Guidance (2016) Appendix 1; Landscape Sensitivity Strategy, which recognises that the proposed landscape area can accommodate Band D turbines up to 150m in height and has a Low – Moderate sensitivity to Band D wind development.

4.7.11 The repowering proposal is located near the Music Water County Wildlife Site. No infrastructure will be positioned near or adjacent to the site, therefore it is extremely unlikely that the proposed development would adversely impact the species and habitats for which this site has been selected. Full consideration of ecological aspects associated with a biodiversity mitigation plan are detailed in **Chapter 6.**

4.7.12 Policy 24: Historic Environment. This policy sets out a requirement to protect and conserve the historic environment, encouraging development proposals to consider and protect the character of the landscape, the appearance of conservation areas, and sites of historic significance. The repowering proposal is not situated within a heritage site; consideration has been given to the potential impacts on heritage assets due to the proposed repowering via a detailed heritage and archaeological investigation, as summarised in **Chapter 7.**

4.7.13 Policy 26: Flood Risk Management and Coastal Change. This policy relates to the adopted local flood and coastal management strategies and the need for proposals to be suitably placed to minimise flood risk. The proposed site is not located in an area of flood risk. The hydrological considerations addressed in relations to this proposal are detailed in **Chapter 9** and confirm that no significant effects on flood risk would arise due to the proposed development.

4.7.14 Policy 27: Transport and accessibility. This policy sets a standard for all development proposals to provide a safe and suitable access to the site, with an emphasis on minimising the adverse impact on the local road network. To comply with this policy, an access route assessment has been completed as part of this application. The assessment confirms the suitability of the proposed delivery route, and a Construction Transport Management Plan has been prepared to reflect the details of the access route and ensure that any potential effects on the local road network are minimised. Please see **Chapter 12.**

4.7.15 Policy 28: Infrastructure. This policy relates to the requirement of developer contributions, which should aim to enhance local infrastructure affected by the development. The proposed repowering development will provide the parish with a community benefit, which it has done for previous applications, that will be consistent with the scale of the proposal and reflects Policy 28 requirements.

4.7.16 The policies outlined above have set the groundwork for the recently adopted Cornwall Climate Emergency Development Plan Document (CEDPD) (**Section 4.7**) and have been fully considered in the design of the proposed wind farm as outlined within the technical assessments of this ES.

4.8 Climate Change Action Plan 2019 (CCAP)

4.8.1 The Climate Change Action Plan, published on the 15th of July 2019, was prepared in response to Cornwall Council's declaration of a climate change emergency on the 22nd January 2019. The report highlights the scale of the climate crisis and the actions required to transition into a carbon neutral County by 2030, as guided by the UN's Sustainable Development Goals. Cornwall Council commit to:

- *'Plan, invest and implement a transition to environmentally and socially sustainable jobs, sectors and economies, building on Cornwall's strengths and potential.*
- *Create opportunities to develop resource efficient and sustainable economic approaches, which help address inequality and poverty; and,*
- *Design and deliver low carbon investment and infrastructure, and make all possible efforts to create decent, fair and high value work, in a way which does not negatively affect the current workforce and overall economy"*[16].

4.8.2 The CCAP emphasises the necessity to revive the UK's onshore wind industry in order to maximise the benefits of Cornwall's natural resources and to achieve the transition into a carbon neutral county.

4.8.3 The CCAP roadmap to facilitate energy innovation projects in achieving carbon neutrality highlights the repowering of existing wind farms, signifying the importance of repowering after wind farms come to their end of life to ensure net zero targets are met.

4.9 Cornwall Council Climate Emergency Development Plan Document (CEDPD)

4.9.1 The Climate Emergency Development Plan Document (DPD), adopted February 2023, sets out the context and purpose of the DPD with aspects it aims to cover including 'renewable energy generation'. As the DPD has now been adopted it will be used in conjunction with the Cornwall Local Plan: Strategic Policies for decision making on all development proposals throughout Cornwall.

4.9.2 The CEDPD is aligned with the existing policies to support the Cornwall Local Plan, whilst providing new policies to encourage further progress towards meeting Cornwall's carbon neutral goal. Policies RE1 and RE2 directly relate to and support the implementation and necessity of renewable energy generation in Cornwall and have been brought forward in the CEDPD to ensure a positive approach is applied to decision-making on suitable renewable development proposals.

4.9.3 The CEDPD aims to identify and provide information on the most suitable areas for wind development in Cornwall. This aspect is a positive step towards increasing renewable energy

[16] Climate Change Plan, 15th July 2019. Accessed via: https://www.cornwall.gov.uk/media/y5mctbyu/climate-change-action-plan.pdf (Accessed 8th September 2023)

production in Cornwall, as this will encourage a more positive decision-making approach to suitably placed proposals. This repowering proposal is located within an area identified as suitable for wind development and is for the repowering of an existing wind farm, utilising the existing opportunity to further develop renewable production, complying to both Cornwall and national policies.

4.9.4 In preparing the CEDPD a Renewable Energy Landscape Sensitivity assessment was carried out. The reports and associated maps form part of the evidence base for the CEDPD[17]. Chapter 4 of the assessment identifies that St Breock Downs Character Area has a moderate sensitivity to wind turbine development and emphasises a particular opportunity to repower the existing Band B turbines to Band D at Bears Down Wind Farm. This document also highlights that St Breock Down LCA has the lowest sensitivity to Band D turbine development in the county as being classed as low to moderate.

4.9.5 Policies RE1 – Renewable and Low Carbon Energy, and RE2 – Safeguarding strategic renewable energy sites, of the CEDPD set out the principles with regards to renewable energy to ensure that this significant resource is maximised, whilst ensuring that any adverse impacts are addressed satisfactorily. They replace policies 14 and 15 of the Cornwall Local Plan: Strategic Policies.

4.9.6 Policy RE1 – Renewable and Low Carbon Energy sets out the following:

1. Proposals for renewable and low carbon energy-generating and distribution networks, will be supported in the context of sustainable development and climate change, where:

    a) They contribute to meeting Cornwall's target of 100% renewable electricity supply by 2030.

    b) They balance the wider environmental, social and economic benefits of renewable electricity, heat and/or fuel production and distribution;

    c) It will not result in significant adverse impacts on the local environment that cannot be satisfactorily mitigated, including cumulative landscape and visual impacts, the special qualities of all nationally important landscapes, and the significance of heritage assets including their settings, including the outstanding universal value of Cornwall and West

[17] Renewable Energy Landscape Sensitivity Assessment, Accessed via: https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/climate-emergency-development-plan-document/climate-emergency-dpd-renewable-energy-sensitivity-assessment/ (Accessed 24th October 2023)

Devon Mining Landscape World Heritage Site and the character of wider historic townscapes, landscapes and seascapes; and

d) In and within the setting of Areas of Outstanding Natural Beauty and undeveloped coast, developments will only be permitted in exceptional circumstances and should generally be very small scale giving due regard to the natural beauty of these areas; and

e) Where the current use of the land is agricultural, the use allows for the continuation of the site for some form of agricultural activity proportionate to the scale of the proposal and provides for 10% biodiversity net gain.

f) Commercial led energy schemes with a capacity over 5MW shall provide an option to communities to own at least 5% of the scheme subject to viability; and

g) There are appropriate plans and a mechanism in place for the removal of the technology on cessation of generation, and restoration of the site to its original use or an acceptable alternative use; and

h) Opportunities for co-location of energy producers with energy users, in particular heat will be supported.

2. Wind energy development proposals will be permitted where they:

a) Are located in a 'broad suitable area' identified on the Policies Map or in an area identified in a made Neighbourhood Plan or Neighbourhood Development Order or are for the repowering of an existing wind turbine/farm; and

b) Demonstrate that the planning impacts identified by the affected local community have been made acceptable by the proposal; and

c) Avoid or adequately mitigate shadow flicker, noise and adverse impact on air traffic operations, radar, and air navigational installations; and

d) Do not have an overshadowing or overbearing effect on nearby habitations;

e) Demonstrate that proposals would be outside of the 1km buffer zone for Special Areas of Conservation and Special Protection Area sites shown on the policies map and can be delivered without resulting in adverse effects on the integrity of European Sites and ensure that potential implications of wind farm development on the migratory flightpaths and core foraging zones and other functionally linked land for SPA birds of the Marazion Marsh SPA, Tamar Estuaries Complex SPA and the Falmouth Bay to St Austell Bay SPA are fully considered.

4.9.7 Further to RE1 (f), significant weight will be given to community led energy schemes where evidence of community support can be demonstrated, with administrative and financial

structures in place to deliver/ manage the project and any income from it. As with Policy 28 of the CLP, CE will provide the local parishes with a community benefit, which it has done for previous applications, that will be consistent with the scale of the proposal. Consideration of the 5% community ownership will be detailed in **Chapter 14** and will continue to be discussed after community consultation and within the planning determination period.

4.9.8 This repowering proposal at Bears Down is significantly supported by the CEDPD and supporting documents in regard to both scale, to align Band D development and reduce clutter. As well as being for the repowering of an already established turbine site which has been identified in guidance as an opportunistic repowering and to be within an area of lowest sensitivity to wind developments in the county.

4.10 Cornwall Renewable Energy Planning Advice 2016

4.10.1 The Cornwall Renewable Energy Planning Advice Supplementary Planning Document (SPD) is an important renewable policy document for Cornwall which supports the policies highlighted within the Cornwall Strategic Plan 2010-2030. The SPD, which provides guidance relating to the siting and scale of onshore wind, is a material consideration during the decision-making process for renewable energy proposals throughout Cornwall.

4.10.2 Section 3.2 explores repowering of existing installations as an opportunity to achieve greater generation capacities where sites are technically and environmentally capable. In some circumstances the site may be capable of accommodating renewable energy development of a different size, scale, design, or type. This repowering proposal will contribute to 300% more energy generation whilst greatly reducing the turbine number from sixteen to five.

4.10.3 Whilst the SPD provides general advice on onshore wind developments, the associated Appendix 1; Landscape Sensitivity and Strategy Matrices for each Landscape Character Area, provides specific guidance on the Landscape Character Area (LCA) that the proposal is situated in. A landscape strategy plan and siting guidance is provided for the proposed landscape area CA18: St Breock Downs; the repowering proposal is aligned with the guidance below.

Landscape Sensitivity and Scale Guidance

4.10.4 The proposed landscape area (CA18) is deemed suitable to accommodate Band D turbine developments up to 150m to tip, with 'moderate' sensitivity. The presence of well-designed and

sited Band D wind farms at St Breock Down and Denzell Downs also lowers overall sensitivity to larger scale wind energy developments. It is recognised that the landscape has particular sensitivity to turbines at the larger end of the Band D scale, in large (11-25) and very large (>25) clusters. The repowering development is replacing sixteen turbines with five, reducing the landscapes sensitivity to larger cluster sizes.

4.10.5 The Landscape Strategy is for the LCA to consist of wind energy developments located on the ridge of the landscape character area, when suitably placed and in accordance with the following LCA siting guidance:

Siting Guidance

4.10.6 The proposed development is located towards the western ridge of the LCA and is within the setting of further wind development therefore complying with the siting guidance and Policy 23 of the CLP (see **Appendix D** for location maps of the proposed location within the LCA). The guidance also states that the development and tracks should be located to avoid areas of semi-natural dry heath. The guidance encourages proposals to aim for consistency between different developments in terms of group size, layout and spacing of turbines when locating further wind energy development within this LCA. This proposal will unify the wind farms to Band D developments, whilst reducing clutter within the landscape.

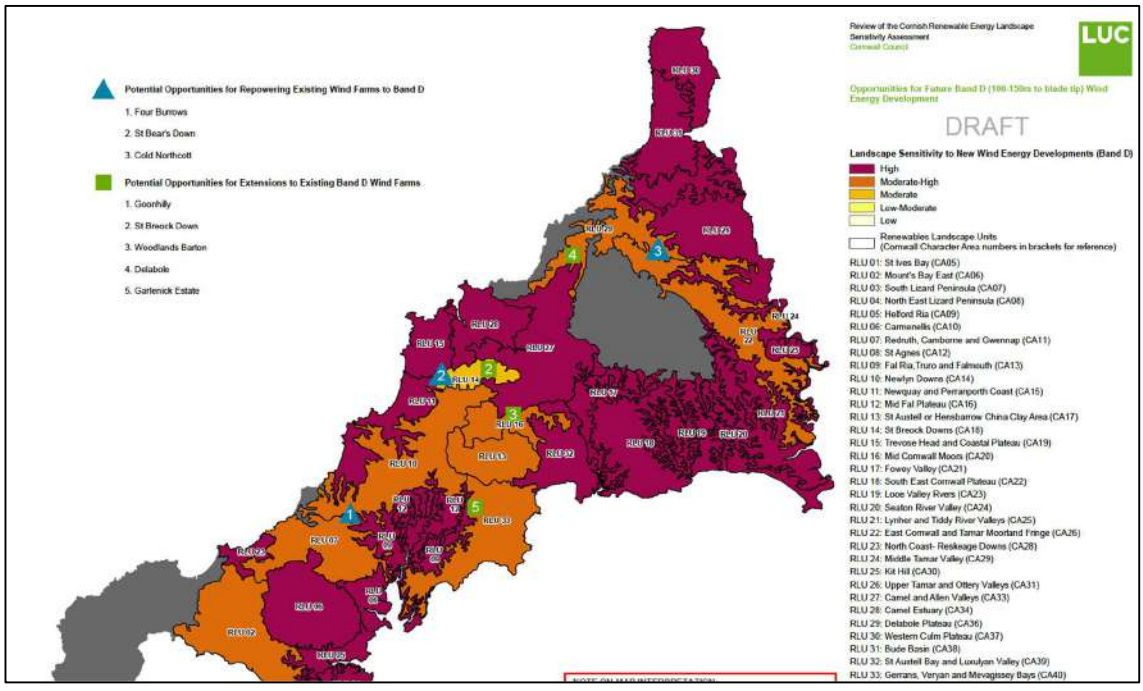

Figure 2: *Cornwall Opportunity Map for Wind*

4.10.7 **Figure 2** Highlights the potential opportunity to repower Bears Down to Band D; noting that RLU14 has been assessed to have the lowest landscape sensitivity (Low-moderate) to Band D wind energy developments in the County.

Skylines

4.10.8 Proposals must consider how turbines fit with existing skyline features when siting and designing wind development; turbine development should consider views from local viewpoints and popular routes including Saints Way when siting wind energy development and aim for a balanced composition of turbines on the skyline. The Renewable Energy Landscape Sensitivity assessment specifically states opportunities should be sought to re-power Bears Down to Band D turbines. This should help towards visual cohesion of the adjacent Denzell Downs Band D development with the proposed Band D Bears Down development. The proposed repowering development comprises Band D turbines more evenly balancing skyline features whilst reducing the spread of turbines which impact the LCA skyline. The proposed repowering development has been positioned to align with the skyline guidance above aimed to balance the composition of turbines, the proposal will also reduce the turbines present within the landscape by 11, reducing skyline clutter. Landscape Impact has been assessed in accordance with Landscape Impact as detailed in **Chapter 5**: Landscape and Visual Impact.

Scenic Quality

4.10.9 The far western corner of the LCA is within the Watergate and Lanherne AGLV. The scenic qualities of this AGLV include the dominance of the headlands of Beryls Point, Griffins Point and Trenance Point, the marshes and trees in the Vale of Lanherne, and the woodland at old Carnanton Estate; the proposed development is located outside the area which constitutes the AGLV and has been assessed in accordance with Landscape Impact as detailed in Chapter 5: Landscape and Visual Impact. The proposal aligns with Policy 21 of the CLP which encourages a sustainable development and considerate approach to the use of land, with preference given to proposals that focus on previously developed land that is not of historic value. This repowering proposal makes use of land which already comprises an operation wind farm.

4.11 Planning Policy Summary

4.11.1 At local, national, and international levels there are targets to tackle climate change and deliver environmental benefits. Renewable energy schemes, such as this one, are central to achieving these goals.

- Cornwall Council declared a Climate Emergency in 2019 and sought powers and resources from Westminster to help the County become Carbon Neutral by 2030.
- Whilst Cornwall Council acknowledge that the 2030 target will be difficult to achieve, their Action Plan to become Carbon Neutral within the next 7 years does require unlocking the County's wind potential.
- The UK's National Infrastructure Commission stated that removing additional planning barriers to onshore wind development in England is the right thing to do and recognises the major role that wind energy can play in boosting domestic production.
- An increase in wind can provide greater security of the country's own energy supply. Since the war in Ukraine, the British Energy Security Strategy (2022) acknowledges that onshore wind is one of the cheapest forms of renewable power.
- The NPPF requires repowering development to be given significant weight in support of using already established sights, other development should be within suitable areas, this proposal aligns with both policies.
- The proposal will have an increased renewable energy capacity by 300% whilst reducing the number of turbines by 11, significantly reducing the number of wind turbines in the landscape and therefore reducing landscape clutter.
- The proposal is fully supported by the new Climate Emergency DPD Renewable and Low Carbon Energy policies (RE1 and RE2), where significant weight is given to repowering developments because of the benefits of utilising an established site.

4.11.2 **Renewable Energy in the Context of Application:**

The Applicant expects that the wind turbines will make the following contributions to national energy and environmental policies:

- The proposed wind turbines at Bears Down will save around 15,800 tonnes of carbon each year, compared to the equivalent fossil fuel production (depending on the UK energy mix at any one time).
- The turbines are expected to generate over 68GWh of renewable energy a year, enough to power 15,000 homes, based on the 2023 average consumption figures.

- The output is more than 300% compared to the existing turbines and would represent a far greater quantity of clean energy generation to contribute to both renewable energy targets and emission reductions and is testament to significant advances in wind turbine technology and efficiency.
- The proposal will contribute to Cornwall Council's aim of transitioning to a carbon neutral county by 2030 and re-enforcing the actions set to follow the Climate Crisis declaration on 22nd January 2019.

4.11.3 **Energy Balance:**

- An estimate of the energy payback for modern wind turbine development is 6-12 months18 depending upon the site wind speed and turbine model. Please note that this is the prediction for a 'low wind' environment and therefore conservative. The location at Bears Down has been proven to have a good to high wind speed therefore it would be reasonable to expect the energy payback to be far greater than stated.
- The construction phase will follow an agreed construction environmental management plan to ensure impacts from the construction period are avoided or minimized.
- The project has a 35-year lifespan after which the turbines and their associated infrastructure will be decommissioned, and the land reinstated to a condition agreed with the LPA.

[18] Life cycle costs and carbon emissions of wind power: executive summary, 2015. Accessed via: https://www.pure.ed.ac.uk/ws/portalfiles/portal/19730353/Executive_Summary_Life_Cycle_Costs_and_Carbon_Emissions_of_Wind_Power.pdf (Accessed 4h February 2022)

5.0 Landscape and Visual Impact

5.1 Introduction

5.1.1 Amalgam Landscape has produced a Landscape and Visual Impact Assessment (LVIA) on behalf of Clean Earth (CE) to inform the Environmental Statement for the proposed repowering of the existing Bears Down wind energy scheme with four proposed wind turbines (the proposed development) at Bears Down, near St Eval, Cornwall.

5.1.2 The purpose of the LVIA is to identify and outline the existing landscape character and visual amenity receptors within the study area and subsequently to assess the potential magnitude of impact and level of effect, including significance, on the identified receptors as a result of the proposed development. Mitigation measures are proposed, including during the initial design phase, to reduce the impacts and effects of the proposed development. Impacts and effects are assessed at significant stages in the life of the proposed development, including construction, operation, and decommissioning.

5.1.3 The LVIA also considers the cumulative effects of the proposed development when perceived with other wind energy schemes that are operational, under construction, consented and pending planning within the cumulative 10km study area. Operational wind energy schemes are considered as part of the baseline assessment.

5.1.4 The full report can be found within Appendix D.

5.1.5 In August 2025, Amalgam Landscapes reviewed the proposed modification, to reduce to the scale of development from five to four turbines. All associated material has been updated to reflect the revised scheme and are accompanied by a supporting addendum. This updated information has been submitted separately from this Environmental Statement (ES) and is included within the formal modification request.

5.1.6 The summary information, original methodology, and baseline report remain relevant to the revised scheme. The conclusions of the original assessment are largely unchanged, and the updated materials serve to confirm the continued validity of the original findings in light of the proposed modification. For a full overview of the changes and supporting documentation, please refer to the formal modification request.

5.2 Methodology

5.2.1 The LVIA methodology is in line with the *Guidelines for Landscape and Visual Impact Assessment*[19] *(GLVIA)*, the primary guidance in respect of LVIA, and follows the guidelines produced by the relevant professional bodies concerned with LVIA and the assessment of wind energy scheme related developments.

5.2.2 The main study area is a 10km radius measured from the location of the proposed development. Additionally, the Zones of Theoretical Visibility (ZTVs), calculate to the maximum potential hub height and blade tip heights, which assess the potential visibility of the proposed development, and have been completed for 10km and 30km radius study areas.

5.2.3 An initial desk study was undertaken to review existing map and written data, relevant to the study area.

5.2.4 A site survey, including a photographic survey, was undertaken in fine weather in January 2023. The site survey helped to determine the potential impacts and effects as a result of the proposed development as well as developing the design and mitigation measures.

Landscape Character and Visual Amenity Receptor - Sensitivity Methodology

5.2.5 Landscape character and visual amenity receptors are assessed according to their sensitivity to change by combining the considerations of susceptibility and value. The landscape character areas are assessed for their sensitivity based on a review and analysis of the elements, designations, and previously published descriptions. The sensitivity of both landscape character and visual amenity receptors ranges from **low to high sensitivity**.

Magnitude of Impact - Methodology

5.2.6 An 'impact' is defined as a change likely to occur as a result of the construction, operation, and decommissioning of the proposed development. The scale or magnitude of impact is determined through the assessment of the duration and extent of changes to the landscape and visual resource as a result of the proposed development. The magnitude of impact on both landscape character and visual amenity receptors ranges from **no change to high.**

[19] *Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition,* 2013, The Landscape Institute and the Institute of Environmental Management and Assessment

Level and Significance of Effect - Methodology

5.2.7 An 'effect' is defined as the degree of change likely to occur as a result of the construction, operation, and de-commissioning of the proposed development. The level of effect on the landscape character and visual amenity receptors are determined by balancing the sensitivity of the receptor and the magnitude of impact as a result of the construction, operation and decommissioning of the proposed development.

5.2.8 The level of effect on landscape character and visual amenity receptors ranges from **negligible to major.** 'Major' effects and 'Major-moderate' effects are determined as **'significant'** with reference to the EIA Directive and UK Regulations.

5.2.9 Effects can be adverse (negative) or beneficial (positive) or no change (neutral). Unless otherwise stated, it is assumed that all effects as outlined in this LVIA are adverse.

5.2.10 Further details on the criteria and scales applied to assess the sensitivity, impact, and effect are provided in **Tables 1-4** in **Appendix D**.

Cumulative Assessment

5.2.11 The cumulative assessment considers the additional impacts and effects of the proposed development when perceived with other operational, consented, or pending planning[20] wind energy schemes.

5.2.12 There are two types of impact in relation to visual amenity receptors which include:

- Combined impacts which occur when the receptor can perceive two or more developments from one viewpoint, in combination or in succession; and
- Sequential impacts which occur when the receptor has to move to another viewpoint to see different developments, travelling along regularly used routes such as major roads or popular or recognised public rights of way.

5.3 Existing Conditions

5.3.1 The description of existing conditions establishes the landscape character and visual amenity context within the study area and forms the basis of the LVIA. The existing conditions include

[20] 'Pending planning' – wind energy schemes that have been submitted for a planning application decision. This does not include wind energy schemes in screening or scoping or those that have been refused planning permission.

descriptions of the site, landscape relevant designations, landscape character and visual amenity receptors and their views within the study area as well as information on operational wind energy schemes.

5.3.2 The site is situated on the upper slopes of an expansive agricultural landscape, comprising of large regular fields, currently used for pasture and divided by low hedgerows/hedgebanks and fencing.

5.3.3 The site is within a landscape heavily influenced by the surrounding wind energy schemes. Operational wind energy schemes, greater than 15m to blade tip in are identified within the 10km radius study area, there are 36 schemes as illustrated on **Figure 3 - Appendix D.**

Landscape Relevant Designations

5.3.4 The site is **not** recognised for its importance or value through any landscape relevant designations. There are however landscape relevant designations within the study area. These are shown in **Figure 4 – Appendix D.**

Landscape Character

National Landscape Character

5.3.5 The Natural England[21] national landscape character information outlines the wider setting of the site and provides a context for the description of the local landscape character. Within the study area, there are two national landscape character areas - *Cornish Killas national landscape character area (152) and Hensbarrow national landscape character area (154)*. Further details of the two NCAs are included in **Appendix D.**

Local Landscape Character

5.3.6 Cornwall Council has identified eight landscape character areas within the study area. The proposed site is within the *St Breock Downs character area (CA24)* which has **medium-low (low-moderate)** sensitivity[22]. An outline of the eight LCAs can be found in **Appendix D** and their locations are illustrated in **Figure 6 – Appendix D.**

Cornwall Landscape Sensitivity Assessment

[21] National Character Area profiles (www.gov.uk)

[22] The determination of sensitivity of the landscape character areas is derived from Cornwall Renewable Energy Advice, Annex 1: An assessment of the landscape sensitivity to on-shore wind energy and large-scale photovoltaic development in Cornwall, Cornwall Council, March 2016

5.3.7 The Cornwall Landscape Sensitivity Assessment (LSA)[23] has identified the *St Breock Downs character area (CA24)* as having a '**low-moderate**' overall landscape sensitivity for wind energy development at Band D, as proposed in this application.

5.3.8 The landscape strategy for wind energy development within the *St Breock Downs character area (CA24)* is "*for a landscape with wind energy development comprising small or medium clusters of turbines, up to the lower end of Band D, located on the ridge where they relate to one another in terms of cluster size and turbine type."*

5.3.9 The proposed development, therefore, broadly conforms to the requirements of the LSA and is:

- A Band D turbine (between 100-150m in height to blade tip) – although at the higher end of Band D in terms of turbine height;
- Will form a small-cluster of between 2-5 turbines; and
- Will be located on a ridge and will often be perceived as adjacent to the operational wind energy scheme ay Higher Denzell Farm.

5.4 Design and Mitigation Measures

5.4.1 A balance between technical and environmental constraints, effectiveness, and landscape and visual impacts were the key factors in determining the selection and siting of the proposed development.

Mitigation through the selection of the proposed wind turbines

- The size and model of the proposed wind turbines were selected to accommodate the site's wind speed and to provide a substantial amount of electricity generation.
- The proposed development will replace the sixteen existing wind turbines at Bears Down, which comprise twelve turbines at 57m and four turbines at 52m in height in blade tip and will utilise much of the same infrastructure including entrances and access roads, thereby minimising the influence on landscape elements and landscape pattern.
- The proposed development will also largely be perceived within the same context as the nearby operational wind energy scheme at Higher Denzell Farm.

Mitigation through siting of the proposed wind turbines

[23] Cornwall Renewable Energy Advice, Annex 1: An assessment of the landscape sensitivity to on-shore wind energy and large-scale photovoltaic development in Cornwall, Cornwall Council, March 2016

- The proposed development would appear as taller but less numerous vertical elements within a landscape already influenced by wind energy schemes.
- The proposed development was positioned away from high sensitivity receptors, such as residential properties and large settlements.
- The generic siting guidance relevant to the *St Breock Downs character area (CA24)* as found within the LSA[24] was also considered.
- In addition, habitat improvements, as described in more detail in **Appendix E** are also proposed to improve the biodiversity and nature conservation interest of the immediate surroundings.

Construction

5.4.2 Mitigation measures, relevant to the LVIA during the construction period, include:

- Vegetation loss, including hedgerows, tree and shrub removal will be kept to a minimum;
- The existing entrance and access roads for the operational Bears Down wind energy scheme (which the proposed development will replace) will be used, thereby minimising direct and indirect effects on landscape character and visual amenity receptors and their views, including on landscape elements and landscape pattern; and
- All temporarily disturbed and excavated areas will be reinstated following the completion of construction activities.

Operation

5.4.3 Given the scale of the proposed wind turbines, there are few realistic mitigation measures that could be introduced, which would help limit the visibility of the proposed development within the wider landscape during the operational period. New tall structures with moving vertical elements, albeit replacing an existing wind energy scheme, will be introduced which, due to its size and scale, will be perceived over a relatively wide area, largely in combination with nearby operational wind energy schemes. It should also be acknowledged that the operational effects of the proposed development will be temporary given the 35-year operation period.

Decommissioning

5.4.4 Mitigation measures, relevant to the LVIA during the decommissioning period will be similar to the construction period and will include:

- Vegetation loss, including hedgerows, tree and shrub removal will be kept to a minimum; and

[24] Cornwall Renewable Energy Advice, Annex 1: An assessment of the landscape sensitivity to onshore wind energy and large-scale photovoltaic development in Cornwall, Appendix 1: Landscape Sensitivity and Strategy Matrices for each Landscape Character Area, Cornwall Council, March 2016

- The decommissioning compound and all disturbed and excavated areas will be reinstated following the completion of decommissioning activities. The concrete foundations will be broken up and removed from the site and underground cabling will be removed or left in-situ, covered to make up levels and spread with recovered subsoil and topsoil, appropriate to re-establish previous conditions.

5.5 Landscape Effect

Construction and Decommissioning Impacts

5.5.1 Construction activities that have the potential to affect the landscape character and views from visual amenity receptors include:

- Deliveries to site and vehicle movements on and off-site;
- Construction of new entrance and access roads;
- Presence of crane (maximum of 60 days – in good weather conditions) to erect the proposed wind turbines;
- Erection of wind turbine towers, installation of turbine nacelle and blades; and,
- Reinstatement works to areas disturbed by construction activities.

5.5.2 Decommissioning activities that have the potential to affect the landscape character and views from visual amenity receptors include:

- Presence of crane (maximum of 60 days – in good weather conditions) to dismantle and remove the proposed wind turbines;
- Dismantling and removal of ancillary structures; and
- Removal of underground cables and proposed wind turbine foundations.

5.5.3 Any effects on landscape character and visual amenity receptors and their views during the construction and decommissioning phases will be short term, reversible, and temporary in duration. Therefore, construction and decommissioning activities on both landscape character and visual amenity receptors and their views will ensure that the overall effects will be **low impact** and have **minor adverse** effects.

Operational Impacts and Effects

Zone of Theoretical Visibility

5.5.1 In accordance with good practice, Zone of Theoretical Visibility (ZTVs) have been produced. These were calculated to a hub height of 82m and blade tip of 150m covering the 30km and 10km radius study areas. The ZTVs are calculated using specialist software. Further details can be found in **Appendix D.**

5.5.2 Within the 30km radius study area, as illustrated in **Figures 8** and **9** in **Appendix D**, the wider extent of potential visibility is broadly spread throughout the study area, with only selected high points with the potential to perceive the proposed development and barely, if any, potential wider indirect influence on the Cornwall AONB.

5.5.3 Within the 10km study area, as illustrated in **Figures 10 and 11 – Appendix D**, the main potential extent of visibility of the proposed development will be within close proximity, this dissipates with distance particularly to the north-east, east and south-east, with wider visibility (beyond 5km) focussed on selected high points and ridges.

Comparative ZTVs

5.5.4 ZTVs comparing the potential extent of visibility between the existing sixteen wind turbines at Bears Down and the proposed four repowering wind turbines (the proposed development) was also produced.

5.5.5 As illustrated in Figures 27 and 28 in **Appendix D**:

- There are no locations where only the existing sixteen wind turbines at Bears Down would be theoretically visible;
- The proposed development would always be theoretically perceived in the same locations as the existing sixteen wind turbines at Bears Down; and
- It will only be on the fringes of the ZTVs, largely in narrow bands, that there would be an increase in the extent of theoretical visibility where only the proposed development would be perceived.

5.5.6 A comparison in the extent of the potential visibility in the study area between the existing wind turbines at Bears Down and the proposed repowering development is identified in Table 2 below.

Table 3: *Comparison between extent of potential visibility between existing Bears Down wind turbines and the proposed development*

	Existing Bears Down wind turbines	Proposed Repowering Wind Turbines (the proposed development
Hub height	46%	59%
Blade tip	52%	70%

Viewpoint Analysis

5.5.7 **Fifteen viewpoints, their locations are shown in Figures 10 and 11 – Appendix D.** Selected to inform the LVIA and help determine and describe the magnitude of impact and level of effect of the proposed development.

5.5.8 The viewpoints represent the most 'exposed' publicly accessible views of the proposed development, from the most 'sensitive' receptors, broadly surrounding the proposed development from all directions of view.

5.5.9 To illustrate the predicted views of the proposed development, photographic views, wireframes, and photomontages have been produced for all of the viewpoints. The other wind energy schemes within the study area are also shown on all wireframe views.

Operational Impacts and Effects on Landscape Character

Landscape Elements

5.5.10 The proposed development will have minimal effects on any landscape elements. There will be loss of grassland for the new access tracks and the proposed wind turbine foundations, having low **impacts** and **minor adverse** effects on landscape elements. However, due to the proposed biodiversity enhancements, as detailed in **Appendix E** over time will bring **minor beneficial effects** to landscape elements.

Landscape Relevant Designations

5.5.11 The proposed development will not directly affect any landscape relevant designations.

5.5.12 However, with reference to the ZTVs (**Figures 8-11**), there will be the potential for indirect impacts and effects on the setting of selected landscape relevant designations as a result of the operation of the proposed development as follows:

- The Cornwall Area of Outstanding Natural Beauty (AONB) occurs to the north-east, north, north-west and west of the study area, approximately 3.8km to the west and 4.5km to the north of the proposed development at its closest point. Intermittently within the ZTVs, the proposed development has the potential to indirectly influence the setting of the "*landscape character and natural beauty of the AONB.*" At worst, the magnitude of impact on this **high** sensitivity landscape will be **negligible**, the level of effect will be **minor-negligible**. For the majority of the AONB, the magnitude of impact will be **no change**, the level of effect will be **neutral**.
- The Camel and Allen Valleys, approximately 4km to the east, extending to the eastern and north-eastern fringes of the study area, is intermittently within the ZTVs, with largely only the blade tips of the proposed development potentially perceived. At worst, the magnitude of impact on this **medium-high** sensitivity landscape will be **negligible**, the level of effect will be **negligible.** Although in reality for the vast majority of the AGLV, the magnitude of impact will be **no change**, the level of effect will be **neutral**.
- The Watergate and Lanherne AGLV, approximately 1km to the south-west, extending to the west and south-west along the coast, is largely within the ZTVs. At worst, the magnitude of impact on this **medium-high** sensitivity landscape will be **low**, the level of effect will be **minor.** Although in reality for the majority of the AGLV, the magnitude of impact will be **no change**, the level of effect will be **neutral**.

- The Prideaux Place Registered Park and Garden which occurs approximately 7.8km to the north, is within the ZTVs and has the potential for the setting to be indirectly influenced by the proposed development. The magnitude of impact will be **no change**, the level of effect will be **neutral**.
- The majority of the Conservation Areas in the study area, including St Mawgan, approximately 2.9km to the south-west, Little Petherick, approximately 4.5km to the north, St Breock, approximately 8.1km to the north-east, Wadebridge, approximately 9.4km to the north-east and Padstow, approximately 7.5km to the north are excluded from the ZTVs with **no potential indirect influence** on their setting as a result of the proposed development. Even from the Conservation Areas within the ZTVs including St Columb Major, approximately 3.4km to the south and St Columb Minor, approximately 7.9km to the south-west, there will be no indirect influence, the magnitude of impact will be **no change**, the level of effect will be **neutral**.
- No Ancient Woodlands will be directly affected by the proposed development. The closest Ancient Woodland is south-east of St Mawgan on the River Menalhyl valley,

approximately 2.9km to the south. The magnitude of impact will be **no change**, the level of effect will be **neutral**.

Landscape Character Areas

5.5.13 With reference to the ZTVs (**Figures 10-11**) provided in **Appendix D**, the main impacts will be on Landscape Character Areas in close proximity.

5.5.14 The proposed development is within the **medium-low (low-moderate)** sensitivity *St Breock Downs character area (CA24)* which extends in a broad band across the centre of the study area including towards the eastern fringes.

5.5.15 Already influenced by existing wind energy schemes, including Bears Down, Higher Denzell Farm and St Breock, which form prominent vertical features in this open landscape, the proposed development will replace the existing wind turbines at Bears Down, albeit with taller but fewer wind turbines.

5.5.16 As illustrated in **Viewpoint 1 (Figures 12A-12E)** and **Viewpoint 2 (Figures 13A-13E)**, from in close proximity within the *St Breock Downs character area (CA24)*, the proposed development will be prominent and largely viewed adjacent and in combination with the nearby Higher Denzell Farm wind energy scheme, within the elevated rounded downland. In close proximity, the magnitude of impact will be **high**, the level of effect will be **moderate**. As illustrated in **Viewpoint 7 (Figures 18A-18E)**, from the fringes of the *St Breock Downs character area (CA24)* it will be from selected open and elevated locations that the proposed development will be perceived as a small cluster, in combination with adjacent wind energy schemes on the distant open ridge. There will be an increase in the perception of wind energy development and the magnitude of impact will be **medium**, the level of effect will be **minor**.

5.5.17 The landscape strategy for wind energy development within the *St Breock Downs character area (CA24)* is "*for a landscape with wind energy development comprising small or medium clusters of turbines, up to the lower end of Band D, located on the ridge where they relate to one another in terms of cluster size and turbine type.*"

5.5.18 The proposed development, therefore, broadly conforms to the requirements of the LSA and is:

- A Band D turbine scheme as identified by CC (between 100-150m in height to blade tip);
- Will form a small-cluster of between 2-5 turbines; and

- Will be located on a ridge and will often be perceived as adjacent to the operational wind energy scheme ay Higher Denzell Farm.

5.5.19 To the south of the proposed development, extending to the south and south-east of the study area is the **medium-low (low-moderate)** sensitivity *St Newlyn East to St Columb Major character area (CA25).* As illustrated in **Viewpoint 5 (Figures 16A-16E)** and **Viewpoint 8 (Figures 19A-19E)**. At worst, in close proximity, the magnitude of impact will be **medium**, the level of effect will be **minor,** reducing with distance. With distance the magnitude of impact will be **low**, the level of effect will be **negligible**.

5.5.20 To the west of the proposed development, extending to the west and south-west is the **medium-high (moderate-high)** sensitivity *Newquay and Perranporth Coast character area (CA17)*. At worst, the magnitude of impact will be **low**, the level of effect will be **minor.** Although in reality for the majority of the *Newquay and Perranporth Coast character area (CA17)*, the proposed development will have no discernible influence and the magnitude of impact will be **no change**, the level of effect will be **neutral**.

5.5.21 To the north and west of the proposed development, extending to the north, north-west and west is the **medium-high (moderate-high)** sensitivity *Trevose Head and Coastal Plateau character area (CA23)*. As illustrated in **Viewpoint 3 (Figures 14A-14E)**. There will be an increase in the perception of wind energy development and the magnitude of impact will be **medium-high**, the level of effect will be **moderate.**

5.5.22 Further afield, as illustrated in **Viewpoint 9 (Figures 20A-20E)**, **Viewpoint 12 (Figures 23A-23E)** and **Viewpoint 14 (Figures 25A-25E)**. From selected open and/or elevated locations within the *Trevose Head and Coastal Plateau character area (CA23)*, At worst, the magnitude of impact will be **low**, the level of effect will be **minor-negligible**.

5.5.23 To the north-east of the proposed development, extending to the north-eastern fringes of the study area is the **medium (moderate)** sensitivity *Camel Estuary character area (CA28)*. Intermittently within the ZTVs, as illustrated in **Viewpoint 10 (Figures 21A-21E)**, At worst, the magnitude of impact will be **medium-low**, the level of effect will be **minor.**

5.5.24 For the landscape character areas further afield towards the fringes of the study area, including the **medium (moderate) sensitivity** *Camel and Allen Valleys character area (CA29)* to the north-east, east and south-east, the *Mid Cornwall Moors character area (CA26)* to the

south-east and the *St Austell or Hensbarrow China Clay Area (CA27)* to the south, the proposed development will have the potential to be distantly perceived and influence the landscape. As illustrated in **Viewpoint 13 (Figures 24A-24E)**. At worst, the magnitude of impact will be **low**, the level of effect will be **minor-negligible**. For the majority of the distant landscape character areas within the study area, the magnitude of impact will be **no change**, the level of effect will be **neutral**.

Operational Impacts and Effects on Visual Amenity Receptors and their Views

Settlements – Towns, Villages and Hamlets

5.5.25 There are a number of **high** sensitivity towns, villages, and hamlets scattered throughout the study area, generally situated along the major road corridors or associated with the coastal fringes.

5.5.26 St Eval, approximately 950m to the west at its closest point, is the closest settlement to the proposed development. As illustrated in **Viewpoint 4 (Figures 15A-15E)**, from the recreation ground in St Eval, views of the proposed development will be possible above the intervening houses. Replacing the existing wind energy schemes with fewer but taller moving vertical elements, the proposed development will be perceived as part of a larger cluster adjacent to the Higher Denzell Farm wind energy scheme. The magnitude of impact will be **medium**, the level of effect will be **moderate**. Distance will help to limit the influence of the proposed development. The magnitude of impact will be **medium-low**, the level of effect will be **moderate-minor**.

5.5.27 The village of Talskiddy occurs approximately 2km to the south-east of the proposed development. Nestled within the surrounding sloping and well-vegetated landscape, as illustrated in **Viewpoint 5 (Figures 16A-16E)**. Set on the adjacent ridge, adjacent to an existing wind energy scheme, the proposed development, although replacing an existing wind energy scheme, will introduce fewer but taller moving vertical elements. The magnitude of impact will be **medium**, the level of effect will be **moderate**. However, for the majority of the village, nestled within the surrounding well-vegetated landscape, wider views towards the proposed development will be much more limited and restricted.

5.5.28 St Columb Major occurs approximately 3.4km to the south of the proposed development, at the junction of the A39 and A3059. Largely enclosed by surrounding development and

infrastructure, it will only be from selected elevated and open locations within the settlement that the proposed development will have the potential to be perceived on the distant ridges. As illustrated in **Viewpoint 8 (Figures 19A-19E).** The magnitude of impact will be **medium-low**, the level of effect will be **moderate-minor**.

5.5.29 St Issey is approximately 4.5km to the north-east of the proposed development. Situated on higher ground, expansive views towards the proposed development will be possible from open locations along the settlement fringes. As illustrated in **Viewpoint 10 (Figures 21A-21E**). The magnitude of impact will be **medium-low**, the level of effect will be **moderate-minor**.

5.5.30 Indian Queens is approximately 7.9km to the south. Largely enclosed by surrounding undulating landform and mature vegetation, it will only be from selected open and elevated locations on the fringes of the settlement, as illustrated in **Viewpoint 13 (Figures 24A-24E)** that expansive views towards the proposed development will be possible. The proposed development will be distantly perceived, the magnitude of impact will be **low**, the level of effect will be **minor**.

5.5.31 There will be limited potential visibility of the proposed development from the coastal settlements including Newquay, approximately 7.8km to the south-west, Trenance, approximately 4.4km to the west, Padstow, approximately 6.9km to the north and Rock, approximately 8.2km to the north. The magnitude of impact will be **no change**, the level of effect will be **neutral**.

Scattered Residential Properties

5.5.32 Individual **high sensitivity** residential properties and farms, including **medium sensitivity** holiday/caravan parks, are scattered within the undulating landscape, often along the network of minor roads. For the majority of **high** sensitivity scattered residential properties and **medium** sensitivity holiday/caravan parks in the study area, the magnitude of impact will be **no change**, the level of effect will be **neutral**.

5.5.33 It will only be from those few residential properties in close proximity, that already experience views towards the existing Bears Down and Higher Denzell Farm wind energy schemes that will experience exposed views towards the proposed development. As illustrated in **Viewpoint 2 (Figures 13A-13E)**, from adjacent to Pennatillie Farm, which already experiences views towards the existing wind energy schemes, the proposed development will replace the Bears

Down wind energy scheme with fewer but taller moving vertical elements in close proximity. The magnitude of impact will be **medium-high**, the level of effect will be **major-moderate**.

National Trails

5.5.34 The **high sensitivity** Southwest Coast Path National Trail crosses the study area from the north to the south-west approximately 4.9km to the west of the proposed development at its closest point, although expansive views will be possible towards the proposed development in the distance, in reality the replacement of the existing wind turbines with the proposed development will be difficult to ascertain and will easily go unnoticed in the view. At worst, there may be a very slight and largely imperceptible change in the view and the magnitude of impact will be **negligible**, the level of effect will be **minor-negligible**. However, from the vast majority of the National Trail, the proposed development will not be perceived, and the magnitude of impact will be **no change**, the level of effect will be **neutral**.

Recreational Routes

5.5.35 The **medium-high** sensitivity Camel Trail recreational route, approximately 6.7km to the north-east of the proposed development at its closest point is excluded from the ZTVs. The proposed development will not be perceived, and the magnitude of impact will be **no change**, the level of effect will be **neutral.**

5.5.36 The Saints Way recreational route, approximately 4km to the north-east of the proposed development at its closest point is intermittently in the ZTVs. At worst, there may be a slight change in the view and the magnitude of impact will be **low**, the level of effect will be **minor**. However, from the vast majority of the recreational route, the proposed development will not be perceived, and the magnitude of impact will be **no change**, the level of effect will be **neutral**.

National Cycle Routes

5.5.37 Numerous **medium-high sensitivity** National Cycle Routes (NCRs) cross the study area, with the routes connecting with the major settlements. For the vast majority of the NCRs, the proposed development will not be perceived, and the magnitude of impact will be **no change**, the level of effect will be **neutral**. It will only be from the NCRs in close proximity or from selected elevated and open locations further afield that will have the potential to perceive the

proposed development. The closest, NCR32, passes approximately 500m to the west of the proposed development at its closest point. The magnitude of impact will be **high**, the level of effect will be **major-moderate**.

Places of Interest

5.5.38 The **low** sensitivity Newquay Cornwall Airport occurs approximately 3.4km to the south-west of the proposed development at its closest point. Largely enclosed by development, as illustrated in **Viewpoint 6 (Figures 17A-17E)**. At worst, the magnitude of impact on this **low** sensitivity receptor will be **low**, the level of effect will be **negligible.** Although in reality for the majority of the airport the proposed development will have no discernible influence and the magnitude of impact will be **no change**, the level of effect will be **neutral**.

Local Public Rights of Way, Bridleways and Cycleways

5.5.39 There are **medium (medium-high** within the AGLV and **high** within the AONB) sensitivity scattered public rights of way, bridleways and cycleways present within the study area.

5.5.40 In close proximity, **medium** sensitivity public rights of way connect Higher Denzell Farm and Pennatillie Farm, passing adjacent and in close proximity to the existing and Bears Down and Higher Denzell Farm wind energy schemes. As illustrated in **Viewpoint 2 (Figures 13A-13E)**, from the public right of way adjacent to Pennatillie Farm, expansive views will be possible towards the adjacent ridge. Already experiencing views towards the existing wind energy schemes. The magnitude of impact from the repowering will be **medium-high**, the level of effect will be **moderate**.

5.5.41 As illustrated in **Viewpoint 10 (Figures 21A-21E)**, from an elevated and open location along a public right of way on the fringes of St Issey, the proposed development will be perceived. The magnitude of impact will be **medium-low**, the level of effect will be **moderate-minor**.

5.5.42 Even from **high** sensitivity public rights of way in the AONB, as illustrated in **Viewpoint 9 (Figures 20A-20E)**. The magnitude of impact will be **low**, the level of effect will be **minor**. At worst, from selected open and elevated locations further afield, the magnitude of impact will be **negligible**, the level of effect will be **minor-negligible**.

Open Access Areas

5.5.43 There are scattered **medium, medium-high** sensitivity (within the AGLVs) and **high sensitivity** (within the AONB) open access areas which are intermittently within the ZTVs. As illustrated in **Viewpoint 11 (Figures 22A-22E)**, from the **medium-high** sensitivity Castle-an-Dinas hill fort, expansive views will be possible from the elevated open access area towards the distant ridges and the proposed development. The proposed development will replace the existing Bears Down wind turbines with fewer but taller moving vertical elements, which will be perceived as a small cluster adjacent to other operational wind energy schemes. The magnitude of impact will be **low**, the level of effect will be **minor**.

Major Roads

5.5.44 Numerous **low** sensitivity major roads pass through the study area, the closest, the A39, crossing the study area from the north-east to the south, approximately 2.3km to the south-east of the proposed development at its closest point, as illustrated in **Viewpoint 7 (Figures 18A-18E).** The magnitude of impact will be **medium,** the level of effect will be **minor-negligible**. More expansive views across the wider agricultural landscape, scattered with operational wind energy schemes on the distant ridges and high ground, will be possible. As illustrated in **Viewpoint 12 (Figures 23A-23E).** The magnitude of impact will be **low,** the level of effect will be **negligible.** Further afield, the major roads focussed to the south of the study area, including the A30, A392, A3059 and A3058 at worst, the magnitude of impact will be **negligible,** and the level of effect will be **negligible effects.**

Minor Roads

5.5.45 Numerous **medium-low sensitivity** minor roads cross the study area and are largely enclosed by mature linear tree belts, hedgerows and hedgebanks which will restrict the majority of wider views, including towards the proposed development.

5.5.46 The closest minor roads to the proposed development occur to the west and north.

5.5.47 As illustrated in **Viewpoint 1 (Figures 12A-12E)**, from the minor road to the west, in close proximity and from gaps in the immediate enclosure, views will be possible across the surrounding sloping agricultural landscape towards the proposed development. The magnitude of impact will be **high**, the level of effect will be **moderate**.

5.5.48 Close proximity views will also be possible from gaps in enclosure along the minor road to the north. As illustrated in **Viewpoint 3 (Figures 14A-14E).** The proposed development will introduce taller but fewer moving vertical elements to the view that will be prominent. The magnitude of impact will be **medium-high**, the level of effect will be **moderate-minor.**

5.5.49 As illustrated in **Viewpoint 5 (Figures 16A-16E)** from a minor road to the south, it will only be from gaps in the vegetative enclosure along the minor road, at a gateway, that more expansive views across the intervening sloping landscape towards the proposed development, adjacent to the Higher Denzell Farm wind energy scheme will be possible. The magnitude of impact will be **medium**, the level of effect will be **minor**. Further afield, along the network of minor roads that cross the study area, as illustrated in **Viewpoint 9 (Figures 20A-20E)** and **Viewpoint 12 (Figures 23A-23E)**. The magnitude of impact will be **low**, the level of effect will be **negligible**, although, in reality, the majority of distant effects from the network of minor roads will be **neutral.**

Railway Lines

5.5.50 A **low** sensitivity railway line crosses the study area from the south-east to the south-west, connecting with Newquay to the south-west, approximately 7.1km to the south of the proposed development at its closest point. Although intermittently within the ZTVs, wider views towards the proposed development will be generally restricted by a combination of subtle variations in the landform, adjacent development, and mature vegetation. For the vast majority of users of the railway lines in the study area, the magnitude of impact will be **no change**, the level of effect will be **neutral**.

Cumulative Impacts and Effects

5.5.51 The proposed development is considered 'in addition' to:

- Operational wind energy schemes in the study area, where the wind turbines already exist.
- Operational wind energy schemes are also discussed within the 'main' impacts section of the LVIA.
- There are no consented or pending planning wind energy schemes in the study area.

5.5.52 The location of operational wind energy schemes within the study area are illustrated in **Figure 3** in **Appendix D.**

Landscape Character

5.5.53 As illustrated in **Viewpoints 1-15 (Figures 12-26)** of **Appendix D,** the proposed development has the potential to be perceived in combination with the nearby operational, consented, and pending planning wind energy schemes. They will largely be perceived as a small cluster with the nearby operational Higher Denzell Farm wind energy scheme.

5.5.54 Set within an expansive downland landscape, already influenced by wind energy schemes, the replacement of the existing wind turbines at Bears Down with the proposed development, in combination with the nearby operational wind energy schemes, will not dramatically change the wider characteristics of the landscape character areas or create a landscape dominated by wind turbines.

5.5.55 The expansive downland landscape, as agreed by CC guidance, has the capacity to absorb the proposed development even in combination with other wind energy schemes without creating a 'wind farm' landscape.

Visual Amenity Receptors and their Views

Combined Views

5.5.56 As illustrated in **Viewpoints 1-15 (Figures 12-26)** in **Appendix D**, the proposed development will be viewed in combination with the nearby operational wind turbines. They will largely be viewed as a small cluster, with the adjacent operational Higher Denzell Farm wind energy scheme.

Sequential Views

5.5.57 Passing in often close proximity to the operational, consented, and pending planning wind energy schemes in the study area, as well as the proposed development, sequential views of wind energy schemes will be possible from the nearby transport corridors including the adjacent major and minor roads and public rights of way.

5.5.58 The screening surrounding many of the transport corridors will ensure that many views of wind energy schemes will be glimpsed and quickly vanish due to a combination of enclosure by mature vegetation and the undulating landform.

5.5.59 In sequential views from the transport corridors, the proposed development will add vertical elements to the view; largely perceived as a small cluster in combination with the operational

Higher Denzell wind energy scheme. The sequential views have already been influenced by the existing Bears Down wind turbines, which the proposed development will replace.

5.6 Conclusions

5.6.1 Mitigation measures during the site selection and design stages have ensured that the proposed development will have limited direct effects on landscape elements and limited landscape vegetation will be lost.

5.6.2 Exposed views of the proposed development will generally be only from those receptors in close proximity or from selected, high, and open locations further afield. Although potentially and selectively perceived, the proposed development will be viewed as a replacement to the existing Bears Down wind energy scheme albeit taller but with fewer vertical moving elements, in combination with the adjacent similar sized operational wind energy schemes (largely also Band D – between 100-150m in height to blade tip), within an expansive landscape already influenced by wind energy development.

5.6.3 The majority of effects on landscape character, landscape relevant designations and visual amenity receptors and their views will be **neutral** largely because of the enclosure provided by the surrounding rolling landform, hedgerows and hedgebanks and the dense screening vegetation focussed around residential properties, settlements and transport corridors in the wider landscape.

5.6.4 In summary, the proposed development will:

- Replace the existing wind energy scheme at Bears Down with fewer but taller wind turbines;
- Avoid and does not have a direct impact on any designated landscapes;
- Be set within a landscape already influenced by wind energy schemes, with the ability to accommodate change without detriment to its landscape character or views;
- Is positioned within a landscape that has the capacity to accept wind energy development (as defined by Cornwall Council within their landscape sensitivity assessment);
- Be perceived in close proximity as prominent vertical elements, in combination and adjacent to operational wind energy schemes;
- Very quickly become 'lost' within the wider expansive undulating landscape; and
- Overall, have **limited impacts** on landscape relevant designations, landscape character and visual amenity receptors and their views.

6.0 Ecology

6.1 Introduction

6.1.1 This chapter describes the Ecological Impact Assessment (EcIA) of the proposed Repowering of Bears Down Wind Farm. See **Appendix E** for the full suite of ecology reports.

6.1.2 This chapter presents the ecological information relating to valued ecological receptors and assesses the effect of changes on these features and in habitat management within the proposed development area.

6.1.3 The site lies within a rural area, approximately 7.2km to the south of Padstow and approximately 4.2km to the north of St Columb Major in Cornwall.

6.1.4 In August 2025, Western Ecology reviewed the proposed modification, to reduce to the scale of development from five to four turbines. All associated material has been updated to reflect the revised scheme and are accompanied by a supporting addendum. This updated information has been submitted separately from this Environmental Statement (ES) and is included within the formal modification request.

6.1.5 The summary information, original methodology, and baseline report remain relevant to the revised scheme. The conclusions of the original assessment are largely unchanged, and the updated materials serve to confirm the continued validity of the original findings in light of the proposed modification. For a full overview of the changes and supporting documentation, please refer to the formal modification request.

6.2 Methodology

6.2.1 The Zone of Influence for the purpose of this assessment is immediate habitats that will be potentially impacted by these proposals, non-statutory nature conservations sites within 2km, and statutory designated sites within 5km unless they have been designated for species at risk of wind turbines whereby the have been considered within 10km.

6.2.2 The ecological baseline for the development site was determined through:

- Desktop survey
- Preliminary ecological appraisal (3rd September 2022)
- Breeding bird vantage point surveys (June 2023 to September 2023)
- Wintering bird vantage point surveys (October 2022 to March 2023)
- Bat activity surveys; (Transects Summer and Autumn 2022 and 2023), (Remote Monitoring Autumn 2022) and (Bat Emergence surveys August and September 2023)

6.2.3 Full reports detailing the bird and bat activity surveys can be found in **Appendix E** along with further details of the assessment methodology in the EcIA in **Appendix E.**

Ecological Impact Assessment (EcIA)

6.2.4 The assessment of impacts has been carried out in accordance with the principles described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018).

6.2.5 The ecological feature of resource that is affected by an impact is referred to as the receptor. Impacts are considered in terms of the value of the receptor in the context of nature conservation, and the character of the impact. From these the significance of the impact is determined.

6.2.6 As part of the impact assessment, the available means to avoid, minimise or mitigate for adverse impacts are incorporated into the design, so that the final impact assessment identifies the residual (net) impacts that are predicted. The consequences for development control, policy guidance and legislative compliance can then be identified.

6.2.7 **Table 4** below shows the matrix used for the assessment of the significance of effect on a valued receptor. Further information on the method for valuation of receptors and impact assessment criteria can be found within the EcIA in **Appendix E.**

Table 4: *Matrix for assessment of significance of effect*

Scale of Effect	**Evaluation of nature conservation receptor**				
	Very High/ International	**High/ National**	**Medium/ Regional**	**Low/ Local**	**Negligible/ Site only**
Major positive effect	Large positive	Large positive	Large positive	Large positive	Large positive
Intermediate positive effect	Moderate positive	Moderate positive	Moderate positive	Moderate positive	Moderate positive
Minor positive effect	Slight positive	Slight positive	Slight positive	Slight positive	Slight positive

Neutral	None	None	None	None	None
Minor negative effect	Slight Adverse	Slight Adverse	Slight Adverse	Slight Adverse	Slight Adverse
Intermediate negative effect	Large Adverse	Large Adverse	Large Adverse	Large Adverse	Large Adverse
Major negative effect	Very large Adverse	Very large Adverse	Very large Adverse	Very large Adverse	Very large Adverse

6.2.8 Where there is potential that the proposed development will have a significant effect on a valued ecological feature of nature conservation interest, recommendations for mitigation are made based on the mitigation hierarchy: Avoidance, Mitigation, Compensation.

6.3 Baseline Results

The Desk Study

6.3.1 The biological records search found a number of notable species. Due to the broad scale of many records, it is not possible to determine if they relate to the site. The full records for notable species (excluding bat and birds) are details within **Table 2** of the EcIA in **Appendix E**.

Statutory Nature Conservation Sites (SNCS)

- There are no Ramsar site or Special Protected Areas within 10km.
- River Camel Special Area of Conservation (SAC) is located 5.5km to the east of the assessment site.
- Breney Common and Goss and Tregoss Moors SAC is located 8.3km to the southeast of the assessment site.
- Bristol Channel and Approaches potential SAC (pSAC) is located 5km to the west of the assessment site.
- Trelow Downs SSSI 1.1km to the east.
- Borlasevath and Retallack Moor SSSI is 2.8km to the east.
- Rosenannon Bog and Downs SSSI is 4km to the east.
- Bedruthan Steps and Park Head SSSI is 4.6km to the west.
- Further information on the reason for classification of the above can be found in the EcIA in **Appendix E**.

Non-statutory Nature Conservation Sites (NNCS)

6.3.2 There are two County Wildlife Sites (CWS) within 2km of the proposed development:

- Music Water CWS is located 140 meters to the north and was selected for Lowland Heathland and Lowland fens habitat, and common lizard.

- Denzell Downs to Menadew's Plantation CWS is located 450 meters to the south and was selected for Purple Moor Grass and Rush Pastures, Wet Woodland, Lowland Fens and Lowland Heathland along with common lizard, dunnock, wavy St John's wort and badger.

Phase 1 Habitats

6.3.3 Habitats within the development area are detailed in **Table 5** of the EcIA in **Appendix E**.

6.3.4 The assessment site largely comprises grazed improved grassland. There is a single arable field, hedgerows with gorse common in the east of the site, and Cornish hedge bank throughout the majority of remaining field boundaries with post and wire fences for stock proofing. An access track exists through the centre of the site, and a substation building exists to the far east of the assessment site.

Species of nature conservation importance

Amphibians

6.3.5 There is no habitat suitable for breeding amphibians within 500 metres of the site and they are unlikely to be regularly active here. The assessment site is of **Negligible** value for amphibians.

Badger

6.3.6 A single badger outlier entrance with bedding was present along the east/west access track within the assessment site. The assessment site is of **Site** value for Badger.

Bats

6.3.7 Roosting - The substation in the east supports a roost of at least six common pipistrelle which are regularly foraging across the assessment site. This group of bats is below the usual number for a maternity roost of this species, and this is likely to be a non-breeding day roost. The assessment site is of **Site** value for roosting bats.

6.3.8 Foraging and Commuting - The assessment site is in an elevated location with low hedgerows and land managed for intensive agricultural purposes.

6.3.9 The initial Site Risk Level (SNH, 20216) was calculated at 1 as follows:

- Habitat risk = 1 Small number of potential roost features of low quality. Low quality foraging habitat that could be used by small numbers of foraging bats. Isolated site not connected to the wider landscape by prominent linear features.
- Project size is less than 10 turbines - Project size is Medium.
- On this basis, **Site Risk Level is 2 – Low.**

6.3.10 Five species and two species groups were recorded during 14hrs of bat activity transects on 7 separate survey nights. The most encountered bat was common pipistrelle. **Table 5** provides a summary of the bats encountered during these transects, how they are using the site and an estimate of the possible numbers active here.

Table 5: *Bat activity during bat activity transects. Shading demotes population risk category*[25]

Species	Number of passes	Activity summary	Estimated number of bats using the site at any one time
Noctule	82	Noctule calls were largely recorded in the north of the assessment site with 21 calls recorded around the proposed location of Turbine T4 over a period of 14 minutes during the August 23 activity transect, and 23 calls recorded during the October 23 transects over a 10-minute period.	1-2
Nathuisus pipistrelle	3	Calls indicative of Nathusius pipistrelle were recorded during the June 2022 transect at two locations in the site.	1
Common pipistrelle	413	The vast majority of common pipistrelle passes were associated with the margins of the fields and the access track that runs east/west through the site, as would be expected in an exposed site such as this. However, occasional calls were recorded away from field margins and in the vicinity of the proposed turbines T3 and T4. This access track is within 10 metres of turbine T2. A small day roost is present in the substations of at least 6 bats.	6
Soprano pipistrelle	10	Soprano Pipistrelle were almost exclusively with the northeast of the assessment site with 8 passes recorded in September 2023 and 2 passes in October 2023. This may reflect the proximity of this area of the	1

[25] Bats and onshore wind turbines: Survey, assessment, and mitigation Version: August 2021 (updated with minor revisions)

		assessment site to scrubby woodland 400m to the north of turbine T4	
Serotine	16	Serotine were exclusively recorded in a small area to the north of access track, with 15 calls in a 5-minute period in September 2023, and one call in October 2023. This is indicative of foraging in that area.	1
Myotis	6	Myotis were exclusively associated with the access track through the centre of the assessment site and the southern site boundary	1
Long-eared	2	One long-eared pass was recorded along the access track with a second call on the southern site boundary, both in August 2023	1

6.3.11 Data from a total of 5285 hours of monitoring nights at the five turbine locations has been collected and analysed. During this period calls were recorded from 8 species and two species groups.

6.3.12 Data is presented as bat activity index (BAI) in **Table 7** of the EcIA in **Appendix E**.

6.3.13 Value of the development site has been assessed in line with Reason, P.F., and Wray, S.,2023[26] for all species present here considering:

- Levels of recorded bat activity
- Landscape including habitat type, connectivity, elevation.
- Proximity/connectivity to known roost, or suitable roosting habitats.
- Species habitat preferences.

6.3.14 **Table 8** within the EcIA in **Appendix E** outlines the value of assessment site for foraging and commuting bat species.

Birds

[26] Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield.

6.3.15 The number of flights for birds (breeding and wintering) at risk height within the view shed is given in **Tables 9** and **10 of Appendix E.**

6.3.16 The majority of bird activity recorded during the VP surveys involved gull flights transiting through the airspace of the wind farm. All gull flights exhibited clear avoidance behaviour towards the existing turbines.

6.3.17 Golden plover were mostly recorded in large flocks circling over the airspace of the existing and proposed turbines. Golden plover were recorded during nine surveys between October to March, showing frequent use of the area.

6.3.18 Buzard and kestrel were frequently recorded foraging within the site during both summer and winter surveys and mostly at-risk height, however clear avoidance behaviour was observed to the existing turbines.

6.3.19 Other species were seldom recorded within the site and use of turbine air space is likely to be highly limited.

6.3.20 The assessment site is of **Site** value for breeding and wintering birds.

Common Dormice

6.3.21 Dormice are arboreal and the habitats within the proposed development site would not support this species and as such the site is of **Negligible** value for dormice.

Reptiles

6.3.22 Close grazed habitats contained within the site provide negligible potential for reptiles although they may be present along the access track margins and in association with hedgebanks, the assessment site is of **Site** value for reptiles.

Otters

6.3.23 There is no potential for Otter to be present within the site. The assessment site is of **Negligible** value for Otters.

Water Vole

6.3.24 There is no potential for Water Vole to be present within the site. The assessment site is of **Negligible** value for Water Vole.

Invertebrates

6.3.25 The assessment site is deemed of **Negligible** value for notable invertebrates but habitats within the site are likely to support common and widespread invertebrates.

Plants

6.3.26 The assessment site comprises closed grazed habitats of **Negligible** value for notable plants.

6.4 Assessment of ecological impacts

Construction phase impacts

6.4.1 During the construction phase, there is predictable adverse effects which are generally unavoidable; many are short term and can be minimised as part of the construction management.

6.4.2 The potential for adverse impacts would be minimised as far as possible through the application of good practice techniques and adherence to well-designed method statement; these would be management through a Construction Environmental Management Plan (CEMP).

6.4.3 Full details of all potential construction phase impacts can be found in **Appendix E**.

Statutory nature conservation sites

River Camel SAC

6.4.4 The assessment site is not within the catchment of the River Camel therefore it is certain that unmitigated construction would have a **negligible** impact on the SAC.

Trelow Downs SSSI

6.4.5 This site is 1.1km from the assessment site has been selected for habitats and plant species. Wind-blown dust could transport pollutants and nutrient-rich soils towards this SSSI, the flora of which relies on a low nutrient status. It is near certain that unmitigated construction would have a **negligible** impact. Any effect, were it to occur, would be **minor adverse and short term.**

Rosenannon Bog and Downs SSSI

6.4.6 This site is 4km to the east of the assessment site. The only realistic pathway of effect would be if individual birds active within the SSSI relied on habitats within the assessment site. Only curlew was recorded within the assessment site with 2 flights in the winter months lasting 20 seconds. It is near certain that unmitigated construction would have a **negligible** impact.

Non-statutory nature conservation sites

Music Water CWS

6.4.7 This CWS is located 140 meters to the north of the assessment and was selected for Lowland Heathland and Lowland fens habitat, and common lizard. It is unlikely that unmitigated construction would have an effect on this CWS. If an effect were to occur it would be **minor, adverse, and temporary** for the period for construction.

Denzell Downs to Menadew's Plantation CWS

6.4.8 This CWS is located 450 meters to the south of the assessment site. There is potential connectivity through water runoff from the assessment site that sits above this CWS. . In addition, there is potential for airborne pollutants, such as dust, to be created during the construction phase and this may be transported by air movement towards this CWS. It is near-certain that unmitigated construction would have **no adverse effect** on this non-statutory nature conservation site. If an effect were to occur it would be **minor, adverse, and temporary** for the period for construction.

Habitats

Cornish hedgebanks

6.4.9 Cornish hedgebanks and the hedgerows they support are of local value, there is potential for adverse effects during the construction phase associated with accidental damage. Unmitigated construction is probably to have an adverse effect on Cornish hedgebanks. The effect would be permanent, **minor adverse**.

Species

Badger

6.4.10 A single badger outlier is present along the access track. There is potential for adverse effects during the construction phase associated with temporary track widening which will damage or

destroy this sett entrance or disturb a badger whilst in it. There is also potential for accidental damage to the sett during vehicle movements. Unmitigated construction phase is near-certain to have an adverse effect on Badgers. The effect would be **minor, short term, permanent adverse.**

Bats – roosting

6.4.11 Proposals will not result in the loss of this roost, although there is potential to impact roosting bats in the substation through disturbance or harm/injury during removal and installation of new electrical equipment. Unmitigated construction phase is near-certain to have an adverse effect on day roosting bats. The effect would be **short term, minor adverse.**

Bats – foraging and commuting

6.4.12 The primary pathway of effect during the construction phase would be through impacts to habitat features used by foraging bats, such as direct habitat loss and damage. There will be a short-term loss in agricultural habitat associated with construction due to storage areas/compounds, although these habitats are of little value for bats. Unmitigated construction is near certain to have a negligible effect on foraging and commuting bats. Any effects were it to occur would be **temporary and minor**.

Breeding birds

6.4.13 The assessment site is of **Site** value only to breeding bird populations, with most recorded breeding activity occurring in off-site habitats. There is potential for construction activities to result in limited habitat loss for breeding birds at this site. There is potential for these works to disturb breeding birds if undertaken during the breeding season. It is probable that unmitigated construction would have a **minor, temporary adverse** effect on nesting birds.

Wintering/passage birds

6.4.14 The assessment site is of **Site** value for passage/wintering birds. Species that are active in/around the site during the passage/winter months may be susceptible to disturbance. Any impacts associated with the construction phase would be short-term and temporary given the reinstatement of much of these areas. It is probable that unmitigated construction would have a **minor, temporary adverse effect** on winter/passage birds.

Reptiles

6.4.15 The primary pathway of effect would be potential for direct harm during the construction phase in areas of grassland along the access track, at field margins and at hedgebanks, although reptiles would likely relocate as the construction site will move forwards slowly. The temporary loss of habitat associated with construction works would not affect foraging reptiles, or reptile populations, due to the extent of this habitat. It is likely that unmitigated construction would have an adverse effect on individual reptiles were they to be present. Any affect was it to occur would be **adverse, minor, and short term.**

Operational phase impacts

6.4.16 During the operational phase, there are predictable adverse effects including the permanent loss of habitat under the development, disturbance during maintenance, and barrier effects and displacement of birds.

6.4.17 There is also the potential for effects on birds and bats due to changes in the turbine locations, number of units, and their size, which can affect impacts associated with the moving blades of the turbines.

6.4.18 Full details of potential operational phase impacts can be found in **Appendix E**.

Statutory nature conservation sites

River Camel SAC

6.4.19 The assessment site is not within the catchment of the River Camel and therefore it is certain that unmitigated operation would have a **negligible** impact.

Trelow Downs SSSI

6.4.20 This site is 1.1km from the assessment site it is certain that unmitigated operational phase would have a **negligible** impact.

Rosenannon Bog and Downs SSSI

6.4.21 This site is 4km to the east of the assessment site. It is near certain that unmitigated operational phase would have a **negligible** impact.

Non-statutory nature conservation sites

Music Water CWS

6.4.22 This CWS is located 140 meters to the north of the assessment site. There is potential connectivity through water runoff from the assessment site that sits above this CWS. There is no habitat loss within this CWS whilst the features for which this site has been selected are not susceptible to other operational effects and therefore it is near-certain that unmitigated operation would have **no effect** on this non-statutory nature conservation site. If an effect were to occur it would be **minor, adverse and temporary** due to accidental spills.

Denzell Downs to Menadew's Plantation CWS

6.4.23 This CWS is located 450 meters to the south of the assessment site. There is potential connectivity through water runoff from the assessment site that sits above this CWS. Although there will be no habitat loss within this CWS. It is near-certain that unmitigated operational phase would have **no effect** on this non-statutory nature conservation site. If an effect were to occur it would be **minor, adverse, and temporary** due to accidental spills.

Habitats

Cornish hedgebanks

6.4.24 Approximately 40m of hedgebank habitat will be permanently lost to access track widening and new gateways. Unmitigated operational phase is near-certain to have a **permanent, minor adverse** effect on this receptor.

Species

Badger

6.4.25 A single badger outlier is present along the access track. Adverse effect is unlikely during the operational phase with no reasonable ecological pathway of effect. Unmitigated operational phase is near-certain to have **no adverse effect** on badgers.

Bats – roosting

6.4.26 The proposed development will not result in the loss of the substation roost, whilst there is little potential to impact roosting bats in the substation through disturbance or harm/injury during the operational phase of the development. Unmitigated operational phase is near-certain to have **no adverse effect** on day roosting bats.

Bats – commuting and foraging.

6.4.27 No suitable features for roosting bats were within 200m of the assessment site. The primary pathway of effect would be through permanent habitat loss associated with the development and collision with moving blades.

6.4.28 Individual Barbastelle are considered to be a medium collision risk species. It is near certain that the operational phase would have a **negligible** impact on individual barbastelle bats and their populations.

6.4.29 Greater horseshoe are considered to be a low collision risk species, although populations are moderate vulnerability due to their rarity. No adverse effect is predicted from re-powering. It is near certain that the operational phase would have a **negligible** impact.

6.4.30 For species that are considered low collision risk and low population vulnerability from turbines; Myotis and Brown Long-eared bats. No adverse effect is predicted from re-powering. It is near certain that the operational phase would have a **negligible** impact.

6.4.31 Nathusius' pipistrelle is considered a high collision risk species and high population vulnerability. It is near certain that the operational phase would have a **negligible** impact.

6.4.32 Soprano Pipistrelle are considered a high collision risk species and medium population vulnerability. It is unlikely that re-powering will have adverse effect on this bat. It is near certain that the operational phase would have a **negligible** impact. Any effect, were it to occur, would be at an individual level due to collision mortality and would be **minor adverse.**

6.4.33 Serotine are considered a medium collision risk species and medium population vulnerability. It is near certain that the operational phase would have a **negligible** impact. Any effect, were it to occur, would be at an individual level due to collision mortality and would be **minor adverse**.

6.4.34 Common pipistrelle were the most commonly recorded bat at this site whilst a small day roost present in the substation. It is probable that re-powering will have no adverse effect on populations of common pipistrelle. Any effect, were it to occur, would be at an individual level due to collision mortality and would be **minor adverse.**

6.4.35 Noctule are considered a high collision risk species and high population vulnerability. It is probable that re-powering will have no adverse effect on populations of Noctule. Any effect, were it to occur, would be at an individual level due to collision mortality and would be **minor adverse.**

Breeding/summer birds

6.4.36 The assessment site is of **Site** value for breeding/summer birds.

6.4.37 The proposed repowering involves installation of five new turbines with associated access tracks and hardstanding. This amounts to approximately 0.589ha of grassland that will be permanently lost. However, the existing sixteen turbines will be dismantled, and the former habitats reinstated, which will ensure there is no net loss of this habitat.

6.4.38 Displacement from, and the loss of, a limited extent of agricultural grassland habitats to the development is not considered likely to adversely affect the conservation status of these species, or impact local populations. Disturbance/displacement therefore represents a **negligible** impact to breeding bird species.

6.4.39 For most target species recorded, the predicted number of collisions is less than 1 individual per summer season, which is considered to be a **negligible** impact on local populations. The full collision risk analysis can be found in the EcIA **Table 12**, **Appendix E**.

6.4.40 It is near-certain that the operational phase will have a **negligible** effect on local breeding bird populations.

Wintering/passage birds

6.4.41 The assessment site is of **Site** value for passage/wintering birds.

6.4.42 The proposed new turbines will not result in the loss of areas where target species have been recorded foraging/roosting. As such, habitat loss is not predicted to adversely affect the conservation status of these target bird species, or impact local populations. Habitat loss therefore represents a **negligible** impact, and no specific mitigation is recommended.

6.4.43 The proposed repowering is therefore very unlikely to create any new barriers within the landscape and birds will be able to continue to use the site, as they are currently. This impact is considered to be **negligible**, and no mitigation is recommended for barrier effect.

6.4.44 No specific mitigation for operational disturbance/displacement is recommended.

6.4.45 Collision estimates for passage/wintering species have been calculated for the proposed repowered wind farm. For most target species recorded, the predicted number of collisions per annum is less than 1 individual per winter season, which is considered to be a **negligible** impact

on local populations. The full collision risk analysis can be found in the EcIA **Table 13, Appendix E**.

6.4.46 Three passage/wintering species were estimated to experience collisions in excess of 1 bird and these are discussed further in **Appendix E.**

- **Negligible** impact on populations of Common gull.
- **Unlikely** to have a **significant** impact on populations of Golden Plover.
- **Negligible** impact on local populations of Lapwing.

Reptiles

6.4.47 The assessment site is Site value for common and widespread reptiles. The proposed development will result in a small loss or suitable reptile habitat, although additional habitat will be required as part of biodiversity net gain requirements. It is near-certain that the operational phase will have a **Negligible** effect on local reptile populations.

6.5 Mitigation

Construction phase

6.5.1 The following mitigation would be provided to minimise the unavoidable effects during the construction phase:

- Design and delivery of a Construction Environmental Management Plan that incorporates ecological protections for all sensitive ecological features.
- Precautionary mitigation is recommended to prevent accidental damage to the retained sections of hedgebanks during the construction phase.
- Hedgebanks lost to temporary construction areas will be mitigated by reinstatement once construction is complete.
- Hedgerow realignment along the access track.
- Prior to the start of development an update badger survey will be required.
- Works associated with the substation will probably require a Natural England European Protected Species (EPS) mitigation licence for bats.
- Decommissioning of retired turbines and construction of new turbines carried out as a phased approach to minimise disturbance.

- Ground nesting bird surveys should be completed prior to works in the accepted bird nesting season of March to August inclusive.
- Vehicle and machinery movements should follow only designated routes to help contain disturbance to the works areas.
- Following identified methods for widening of the access track and hedgerow removal/realignment

6.5.2 Full details of proposed mitigation during the construction phase can be found within the EcIA in **Appendix E.**

Operational phase

6.5.3 The following mitigation would be provided to minimise unavoidable effects during the operational phase:

- Handling and storage of chemicals and oils in line with Government guidelines and manufacturers recommendations.
- Creation of at least 40m of hedgebank with hedgerow habitat.

Residual impacts

6.5.4 Residual impacts on valued ecological receptors during the construction and operational phases are minimal, with **no effect being significant** at the level of assessment.

6.5.5 Details of potential impacts and their significance at the level of assessment is given in **Table 14** of the EcIA in **Appendix E**. Where no reasonable pathway of effect exists and pre-mitigation impact has been discounted, the receptor is not considered.

6.5.6 The proposed development will involve the creation of other neutral grassland and the enhancement of bare ground with mixed scrub habitat on site. Alongside other neutral grassland creation off-site. Hedgerow creation in site will involve the creation of Cornish hedge bank. The proposed repowering development will total to 12.02% net gain in habitat areas and 11.20% in hedgerow habitat.

Cumulative effects

6.5.7 Cumulative impacts are those additional changes caused by a proposed development in conjunction with similar developments, or as the combined effect of several developments taken together.

6.5.8 Approved developments that have the potential for a cumulative impact, and with sufficient data available within the public domain, are considered.

6.5.9 No pending decision applications were found on the Cornwall planning portal within 10km on 29th October 2023.

6.5.10 Cumulative effect is **unlikely.**

6.5.11 The proposed development has also been prepared in accordance with Policy G3 – Canopy, of Cornwall Councils CEDPD. As introduced on the 15th of June 2023 to increase tree canopy cover cross Cornwall, the aim of the policy is to create benefits associated with climate resilience, biodiversity, ecosystem services, and human health. The Tree Canopy Statement for this proposal can also be found in **Appendix E.**

7.0 Heritage Environment Assessment

7.1 Introduction

7.1.1 A Heritage Impact Assessment (HIA) was carried out by Southwest Archaeology Ltd. (SWARCH) to inform the proposal to Repower the existing Wind Farm at Bear's Down. The assessment identified the significance of each heritage asset recognised on site, and in the surrounding area, and subsequently assessed the potential impacts of the proposed wind turbine on the identified assets. The full HIA report can be viewed in **Appendix F**.

7.1.2 The assessment was divided into two main components. The first component addresses the direct impacts of the proposed development - defined as the physical effect that the development may have on heritage assets within, or immediately adjacent to, the development site. The direct effects of the development were taken to be its direct physical effect on any buried archaeological resources. The second component of the assessment addresses the potential indirect impacts of the proposed development. Indirect impacts would occur where the proposed development would impinge on the setting of a heritage asset, though would not have a direct physical effect.

7.1.3 In August 2025, SWARCH reviewed the proposed modification, to reduce to the scale of development from five to four turbines. All associated material has been updated to reflect the revised scheme and are accompanied by a supporting addendum. This updated information has been submitted separately from this Environmental Statement (ES) and is included within the formal modification request.

7.1.4 The summary information, original methodology, and baseline report remain relevant to the revised scheme. The conclusions of the original assessment are largely unchanged, and the updated materials serve to confirm the continued validity of the original findings in light of the proposed modification. For a full overview of the changes and supporting documentation, please refer to the formal modification request.

7.2 Guidance and Policy

7.2.1 The following guidance and policy documents were referred to when conducting the assessment:

- Standard and Guidance for Archaeological Desk-Based Assessment (CIfA 2020);
- Understanding Place: historic area assessments in a planning and development context (Historic England 2017);
- Conservation Principles: policies and guidance for the sustainable management of the historic environment (English Heritage 2008);
- The Setting of Heritage Assets (Historic England 2017);
- Seeing History in the View (English Heritage 2011);
- Managing Change in the Historic Environment: Setting (Historic Scotland 2016);
- Visual Assessment of Wind Farms: Best practice (University of Newcastle 2002);
- Guidelines for Landscape and Visual Impact Assessment 3rd edition (Landscape Institute 2013);
- Geophysical Survey in Archaeological Field Evaluation (English Heritage 2008b);
- Standard and Guidance for Archaeological Geophysical Survey (CIfA 2014);
- EAC Guidelines for the use of geophysics in Archaeology: Questions to Ask and Points to Consider (European Archaeological Council 2016);
- National Highways guidance (DMRB LA 104 2020);
- Guidance on Heritage Impact Assessments for Cultural World Heritage Properties (ICOMOS 2011);
- National Planning Policy Framework, Paragraphs 194 and 195;
- Planning (Listed Buildings and Conservation Areas) Act 1990, section 66(1); and,
- The Cornwall Local Plan: Strategic Policies 2010-2030, Policy 24.

7.2.2 Further details regarding the policy relevant to the HIA assessment please see **Appendix F**.

7.3 Methodology

7.3.1 A desk-based assessment was completed to identify the potential direct impacts of the proposed wind turbine repowering proposal on archaeological features, thus establishing the archaeological baseline for the site. The assessment included a search of documentary records, existing archaeological surveys, historic maps, HER records, as well as research of Historic Landscape Characterisations, aerial photography, and LiDAR data. Following this a site walkover and geophysical survey were undertaken. This staged programme of archaeological investigation allowed the archaeological potential of the site and the significance of the archaeology to be quantified.

7.3.2 The magnitude of the direct physical impact upon the identified archaeological assets due to the development was rated and professional judgement was used to determine the significance of the potential impacts identified. The classifications and criteria used to make these judgements are outlined in **Appendix 5** of the HIA report in **Appendix F**.

7.3.3 To identify the potential indirect impacts of the proposed wind turbine repowering scheme, Zone of Theoretical Visibility (ZTV) maps were examined. The ZTV plans portray the areas from which the proposed wind turbines may be visible and were therefore used to identify designated heritage assets where appreciable effects from the proposed turbines may be experienced. Both combined and individual wind turbine ZTV plans were examined. ZTV plans portraying the theoretical visibility of the 16 existing turbines on site were also examined to determine the changes in visibility, and therefore the changes to the setting of heritage assets, which would be experienced as a result of the proposed repowering.

7.3.4 A proportional search radius of 5km was employed for the purposes of the assessment. A site walkover survey was then completed to determine the location of the proposed development in relation to the surrounding heritage assets and judge the influence which the proposal may have on these assets.

7.3.5 A total of 232 Listed structures (×209 Grade II; ×17 Grade II*; ×6 Grade I); 22 Scheduled Monuments; and three Conservation Areas (St Columb Major; St Mawgan; Little Petherick) were identified within 5km of the site.

7.3.6 The predicted significance of the indirect impacts upon the setting of designated heritage assets was determined by considering the relative contribution of setting to the value of the asset – i.e., by determining the magnitude of the effect and the sensitivity of the heritage asset to that effect. Assessment of individual assets was informed by knowledge of the asset itself and of the type of asset it is, as well as through site visits to establish the setting of the asset at the time of investigation. This method enabled each identified asset to be assessed on an individual basis with the use of professional judgement. The classifications and criteria used to make these judgements are outlined in **Appendix 5** of the HIA report in **Appendix F**.

7.3.7 **Table 6** summarises the method used to assess the significance of effects (either adverse or beneficial) due to the proposed development on identified heritage assets.

Table 6: *Significance of effects matrix*

	Value of Heritage Asset	Scale and Severity of Change/Impact				
		No Change	Negligible Change	Minor Change	Moderate Change	Major Change
		Significance of Effect (either adverse or beneficial)				
Environmental Value (Sensitivity)	WHS sites that convey OUV	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large
	Very High	Neutral	Slight	Moderate or Large	Large or Very Large	Very Large
	High	Neutral	Slight	Slight or Moderate	Moderate or Large	Large or Very Large
	Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or Large
	Low	Neutral	Neutral or Slight	Neutral or Slight	Slight	Slight or Moderate
	Negligible	Neutral	Neutral	Neutral or Slight	Neutral or Slight	Slight

7.3.8 For further details of the methodology employed in the assessment please see **Appendix F**.

7.4 Results

Direct Impacts

7.4.1 Direct effects of the development relate to the potential for disturbance or destruction of archaeological features and deposits present within the footprint of the development. Meanwhile, the impact of the development depends on the presence and significance of these archaeological features and deposits.

Archaeological Potential and Impact Summary

7.4.2 The assessment revealed that the site formed part of an extensive area of upland 'waste' utilised by neighbouring lowland communities for its natural resources and for rough grazing. From the assessment of historical maps, it is known that the site was not enclosed until the 19th century.

7.4.3 The site has previously been subject to archaeological fieldwork as part of the planning considerations for the existing 16 wind turbines on site and the adjacent Denzell Downs wind farm. Furthermore, the site was investigated for utilities associated with a covered reservoir on site. The investigations involved a desk-based assessment, two geophysical surveys, and a watching brief.

7.4.4 Apart from many Early Bronze Age barrows, a possible enclosure at the top of the hill, and some lithic scatters to the south, the geophysical surveys and the watching briefs undertaken provide little indication of any permanent settlement, or activity other than burial, prior to the 19th century.

7.4.5 The exception to this is a 'pit alignment' identified on site, possibly indicative of discrete cut and infilled features such as pits with surrounding banked/compacted materials or removed fence posts. Given the proximity of the covered reservoir and the associated South West Water (SWW) pipeline, it is probable that these are relatively modern features. However, it remains possible they could relate to, for instance, an early manorial boundary running across the unenclosed moorland.

7.4.6 The assessment reveals that the downs were split between the manors of Denzell in St Mawgan, and Trembleath and Trewinnick in St Ervan. In terms of its eventual enclosure, tithe data indicates that process was quite different for the three manors. At Denzell the upland stayed as a few very large fields which always formed part of the Barton farm. For Trembleath the common was divided up and enclosed, and numerous small farmsteads were established, many of which subsequently failed. At Trewinnick, rights to the common were shared between the owners or tenants of adjacent smallholdings, and the moor was divided into long narrow strips and later enclosed.

7.4.7 Considering the above findings, the archaeological potential of the site is assessed as being **low**. The proposed scheme would include the stripping of topsoil from extensive areas to facilitate the proposed infrastructure which would increase the likelihood of encountering smaller archaeological features that would not be identified by a gradiometer survey, if present. The proposed works would have a **major** impact on any archaeological remains below the footprint infrastructure. The direct impacts are summarised in **Table 7.**

7.4.8 It is suggested that the impact be mitigated via a suitable programme of monitoring and recording.

Table 7: *Summary of direct impacts*

Asset	Type	Distance	Value	Magnitude of Impact	Assessment	Overall Assessment
Unidentified archaeological features	Non-deg.	On site	Unknown but probably low	Major	Slight to Moderate Adverse	Minor Adverse

Indirect Impacts

7.4.9 The assessment identified and assessed heritage assets, the historic landscape, and the St Breock Downs and Bodmin Landscape Character Area and Camel Coastal Group. Each asset was assessed individually to identify the significance of the effects from the proposed

development, subsequently aggregate and cumulative impacts were also determined. A summary of each individual asset is presented in **Error! Reference source not found.** for Category 1 assets and in **Table 8** for Category 2 assets, the full assessment of each asset can be found in **Appendix F**.

Table 8: *Summary of assessment of Category 1 assets*

Asset	Type	Distance	ZTV Hub No. turbines theoretically currently visible	ZTV Hub No. Turbines theoretically visible under proposed scheme	Change +/-		Value	Scale of Change	Significance of effect	Professional Judgement
Category 1 Assets – Grade II (0-2.5km)										
Guidepost at SW89256765	GII	0.45km	7	4	-3		Medium	Minor	Slight	Negligible Beneficial
Higher Denzell Farmhouse	GII	1.0km	5	3	-2		Medium	Negligible	Neutral/Slight	Neutral
Guidepost 350m SE of Bogee	GII	1.4km	13	5	-8		Medium	Not present	n/a	n/a
Bogee Farmhouse	GII	1.7km	13	5	-8		Medium	Negligible	Neutral/Slight	Negligible Beneficial
Whitewater Farm	GII	1.9km	-	-	-		Medium	No change	Neutral	Neutral
Trewinnick Farmhouse	GII	2.0km	13	4	-9		Medium	Negligible	Neutral/Slight	Negligible Beneficial
Category 1 Assets – Grade II (2.5km-5km)										
Trelow Cottage	GII	2.7km	12	4	-8		Medium	Negligible	Neutral/Slight	Neutral
Pentruse Farm Building	GII	3.0km	13	4	-9		Medium	Negligible	Neutral/Slight	Neutral
Pentruse Cottage	GII	3.0km	14	4	-10		Medium	Negligible	Neutral/Slight	Neutral
Tredinnick Farmhouse	GII	3.3km	13	4	-9		Medium	Negligible	Neutral/Slight	Neutral
West View	GII	3.3km	13	4	-9		Medium	Negligible	Neutral/Slight	Neutral
Trethewell Farmhouse walled garden	GII	3.5km	8	4	-4		Medium	Negligible	Neutral/Slight	Neutral Beneficial
Tregolds Farmhouse	GII	3.7km	13	4	-9		Medium	Negligible	Neutral/Slight	Neutral
Lewidden Bridge	GII	4.0km	11	5	-6		Medium	No Change	Neutral	Neutral
Chygernyk	GII	4.0km	13	4	-9		Medium	Negligible	Neutral/Slight	Neutral
Higher Mellingey Farmhouse	GII	4.1km	13	4	-9		Medium	Negligible	Neutral/Slight	Neutral Beneficial
Borlase Burgess Farmhouse	GII	4.2km	0	2	+2		Medium	Negligible	Neutral/Slight	Neutral
Tregona Chapel	GII	4.4km	4	3	-1		Medium	Negligible	Neutral/Slight	Neutral
Trethewey Farmhouse	GII	4.4km	13	4	-9		Medium	Negligible	Neutral/Slight	Neutral
Borlase Farmhouse	GII	4.6km	0	1	+1		Medium	Negligible	Neutral/Slight	Neutral
Killeganogue Farmhouse	GII	4.6km	0 or 1	2	+1 or +2		Medium	Negligible	Neutral/Slight	Negligible Adverse
Blable Farmhouse	GII	4.7km	13	4	-9		Medium	Negligible	Neutral/Slight	Neutral
Church St Ida, St Issey	GII	4.7km	13	4	-9		Medium	Negligible	Slight	Neutral Beneficial
Category 1 Assets – Grade I (0-5km)										
Church St Uvelus, St Eval	GI	2.8km	6 or 7	4	-2 or -3		High	Negligible	Slight	Negligible Beneficial
Nine Maidens Stone Row	GI	3.0km	8 to 10	5	-3 to -5		High	Negligible	Slight	Negligible Beneficial
Church St Mawgan	GI	3.1km	0 to 3	1	0 to -2		High	Negligible	Slight	Neutral
Lanherne Carmelite Convent	GI	3.1km	3	1	-2		High	Negligible	Slight	Negligible Beneficial
Church St Columba	GI	3.8km	1	2	+1		High	Negligible	Slight	Negligible Adverse
Church St Petroc Minor	GI	4.6km	0	4	+4		High	Negligible	Neutral	Neutral

Category 1 Assets – Grade II* (0-5km)										
Church St Hermes, St Ervan	GII*	2.5km	13	4	-9		High	Negligible	Slight	Negligible Beneficial
Trewen Hall, St Columb Major	GII*	2.8km	1	2	+1		High	Negligible	Slight	Neutral
The Old Rectory, St Columb Major	GII*	3.5km	0	0	0		High	No change	Neutral	Neutral
Methodist Chapel, Penrose	GII*	3.6km	9 or 10	5	-4 to -5		High	Negligible	Slight	Neutral
Carnanton House, St Mawgan	GII*	3.7km	5	1	-4		High	Negligible	Slight	Negligible Beneficial
Category 1 Assets – Conservation Areas or Groups of GII Listed Buildings (0-5km)										
Talskiddy	GIIs	2.2km	0 to 1	2	+1 to +2		High	Negligible	Slight	Negligible Adverse
Rumford	GIIs	2.3km	13	4	-9		High	Negligible	Slight	Negligible Beneficial
St Ervan	GIIs	2.4km	13	4	-9		High	Negligible	Slight	Negligible Beneficial
St Mawgan	CA	2.7km	0 to 4	1	+1 to -3		High	Negligible	Slight	Negligible Beneficial
St Columb Major	CA	3.4km	0 or 1	0-2	0 to +2		High	Negligible	Slight	Negligible Adverse
Penrose	GIIs	3.5km	8 to 11	5	-3 to -6		High	Negligible	Slight	Negligible Beneficial
Little Petherick	CA	4.4km	0 to 13	4	+4 to -9		High	Negligible	Slight	Negligible Beneficial
St Issey	GIIs	4.8km	13	4	-9		High	Negligible	Slight	Negligible Beneficial
Category 1 Assets – Scheduled Monuments (0-5km)										
7 barrows and 1 ring barrow Bear's Down and Denzell Down	SAM	0.1km	16	5	-11		High	Negligible	Slight	Negligible Adverse
4 barrows SE Little Trewinnick	SAM	0.1km	13 to 16	5	-8 to -11		High	Negligible	Slight	Negligible Adverse
9 barrows 850m NE Pennatillie	SAM	0.4km	14 to 16	5	-9 to -11		High	Negligible	Slight	Negligible Beneficial
4 barrows 270m NW Trevibban	SAM	0.9km	13	5	-8		High	Negligible	Slight	Negligible Beneficial
The Long Stone/Eddystone	SAM	0.9km	13	5	-8		High	Negligible	Slight	Negligible Beneficial
Hut Circle settlement Trevisker	SAM	1.2km	4	4	0		High	Negligible	Slight	Neutral
Multiple Enclosure Fort Bogee	SAM	1.5km	13	5	-8		High	Negligible	Slight	Negligible Beneficial
2 barrows at Prince Parc	SAM	1.5km	5 to 8	5	0 to -3		High	Negligible	Slight	Negligible Beneficial
3 barrows St Issey Beacon	SAM	1.9km	14 to 15	5	-9 to -10		High	Negligible	Slight	Negligible Beneficial
11 barrows and stone alignment 980m NW Nine Maidens	SAM	2.2km	15	5	-10		High	Negligible	Slight	Negligible Beneficial
Nine Maidens, Fiddler Stone, 2 round barrows	SAM	3.0km	14 to 15	5	-9 to -10		High	Negligible	Slight	Negligible Beneficial
Old Vicarage Early Christian Enc.	SAM	3.1km	4 to 5	4	0 to -1		High	Negligible	Slight	Negligible Beneficial
Round 340m N of Tresawle	SAM	3.6km	2 to 4	1	-1 to -3		High	Negligible	Slight	Negligible Beneficial
Round 600m S of Tregolds	SAM	3.7km	13	4	-9		High	Negligible	Slight	Negligible Beneficial
8 barrows Scotland Corner	SAM	3.9km	15	5	-10		High	Negligible	Slight	Negligible Beneficial
Cross Putty wayside cross	SAM	4.3km	1	0	-1		High	Not located	n/a	n/a
Mawgan Porth DMV	SAM	4.5km	0	2	+2		High	Negligible	Slight	Neutral
3 barrows 620m W Cransworth	SAM	4.9km	13 to 15	5	-8 to -10		High	Negligible	Slight	Negligible Beneficial
Historic Landscape										Minor Beneficial

Aggregate Impact										Minor Beneficial
Cumulative Impact										Minor Beneficial

Table 9: *Summary of assessment of Category 2 assets*

Asset	Type	Distance	ZTV Hub No. turbines theoretically currently visible	ZTV Hub No. Turbines theoretically visible under proposed scheme	Change +/-		Value	Scale of Change	Significance of effect	Professional Judgement
Category 2 Assets – Grade II (2.5km-5km)										
Guidestone at SW907648	GII	2.6km	1	2	+1		Medium	No change	Neutral	Neutral
Guidestone at SW908647	GII	2.7km	1	2	+1		Medium	No change	Neutral	Neutral
Guidepost at SW91157035	GII	2.7km	14	5	-9		Medium	Negligible	Neutral/Slight	Negligible Beneficial
Lawrey's Mill	GII	2.9km	0	1	+1		Medium	No change	Neutral	Neutral
MS at SW935680	GII	3.0km	14	5	-9		Medium	No change	Neutral	Neutral
MS at SW929665	GII	3.0km	1	4	+3		Medium	No change	Neutral	Neutral
Guidepost 1.4km S Cannalidgey	GII	3.2km	14	5	-9		Medium	No change	Neutral	Neutral
Prospect House	GII	3.2km	1	2	+1		Medium	No change	Neutral	Neutral
Gate Piers x2, Carnanton House	GII	3.4km	5	1	-4		Medium	No change	Neutral	Neutral
Guidestone at SW922644	GII	3.5km	1	2	+1		Medium	No change	Neutral	Neutral
Ivy Cottage	GII	3.5km	4	1	-3		Medium	No change	Neutral	Neutral
Tregamere Farmhouse	GII	3.6km	1	2	+1		Medium	No change	Neutral	Neutral
The Retreat (former workhouse)	GII	3.8km	1	1	0		Medium	No change	Neutral	Neutral
East Lodge, Gate Piers	GII	3.9km	2	1	-1		Medium	No change	Neutral	Neutral
Hillhead	GII	4.0km	1	1	0		Medium	No change	Neutral	Neutral
Bosworgey House	GII	4.0km	0	0	0		Medium	No change	Neutral	Neutral
MS at SW895633	GII	4.0km	1	1	0		Medium	No change	Neutral	Neutral
Middle Lodge	GII	4.0km	4	1	-3		Medium	No change	Neutral	Neutral
MS 250m SW Halfway House	GII	4.1km	11	5	-6		Medium	No change	Neutral	Neutral
Gluvian Farmhouse	GII	4.3km	4	2	-2		Medium	Negligible	Neutral/Slight	Negligible Beneficial
MS at SW901630	GII	4.3km	1	0	-1		Medium	No change	Neutral	Neutral
MS 230m SW Bosworgey Cottage	GII	4.3km	1	1	0		Medium	No change	Neutral	Neutral
Brooklands	GII	4.3km	0	1	+1		Medium	No change	Neutral	Neutral
MS at SW882633	GII	4.5km	5	1	-4		Medium	No change	Neutral	Neutral
Tolcarne Merock Farmhouse	GII	4.6km	4	2	-2		Medium	Negligible	Neutral/Slight	Negligible Beneficial
Watermill at SW927632	GII	4.7km	1	2	+1		Medium	No change	Neutral	Neutral
Guidestone at SW926632	GII	4.7km	1	2	+1		Medium	No change	Neutral	Neutral
Reterth Farmhouse	GII	4.9km	1	2	+1		Medium	No change	Neutral	Neutral
Category 2 Assets – Grade I (5-10km)										
Church St Wenn	GI	6.6km	0	2	+2		High	No change	Neutral	Neutral
Church St Colanus, St Colan	GI	7.0km	5	1	-4		High	No change	Neutral	Neutral

Church of St Petroc, Padstow	GI	7.8km	13	4	-9		High	No change	Neutral	Neutral
Church St Columba, St Columb Minor	GI	7.9km	4	1	-3		High	No change	Neutral	Neutral
Prideaux Place	GI	7.9km	13	4	-9		High	No change	Neutral	Neutral
Mock Fortifications, Prideaux Pl.	GI	7.9km	13	4	-9		High	No change	Neutral	Neutral
Church St Enodoc, Trebetherick	GI	9.9km	10 to 12	4	-6 to -8		High	No change	Neutral	Neutral
Church St Clement, Withiel	GI	9.0km	0	1	+1		High	No change	Neutral	Neutral
Category 2 Assets – Grade II* (5-10km)										
Trevoyan Farmhouse	GII*	5.4km	14	5	-9		High	No change	Neutral	Neutral
Church St Merryn	GII*	6.4km	14	4	-10		High	No change	Neutral	Neutral
Trenearne	GII*	7.0km	14	4	-10		High	No change	Neutral	Neutral
Railton Manor, Walls, Holywell	GII*	7.5km	0	1	+1		High	No change	Neutral	Neutral
Harlyn House, Dovecote	GII*	7.7km	14	4	-10		High	No change	Neutral	Neutral
Pridueaux Place, various x9	GII*	7.8km	13	4	-9		High	No change	Neutral	Neutral
Abbey House, Padstow	GII*	7.9km	13	4	-9		High	No change	Neutral	Neutral
Church St Michael, Porthilly	GII*	8.2km	13	4	-9		High	No change	Neutral	Neutral
St Breock Place	GII*	8.3km	0	4	+4		High	No change	Neutral	Neutral
Trevelver	GII*	9.0km	13	4	-9		High	No change	Neutral	Neutral
Wadebridge Bridge	GII* SAM	9.8km	0	0	0		High	No change	Neutral	Neutral
Category 2 Assets – SAMs (5-10km)										
2 barrows NW High Cove Farm	SAM	5.1km	6	3	-3		High	No change	Neutral	Neutral
Disc barrow 485m SW Pawtonsprings	SAM	5.1km	15	5	-10		High	Negligible	Slight	Negligible Beneficial
Redcliff Cliff Castle	SAM	5.1km	3 to 5	3	0 to -2		High	No change	Neutral	Neutral
3 barrows 200m NW Pawtonsprings	SAM	5.4km	15	5	-10		High	Negligible	Slight	Negligible Beneficial
Liveloe cliff castle, barrow, hut circles	SAM	5.5km	3 to 4	2	1 to -2		High	No change	Neutral	Neutral
6 barrows at Park Head	SAM	6.2km	4 to 5	3	-1 to -2		High	No change	Neutral	Neutral
St Breock Down monolith and cairn	SAM	6.2km	15	5	-10		High	Negligible	Slight	Negligible Beneficial
Burial Chamber on St Breock Downs	SAM	6.2km	14	5	-9		High	Negligible	Slight	Negligible Beneficial
Portal Dolmen 'Pawton Quoit'	SAM	6.3km	?	4	?		High	Negligible	Slight	Negligible Beneficial
Castle-an-Dinas hillfort	SAM	6.3km	3	1	-2		High	Negligible	Slight	Negligible Beneficial
Cross Base, St Merryn's Church	SAM	6.4km	14	4	-10		High	No change	Neutral	Neutral
3 barrows 470m ENE St Breock Downs Farm	SAM	6.5km	8 to 13	5	-3 to -8		High	Negligible	Slight	Negligible Beneficial
Standing Stone 815m W St Breock Downs Farm	SAM	6.7km	12	5	-7		High	Negligible	Slight	Negligible Beneficial
Round 420m SW of Melancoose	SAM	6.8km	5	1	-4		High	No change	Neutral	Neutral
St Peter's Well, Treloy	SAM	6.9km	0	1	+1		High	No change	Neutral	Neutral
Wayside Cross, Treloy Hill	SAM	7.0km	0	1	+1		High	No change	Neutral	Neutral
Wayside Cross 515m NE Castle Farm	SAM	7.0km	2	1	-1		High	No change	Neutral	Neutral
Barrow 540m WSW St Breock Downs Farm	SAM	7.0km	1	5	+4		High	Negligible	Slight	Negligible Beneficial
Cross base, St Colans	SAM	7.0km	5	1	-4		High	No change	Neutral	Neutral

Early Christian Memorial, Nanscowe	SAM	7.1km	1	4	+3		High	No change	Neutral	Neutral
3 Promontory Forts S Trethias Is.	SAM	7.1km	14	5	-9		High	No change	Neutral	Neutral
2 Crosses, Padstow Church	SAM	7.7km	13	4	-9		High	No change	Neutral	Neutral
Wayside Cross, Whitecorss	SAM	7.3km	13	4	-9		High	No change	Neutral	Neutral
Herlyn Prehistoric Cemetery	SAM	7.7km	14	4	-10		High	No change	Neutral	Neutral
Wayside Cross at Prideaux Place	SAM	7.8km	13	4	-9		High	No change	Neutral	Neutral
St Constantine's Chapel, Well	SAM	7.9km	14	4	-10		High	No change	Neutral	Neutral
Small multivallate Hillfort, 127m SE Demelza Fm	SAM	8.0km	0	1	+1		High	No change	Neutral	Neutral
Cross, St Michaels Porthilly	SAM	8.3km	13	4	-9		High	No change	Neutral	Neutral
Early Christian Memorial, Indian Queens	SAM	8.4km	1	1	0		High	No change	Neutral	Neutral
Trevlegue Head promontory fort	SAM	8.6km	0 to 5	1	+1 to -4		High	No change	Neutral	Neutral
3 barrows at Cataclews Point	SAM	8.7km	14	4	-10		High	No change	Neutral	Neutral
Preaching Pit called Queen's Pit	SAM	8.7km	1	1	0		High	No change	Neutral	Neutral
Barrow Cemetery on Rustyn Downs	SAM	8.8km	0	2	+2		High	No change	Neutral	Neutral
Doublestiles Cross	SAM	8.8km	5	1	-4		High	No change	Neutral	Neutral
Wayside Cross at Withiel Rectory	SAM	8.9km	0	1	+1		High	No change	Neutral	Neutral
Dovecote 90m SSe Trevanion Ho.	SAM	9.2km	0	1	+1		High	No change	Neutral	Neutral
2 barrows 385m SW Higher Tregolls	SAM	9.3km	1	2	+1		High	No change	Neutral	Neutral
Bowl barrow called Tregawne Barrow	SAM	9.3km	0	2	+2		High	No change	Neutral	Neutral
3 barrows 120-820m S Brynn Barton Cottage	SAM	9.5km	0	1	+1		High	No change	Neutral	Neutral
Inchs Cross, 200m SW Inchs	SAM	9.6km	0	1	+1		High	No change	Neutral	Neutral
Holy well NW Roche Station	SAM	9.7km	0	0	0		High	No change	Neutral	Neutral
3 barrows, Barrowfields Cemetery	SAM	9.7km	5	1	-4		High	No change	Neutral	Neutral
Category 2 Assets – Conservation Areas (5-10km)										
Padstow	CA	7.6km	0 to 13	4	+4 to -9		High	No change	Neutral	Neutral
St Columb Minor	CA	7.8km	4	1	-3		High	No change	Neutral	Neutral
St Breock	CA	8.1km	0	2 to 4	+2 to +4		High	No change	Neutral	Neutral
Wadebridge	CA	9.4km	0	0 to 3	0 to +3		High	No change	Neutral	Neutral
Category 2 Assets – RPGS (5-10km)										
Prideaux Place	GII	7.7km	13	4	-9		Medium	No change	Neutral	Neutral
Category 2 Assets – RPGs (10-30km)										
Pencarrow	GII*	13.3km	0	0	0		High	No change	Neutral	Neutral
Lamellen	GII	17.5km	0 to 13	4	+4 to -9		Medium	No change	Neutral	Neutral
Lanhydrock	GII*	17.8km	0	0 to 1	0 to +1		High	No change	Neutral	Neutral
Chyverton Park	GII	18.7km	0 to 5	1	+1 to -4		Medium	No change	Neutral	Neutral
Trewithen	GII*	19.2km	0 to 1	0	0 to -1		High	No change	Neutral	Neutral
Tregrehan	GII*	19.8km	0	0	0		High	No change	Neutral	Neutral
Trewarthenick	GII	21.5km	0 to 1	0	0 to -1		Medium	No change	Neutral	Neutral
Heligan	GII	22.2km	0	0	0		Medium	No change	Neutral	Neutral

Boconnoc	GII*	23.1km	0	0 to 1	0 to -1		High	No change	Neutral	Neutral
Menabilly	GII	24.5km	0	0	0		Medium	No change	Neutral	Neutral
Caerhayes Castle	GII*	25.2km	0	0 to 1	0 to +1		High	No change	Neutral	Neutral
Tregothnan	GII*	25.0km	0 to 3	0 to 1	0 to -2		High	No change	Neutral	Neutral
Trelissick	GII*	27.9km	0	0 to 1	0 to +1		High	No change	Neutral	Neutral

Historic Landscape

7.4.10 The proposed development would be constructed within the St Breock Downs and Bodmin Landscape Character Area (LCA CA14). The area below Bear's Down falls within the adjacent LCA of the Camel Coastal Group (LCA15a). The proposed site location conforms with the upland character of LCA14, but the landform element of LCA15a - the gently sloping plateau which characterises LCA15a continues and steepens slightly to the summit of Bear's Down, forming a single large-scale and undifferentiated landform.

7.4.11 The scale of the landform, and the size and regularity of the later 19th and 20th century fields in the area, serve to diminish the apparent scale of the turbines. As the proposed scheme represents a repowering and reduction of the number and density of the turbines present, despite the increase in individual turbine size, this can be regarded as a **beneficial** effect.

7.4.12 The overall impact on the historic landscape is assessed as **minor beneficial**. As the turbines have an operational life it is possible, they could be removed, and the residual adverse visual effects reversed. Thus, the residual impact is technically temporary/reversible.

Aggregate Impact

7.4.13 The aggregate impact of the proposed development refers to the overall effect of the development on multiple heritage assets, while the cumulative impact assesses the impact of multiple developments on a single heritage asset. Aggregate impact is particularly difficult to quantify, as the threshold of acceptability will vary according to the type, quality, number, and location of heritage assets, and the individual impact assessments themselves.

7.4.14 Replacing 16 smaller turbines with five larger turbines has a number of conflicting visual implications for the setting of heritage assets. Enhanced adverse impacts arise from the increased size and scale of the proposed turbines. The proposed scheme would extend the zone of visual influence across a wider area, therefore some assets that are not intervisible with the existing turbines could have theoretical intervisibility with the proposed ones. Additionally, the increased size and scale of the proposed turbines would enhance their visual impact on assets in their immediate vicinity.

7.4.15 However, beneficial effects arise from the reduction in the total number of turbines from 16 to five. There is usually a decrease in the number of turbines visible from any one designated heritage asset by up to ten (**Tables 7** and **8**). It also represents a decrease in the density of placement, presenting less of a 'wall' of turbines as currently exists and more as a scatter. The increase in the size of the rotor will decrease rotation speed, reducing the eye-catching kinetic character of the turbine. Lastly, the scale of the landform means even the larger turbines will appear visually diminished.

7.4.16 The proposed repowering scheme represents a significant net reduction in the number of visible wind turbines from the majority of designated heritage assets. Where there is an increase in the number of turbines theoretically visible, it represents the extension of the ZTV arising from the increased height of the proposed turbines. That increase is generally in the 5-10km+ range where the visibility of turbines in the landscape is markedly reduced and much more reliant on optimum weather conditions. Overall, the beneficial impacts of the proposed development are determined to outweigh the adverse impacts, and that the likely aggregate impact of the proposed development is **Minor Beneficial**.

Cumulative Impact

7.4.17 As the proposed development is for the repowering of an existing wind farm, the baseline scenario consists of an existing an operational 16-turbine wind farm. The project would therefore represent a reduction from the baseline, the benefits of the reduction are therefore considered to outweigh the adverse impacts, and the cumulative impact of the proposed development is likely to be **Minor Beneficial**.

7.5 Conclusion

7.5.1 The assessment identified previous archaeology works undertaken at the site and completed an extensive geophysical survey of the proposed site. None of the fieldwork undertaken to date has identified any proven geophysical anomalies or archaeological features of any clear significance. Except for the known Bronze age barrows, settlement and other activity appear to avoid the area and its archaeological potential is accordingly **low**. However, it is acknowledged that the proposed extent of the wind turbine infrastructure is relatively extensive, increasing the likelihood of disturbing archaeological remains of a smaller, more ephemeral nature. It is recommended that this be mitigated via an appropriate programme of archaeological investigation informed by an agreed WSI.

7.5.2 A detailed assessment of the likely visual impact of the proposed development on heritage assets in the area was carried out. Considering the increase in the size of the turbines, as well as the decrease in the number, density, and rotor speed, on balance there is a net **benefit** for the project. The increase in size does extend the visual impact of the proposed turbines, such that more assets might be affected, but this is generally in the 5-10km+ range where the visibility of turbines in the landscape is markedly reduced and much more reliant on optimum weather conditions. Overall, therefore, there is a **negligible benefit** for 30 of the assets considered in detail, as opposed to six where there might a **negligible adverse** outcome. Taken together with the benefit of a reduction in turbines to the historic landscape, this scheme has a **Minor Beneficial** effect.

8.0 Noise

8.1 Introduction

8.1.1 TNEI Services Ltd were contracted by the applicant to undertake noise assessment for the proposed Bears Down Wind Farm Repowering. The full assessment report can be found in **Appendix G**.

8.1.2 In August 2025, TNEI reviewed the proposed modification, to reduce to the scale of development from five to four turbines. All associated material has been updated to reflect the revised scheme and are accompanied by a supporting addendum. This updated information has been submitted separately from this Environmental Statement (ES) and is included within the formal modification request.

8.1.3 The summary information, original methodology, and baseline report remain relevant to the revised scheme. The conclusions of the original assessment are largely unchanged, and the updated materials serve to confirm the continued validity of the original findings in light of the proposed modification. For a full overview of the changes and supporting documentation, please refer to the formal modification request.

8.1.4 The proposed development is for 5 wind turbines with a generating capacity of up to 4.5MW each, to replace the existing 16 Bears Down wind turbines which have a capacity of 600kW each.

8.1.5 The noise assessment models the Vestas V136 4.5MW in Mode PO4 (full mode with serrated blades). This turbine has been selected as it is representative of the turbine type which could be installed at the site.

8.1.6 The noise assessment considers relevant nearby schemes, as summarised in **Table 1.1** and shown in **Figure A1.1 Annex 1 - Appendix G.**

8.1.7 The guidance included in the Institute of Acoustics Good Practice Guide (IOA GPG) and ETSU-R-97 limits have been used to assess the impact of operational wind farm noise. The operational noise limits should not be breached. Consequently, the test applied to operational noise is whether or not the predicted wind turbine noise levels at all noise assessment locations lie below these limits.

8.1.8 The predictions were undertaken at twelve Noise Assessment Locations (NALs) defined in this report as the boundary of the curtilage of a residential property to the closest wind turbine. The Noise Monitoring Locations (NALs) are shown below in Error! Reference source not found.**10**.

Table 10: *Noise Assessment Locations*

NALs Id-Name	X (Easting)	Y (Northing)	Distance (m) to nearest existing Bears Down wind turbine	Distance (m) to nearest proposed Bears Down Repowering wind turbine
NAL1-Caravans adjacent to Trevilledor	189264	67636	437	504
NAL2-Trevilledor	189044	67745	643	690
NAL3-Eddystone (FI with Bears Down Wind Farm Repowering)	189842	68434	362	633
NAL4-Tremount	190071	68630	652	889
NAL5-Caravan north of Trenwick	190374	68425	723	715
NAL6-Little Trewinnick (FI with Bears Down Wind Farm Repowering)	190391	68139	453	433
NAL7-Pennatillie	191117	66753	796	852
NAL8-Rosedinnick	191398	65970	1619	1672
NAL9-Pencrennys	190895	66032	1417	1461
NAL10-Higher Denzell (FI with Denzell Downs)	189473	66852	914	1006
NAL11-Lower Denzell	188961	66655	1306	1399
NAL12-Trevibban farm	191210	68335	916	954

8.1.9 The background noise levels and associated Total ETSU-R-97 Noise Limits already exist at receptors surrounding the Proposed Bears Down Wind Farm Repowering and Denzell Downs Wind Farm; these were set through the consenting of the original Bears Down Wind Farm initially. The noise assessment ETSU-R-97 Noise Limits (same as Cumulative limits) from the original Bears Down noise assessment were consequently applied to the Denzel Downs wind farm planning consent.

8.1.10 Having due regard to the guidance in ETSU-R-97 and considering the increased electricity generation capacity (approximately double compared to existing) and the cumulative renewable generation with the other nearby operational wind turbines, the daytime fixed minimum limit relating to the Total ETSU-R-97 limits has been reviewed.

8.1.11 To assist the Planning Officer and Environmental Health Officer, a detailed review of the three criteria along with noise predictions and relevant graphics is included in **Appendix 3 of Appendix G**. A 38dB fixed minimum was already set by Cornwall Council in March 2000 for the original Bears Down condition 11 for 9 x 600kw wind turbines (Decision notice 98/1286) and this was then carried for the additional 7 x 600kW turbines and Denzell Downs. The new repowering scheme will have significant added generation capacity and fits in the context of a climate emergency declared by Cornwall Council, with a DPD issued in February 2023. The analysis in **Appendix 3** also shows that only 4 properties would benefit from this marginal raise and only in rare wind speed and directions. Hence the analysis suggests that a 40dB fixed minimum criteria would be appropriate.

8.1.12 The Total ETSU-R-97 Noise Limits were set with fixed minimums of 40dB quiet daytime and 43dB night–time for not financially involved (not FI) properties, and 45dB for financially involved (FI) properties. The final values used for the assessment are shown in **Table 2.2** (Quiet Daytime) and **Table 2.3** (Night-time) of **Appendix G**. All values are in dB(A) L90.

8.2 Noise Assessment Results

Cumulative Limits

8.2.1 **Figures A1.2a to A1.2K** show the cumulative noise predictions at each NAL and individual contribution from proposed and existing wind turbines considered in the assessment. **Tables 3.1 (Quiet Daytime) and Table 3.2 (Night-time)** show the compliance of the cummulative predictions with both the daytime and nigh-time Total ETSU-R-97 Limits. As shown in **Appendix G.**

8.2.2 The assessment results show that predicted cumulative wind turbine noise levels marginally exceed the Total ETSU-R-97 Noise Limits at NAL7-Pennatillie by +0.5dB in daytime at 6m/s in north westerly winds. In these conditions, the proposed cumulative scenario with Bears Down Wind Farm Repowering is predicted at 40.5dB (LA90) and existing cumulative scenario with the original Bears Down Wind Farm is predicted only 0.9dB below, at 39.6dB. Also, the scenario with only the existing Denzell Downs Wind Farm, Rosedinnick Wind Turbine and Trevibban Wind Turbines is predicted at 38.6dB which demonstrates that at this location other existing wind turbines have a relatively high contribution to the cumulative noise levels. Noise mitigation is suggested for the proposed Bears Down Wind Farm Repowering for this marginal exceedance.

Site Specific Limits

8.2.3 **Tables 11 and 12** below show the daytime and night time Site Specific Noise Limits, noise predictions for the proposed Bears Down Repowering Wind Farm and the exceedance level.

Table 11: *Compliance Table for Quiet Daytime, Site Specific Noise Limits*

Location		Wind speed measured at 10 metre height (m/s)									
		3	4	5	6	7	8	9	10	11	12
NAL1	Site Specific Noise Limit	39.6	39.6	40.0	44.1	48.5	52.4	52.8	52.8	52.8	52.8
	Bears Down Repowering Noise	28.6	33.1	37.8	39.6	39.7	39.7	39.7	39.7	39.7	39.7
	Exceedance Level	-11.0	-6.5	-2.2	-4.5	-8.8	-12.7	-13.1	-13.1	-13.1	-13.1
NAL2	Site Specific Noise Limit	39.8	39.8	39.2	38.2	37.5	40.5	46.6	46.6	46.6	46.6
	Bears Down Repowering Noise	25.8	30.3	35.1	36.8	37.0	37.0	37.0	37.0	37.0	37.0
	Exceedance Level	-14.0	-9.5	-4.1	-1.4	-0.5	-3.5	-9.6	-9.6	-9.6	-9.6
NAL3	Site Specific Noise Limit	44.9	44.9	44.8	44.7	44.6	44.6	44.6	44.6	44.6	44.6
	Bears Down Repowering Noise	27.9	32.4	37.2	39.0	39.1	39.1	39.1	39.1	39.1	39.1
	Exceedance Level	-17.0	-12.5	-7.6	-5.7	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5
NAL4	Site Specific Noise Limit	39.9	39.9	39.6	39.2	39.0	38.9	38.9	38.9	38.9	38.9
	Bears Down Repowering Noise	25.9	30.4	35.2	37.0	37.1	37.1	37.1	37.1	37.1	37.1
	Exceedance Level	-14.0	-9.5	-4.4	-2.2	-1.9	-1.8	-1.8	-1.8	-1.8	-1.8
NAL5	Site Specific Noise Limit	45.0	45.0	44.8	44.7	44.6	44.6	44.6	44.6	44.6	44.6
	Bears Down Repowering Noise	27.9	32.4	37.2	38.9	39.1	39.1	39.1	39.1	39.1	39.1
	Exceedance Level	-17.1	-12.6	-7.6	-5.8	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5
NAL6	Site Specific Noise Limit	44.9	44.9	44.7	44.5	44.3	44.3	44.3	44.3	44.3	44.3
	Bears Down Repowering Noise	31.8	36.3	41.1	42.9	43.0	43.0	43.0	43.0	43.0	43.0
	Exceedance Level	-13.1	-8.6	-3.6	-1.6	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3
NAL7	Site Specific Noise Limit	39.5	39.5	38.0	34.4	38.1	41.9	44.8	44.8	44.8	44.8
	Bears Down Repowering Noise	24.9	29.5	34.2	36.0	36.1	36.1	36.1	36.1	36.1	36.1
	Exceedance Level	-14.6	-10.0	-3.8	**1.6**	-2.0	-5.8	-8.7	-8.7	-8.7	-8.7
NAL8	Site Specific Noise Limit	39.7	39.7	39.3	38.6	38.1	37.9	37.7	37.7	37.7	37.7
	Bears Down Repowering Noise	18.5	23.0	27.8	29.6	29.7	29.7	29.7	29.7	29.7	29.7
	Exceedance Level	-21.2	-16.7	-11.5	-9.0	-8.4	-8.2	-8.0	-8.0	-8.0	-8.0
NAL9	Site Specific Noise Limit	39.6	39.6	38.6	36.5	39.5	42.5	45.1	45.1	45.1	45.1
	Bears Down Repowering Noise	20.3	24.9	29.6	31.4	31.5	31.5	31.5	31.5	31.5	31.5
	Exceedance Level	-19.3	-14.7	-9.0	-5.1	-8.0	-11.0	-13.6	-13.6	-13.6	-13.6
NAL10	Site Specific Noise Limit	44.6	44.6	43.5	41.3	39.1	38.5	38.5	38.5	38.5	38.5
	Bears Down Repowering Noise	25.0	29.5	34.3	36.0	36.1	36.1	36.1	36.1	36.1	36.1
	Exceedance Level	-19.6	-15.1	-9.2	-5.3	-3.0	-2.4	-2.4	-2.4	-2.4	-2.4
NAL11	Site Specific Noise Limit	39.7	39.7	39.0	37.8	38.7	40.2	41.6	41.6	41.6	41.6
	Bears Down Repowering Noise	20.8	25.3	30.1	31.9	32.0	32.0	32.0	32.0	32.0	32.0
	Exceedance Level	-18.9	-14.4	-8.9	-5.9	-6.7	-8.2	-9.6	-9.6	-9.6	-9.6
NAL12	Site Specific Noise Limit	39.5	39.5	39.2	38.8	38.2	37.2	36.1	36.1	36.1	36.1
	Bears Down Repowering Noise	24.6	29.1	33.9	35.6	35.7	35.7	35.7	35.7	35.7	35.7
	Exceedance Level	-14.9	-10.4	-5.3	-3.2	-2.5	-1.5	-0.4	-0.4	-0.4	-0.4

Table 12: *Compliance Table for Night-time, Site Specific Noise Limits*

Location		Wind speed measured to 10 metre height (m/s)									
		3	4	5	6	7	8	9	10	11	12
NAL1	Site Specific Noise Limit	42.7	42.7	42.1	41.2	40.7	40.7	40.7	40.7	40.7	40.7
	Bears Down Repowering Noise	29.0	34.0	38.8	39.7	39.7	39.7	39.7	39.7	39.7	39.7
	Exceedance Level	-13.7	-8.7	-3.3	-1.5	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
NAL2	Site Specific Noise Limit	42.9	42.9	42.5	42.1	41.9	41.9	41.9	41.9	41.9	41.9
	Bears Down Repowering Noise	26.2	31.2	36.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0
	Exceedance Level	-16.7	-11.7	-6.5	-5.1	-4.9	-4.9	-4.9	-4.9	-4.9	-4.9
NAL3	Site Specific Noise Limit	44.9	44.9	44.8	44.6	44.6	44.6	44.5	44.5	44.5	44.5
	Bears Down Repowering Noise	28.4	33.4	38.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1
	Exceedance Level	-16.5	-11.5	-6.7	-5.5	-5.5	-5.5	-5.4	-5.4	-5.4	-5.4
NAL4	Site Specific Noise Limit	42.9	42.9	42.8	42.6	42.5	42.5	42.5	42.5	42.5	42.5
	Bears Down Repowering Noise	26.4	31.4	36.1	37.1	37.1	37.1	37.1	37.1	37.1	37.1
	Exceedance Level	-16.5	-11.5	-6.7	-5.5	-5.4	-5.4	-5.4	-5.4	-5.4	-5.4
NAL5	Site Specific Noise Limit	44.9	44.9	44.8	44.7	44.6	44.6	44.6	44.6	44.6	44.6
	Bears Down Repowering Noise	28.3	33.3	38.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1
	Exceedance Level	-16.6	-11.6	-6.7	-5.6	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5
NAL6	Site Specific Noise Limit	44.9	44.9	44.7	44.5	44.3	44.3	44.3	44.3	44.3	44.3
	Bears Down Repowering Noise	32.3	37.3	42.0	43.0	43.0	43.0	43.0	43.0	43.0	43.0
	Exceedance Level	-12.6	-7.6	-2.7	-1.5	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3
NAL7	Site Specific Noise Limit	42.7	42.7	41.9	40.8	40.1	40.1	40.1	40.1	40.1	40.1
	Bears Down Repowering Noise	25.4	30.4	35.2	36.1	36.1	36.1	36.1	36.1	36.1	36.1
	Exceedance Level	-17.3	-12.3	-6.7	-4.7	-4.0	-4.0	-4.0	-4.0	-4.0	-4.0
NAL8	Site Specific Noise Limit	42.8	42.8	42.6	42.3	42.1	42.0	42.0	42.0	42.0	42.0
	Bears Down Repowering Noise	19.0	24.0	28.8	29.7	29.7	29.7	29.7	29.7	29.7	29.7
	Exceedance Level	-23.8	-18.8	-13.8	-12.6	-12.4	-12.3	-12.3	-12.3	-12.3	-12.3
NAL9	Site Specific Noise Limit	42.8	42.8	42.2	41.5	41.0	41.0	41.0	41.0	41.0	41.0
	Bears Down Repowering Noise	20.8	25.8	30.6	31.5	31.5	31.5	31.5	31.5	31.5	31.5
	Exceedance Level	-22.0	-17.0	-11.6	-10.0	-9.5	-9.5	-9.5	-9.5	-9.5	-9.5
NAL10	Site Specific Noise Limit	44.5	44.5	43.1	40.7	38.5	38.5	38.5	38.5	38.5	38.5
	Bears Down Repowering Noise	25.4	30.4	35.2	36.1	36.1	36.1	36.1	36.1	36.1	36.1
	Exceedance Level	-19.1	-14.1	-7.9	-4.6	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4
NAL11	Site Specific Noise Limit	42.8	42.8	42.4	41.9	41.7	41.6	41.6	41.6	41.6	41.6
	Bears Down Repowering Noise	21.3	26.3	31.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
	Exceedance Level	-21.5	-16.5	-11.4	-9.9	-9.7	-9.6	-9.6	-9.6	-9.6	-9.6
NAL12	Site Specific Noise Limit	42.7	42.7	42.6	42.4	42.1	41.7	41.3	41.3	41.3	41.3
	Bears Down Repowering Noise	25.0	30.0	34.8	35.7	35.7	35.7	35.7	35.7	35.7	35.7
	Exceedance Level	-17.7	-12.7	-7.8	-6.7	-6.4	-6.0	-5.6	-5.6	-5.6	-5.6

8.2.4 The assessment shows that the predicted wind turbine noise levels from a Vestas V136 in full mode PO4 exceed the Site-Specific Noise Limits only by +1.6dB at NAL7-Pennatillie at 6m/s in daytime and broadly in north westerly winds. In these specific wind conditions targeted noise

mitigation via the use of a Sound Optimised Mode SO13 for the Vestas V136 would meet the Site-Specific Noise Limits.

8.3 Conclusion

8.3.1 The assessment results show that predicted cumulative wind turbine noise levels marginally exceed the Total ETSU-R-97 Noise Limits at NAL7-Pennatillie by +0.5dB in daytime at 6m/s in north westerly winds.

8.3.2 It was also found that the predicted wind turbine noise levels from a Vestas V136 4.5MW wind turbine operating in mode PO4 exceed the Site-Specific Noise Limits at NAL7-Pennatillie by +1.6dB at 6m/s daytime in north westerly winds. The assessment also shows that in specific conditions targeted noise mitigation via the use of a Sound Optimised Mode SO13 (amongst SO11-SO13 available modes) for the nearest of the five turbines (Turbine 5) would meet the Site-Specific Noise Limits.

8.3.3 Should the proposal receive planning permission, the final choice of turbine would have to meet Site Specific Noise limits which should form the basis of any noise conditions.

Flood Risk Assessment and Hydrological Assessment

9.1 Introduction

9.1.1 The Applicant commissioned Engineering & Development Solutions (EDS) to undertake a Flood Risk Assessment (FRA) and Hydrological Assessment for the proposed wind turbine repowering on Land at Bears Down. The primary aim of the FRA was to ensure that the development will not increase flood risk elsewhere outside of the site, a suitable sustainable drainage scheme (SuDS) is recommended to comply with this. The full FRA and Hydrological Assessment can be viewed in **Appendix H.**

9.1.2 The Environment Agency (EA) indicative flood map shows that the development site is located entirely within Flood Zone 1, an area which is at low risk of river and sea flooding and is therefore suitable for all types of development. However, the proposal has an area over 1ha meaning an FRA is required under the National Planning Policy Framework (NPPF) on Planning and Flood Risk.

9.1.3 In August 2025, EDS reviewed the proposed modification, to reduce to the scale of development from five to four turbines. All associated material has been updated to reflect the revised scheme and are accompanied by a supporting addendum. This updated information has been submitted separately from this Environmental Statement (ES) and is included within the formal modification request.

9.1.4 The summary information, original methodology, and baseline report remain relevant to the revised scheme. The conclusions of the original assessment are largely unchanged, and the updated materials serve to confirm the continued validity of the original findings in light of the proposed modification. For a full overview of the changes and supporting documentation, please refer to the formal modification request.

9.2 Site Description

Site Location

9.2.1 The proposed development site is located approximately 900m east of the village of St. Eval, and 3km northeast of St Mawgan, Cornwall. There is an operational wind farm located approximately 300m south, and the wider geographical location is dominated by agricultural farmland.

Topography

9.2.2 The site has a high point of 185m AOD and generally falls in a south to north direction. Consequently, land to the north falls towards the source of the Porthcothnan Stream, which lies approximately 200m north of the site boundary.

Existing Usage

9.2.3 The site currently accommodates 16 wind turbines, with associated infrastructure and a private site access from the west. The remaining land is used as farmland.

Proposed Usage

9.2.4 The proposal is for the installation of four wind turbines up to 150m to tip with associated infrastructure to replace the 16 existing turbines on site. The existing access track on site will be retained.

9.3 Hydrological and Geological Context

Hydrology

9.3.1 The local hydrology of the area is largely influenced by the existing watercourses that surround the site.

9.3.2 The sources of streams that start in close proximity to the site, include:

- Porthcothnan Stream – 200m northeast of the site
- Unnamed tributary to the Penrose Stream – 850m north of the site
- Unnamed tributary to the Gluvian Stream – 600m east of the access road.

9.3.3 The topography and existing infrastructure on site will result in surface water runoff flowing towards the natural receptors of the surrounding streams. As land falls predominantly to the north of the site, the majority of overland flows will proceed in this direction towards the Porthcothnan Stream. The stream flows in a general northeast direction away from the site before confluencing with the Penrose Stream, which outfalls at the coast in Porthcothnan Bay.

9.3.4 A lesser component of the flow will be conveyed westerly out of the site, down the existing access track towards the unnamed tributary of the Gluvian Stream.

9.3.5 Due to the rural surroundings of the site, it is anticipated that most of the excess surface water runoff will infiltrate into the ground. Flows which do not infiltrate into the ground will continue overland to the streams outlined in paragraph 9.3.2.

9.3.6 The site lays within the catchment of multiple streams, including Porthcothnan Stream and an unnamed tributary to the Gluvian Stream.

Hydrogeology

9.3.7 The site is underlain by the Staddon Formation which is primarily made up of sandstone, siltstone, and mudstone (see **Figure 6** in **Appendix H** for further details). The BGS describes the bedrock as follows: 'Sedimentary bedrock formed between 407.6 and 393.3 million years ago during the Devonian period'. This unit of bedrock is made of different sedimentary units. This includes medium to thick beds (1-4m) of fine to medium grained sandstones, the sequence then thickens and occurs in a coarsening up sequence that is interbedded with grey mudstones and siltstones with a gradational weathering profile near the surface. There are no superficial deposits present at the site.

9.3.8 The area is designated as a "Secondary A" Aquifer type. This describes permeable layers that can support local water supplies and may form an important source of base flow to rivers.

9.3.9 The area is classified as 'High-Medium' Groundwater Vulnerability. This is a measure of the vulnerability of groundwater to a pollutant discharged at ground level based upon hydrological, geological, hydrogeological, and soil properties within the area.

9.3.10 To identify the depth of groundwater in the vicinity of the site, BSG borehole records were searched. It is anticipated that the groundwater levels at the site will be at an estimated depth of between 24m to 6m below ground level. The groundwater levels on site should therefore be well depressed beneath the surface.

9.4 Assessment of Flood Risks

Fluvial and Tidal Flooding

9.4.1 The Environment Agency's indicative flood risk map for planning (**Figure 9 of Appendix H**) shows that the entire site is located within Flood Zone 1, having a less than 1 in 1000 annual probability of river and sea flooding. The site is therefore not at significant risk from either fluvial or tidal flooding.

Groundwater Flooding

9.4.2 Due to its geology, Cornwall generally does not experience much groundwater flooding. The predicted groundwater elevation at the site is approximately 160m AOD and the ground level at 200m AOD, confirming that construction activities related to the proposal are unlikely to interact with groundwater flows and will take place above the phreatic surface. Therefore, the risk of groundwater flooding or impact of the proposed works on the groundwater regime is considered to be low and has not been examined further.

Overland Flow

9.4.3 The proposed wind turbine locations are on relatively high ground and the potential for surface water accumulating in this location is limited. Additionally, the ground near the proposed turbine locations slopes towards the Porthcothnan Stream and the unnamed tributary to the Penrose Stream. Therefore, much of the site is at a very low risk of flooding from surface water. There is however an area on site that has medium risk of flooding to the west of the existing access track (**Figure 10 of Appendix H**). But this isn't considered to pose a significant hazard to the proposed development as the overland flows generated here will flow along the access track as the track will act as a conveyance pathway towards the unnamed tributary to the Gluvian Stream. Overall, flooding from surface water does not pose significant risk to the development.

Flooding from Sewers

9.4.4 There are no mains sewers in the area. The nearest residential dwelling that lies upstream is 1.3km west of the proposed development. The likelihood of flooding from sewers is negligible.

Flooding from Reservoirs, Canals, and Other Artificial Sources

9.4.5 The Environment Agency's flood risk mapping service does not indicate that the site is at risk of flooding from reservoirs as there are no large artificial bodies of water in the surrounding area. Therefore, flooding of the site from reservoirs and other artificial water bodies is not considered to be a significant risk.

Flooding as a Result of Development

9.4.6 The development of the site will alter the nature of the surface permeability across the site through the implementation of the hardstanding and extension to the access track. To prevent an increase in the risk of flooding to areas downstream of the site, the surface water runoff from the development needs to be understood and managed by means of a sustainable surface water drainage system.

9.4.7 The proposed surface water drainage system will ensure that the proposed development will not increase flood risk to third parties downslope.

9.5 Proposed Sustainable Drainage System (SuDS)

Drainage Design

9.5.1 Percolation testing was carried out and the infiltration rate was found to be suitable for soakaway design. The proposed soakaways have been sized with a 50% allowance for Climate Change and an increased Factor of Safety to 10 due to the single percolation test pit. The soakaways are based on Aquacell modular infiltration units with a 95% void ratio.

9.5.2 Please see **Appendix H** for an outline of the design standards used to inform the SuDS design and for details of the drainage calculations performed.

9.5.3 It is proposed to drain the impermeable areas of the development by means of a series of shallow swales laid along the lower perimeter of the hardstanding area and access road. The swales will convey flows to six individual soakaways. The dimension of each soakaway is shown below in **Table 13** below and in drawing J-3131-3001A in **Appendix H**.

Table 13: *Proposed Soakaway Dimensions*

Soakaway	Dimensions (W x L x D)
B – Turbine 2 and access road between T2 and T3	7.5m x 8m x 1.2m
C – Turbine 3	6m x 8m x 0.8m
D – Turbine 4	6m x 8m x 1.2m
E – Turbine 5	5.5m x 8m x 1.2m
F – Substation	1.5m x 1m x 0.8m

Exceedance Events

9.5.4 Although unlikely, it is possible that water may flood the system if the proposed drainage system were to become blocked or in the event of a storm in excess of the 1 in 100-year return period rainfall event occurring (including climate change allowance). The overflowing water would run over ground in a south to north and east to west direction from the site towards the access point of the site, as per the pre-developed scenario. However, due to the storage provided in the proposed drainage systems, any exceedance flows would be lower than that in the pre-development scenario for a similar storm event. Overland exceedance routes will therefore be unaffected by the proposed development.

Maintenance

9.5.5 Maintenance activities for the systems will broadly comprise regular maintenance, occasional tasks, and remedial work where necessary, as summarised in **Tables 13** and **14** below**.** Inspection of the surface water drainage system can generally be undertaken during routine site visits.

9.5.6 Management and maintenance responsibility for the infrastructure will be the responsibility of the site owner/operator.

Table 14: *Soakaway, typical maintenance activity schedule*

SOAKAWAYS		
Regular Maintenance	Inspect for sediment and debris in pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings	Annually
	Cleaning of gutters and any filters on downpipes	Annually (or as required based on inspections)
	Trimming any roots that may be causing blockages	Annually (or as required)
Occasional Maintenance	Remove sediment and debris from pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings	As required, based on inspections

Remedial Actions	Reconstruct soakaway and/or replace or clean void fill, if performance deteriorates or failure occurs	As required
	Replacement of clogged geotextile (will required reconstruction of soakaway)	As required
Monitoring	Inspect silt traps and note rate of sediment accumulation	Monthly in the first year then annually
	Check soakaway to ensure emptying is occurring	Annually

Table 15: *Swales, typical maintenance activity schedule*

SWALES		
Regular Maintenance	Remove litter and debris	Monthly, or as required
	Cut grass – to retain grass height 100-150mm	Monthly (during growing season), or as required
	Manage other vegetation and remove nuisance plants	Monthly at start, then as required
	Inspect inlets, outlets and overflows for blockages, and clear if required	Monthly
	Inspect infiltration surfaces for ponding, compaction, silt accumulation, record areas where water is ponding for > 48 hours	Monthly, or when required
	Inspect vegetation coverage	Monthly for 6 months, quarterly for 2 years, then half yearly
	Inspect inlets and facility surface for silt accumulation, establish silt removal frequencies	Half yearly
Occasional Maintenance	Reseed areas of poor vegetation growth, alter plant types to better suit conditions, if required	As required or if bare soil is exposed over 10% or more of the swale area
Remedial Actions	Repair erosion or other damage by re-turfing or reseeding	As required
	Relevel uneven surfaces and reinstate design profile unless there is a design flaw	As required
	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface	As required
	Remove build-up of sediment on upstream gravel trench, flow spreader or at top of the filter strip	As required
	Remove and disposed of oils or petrol residues using safe standard practices	As required

Residual Risks After Development

9.5.7 Rainfall over and above the design event could cause the sustainable drainage system to flood, however, any exceedance flows would be dealt with as outlined in **paragraph 9.5.6.**

Construction Stage Drainage

9.5.8 To limit the potential for silt discoloured water to run off the site during construction, it is proposed that the silt fencing should be constructed at the front end of the works. The designed soakaway systems should be the last stage of the construction process, to prevent silt build up or blockages within the drainage systems.

9.5.9 It is proposed that a temporary line of silt fencing be installed downslope of the works area during the construction phase to mitigate the potential effects of temporary additional impermeable surfaces on site. Additionally, moveable straw bales provided at the lower end of the access track will allow interception and filtration of any runoff bypassing the SuDS system along the access.

9.6 Conclusion

9.6.1 The FRA and Hydrology Assessment concludes that there is no risk of flooding on site, and that the development will not increase flood risk elsewhere once the proposed sustainable drainage system is operational. The proposed drainage infrastructure has been designed in accordance with guidance outlined in the NPPF, PPG, and Drainage Guidance for Cornwall and therefore the development is entirely appropriate on this site from a flood risk perspective.

10.0 Electro Magnetic Interference (EMI) and Aviation

10.1 EMI

10.1.1 The UK government's guidance on renewable and low carbon energy (2014) outlines that wind turbine developments can potentially affect electromagnetic transmissions (e.g., radio, television, and phone signals). The Planning Policy Statement 22 (PPS22) Companion Guide (2004) outlines that interference with electromagnetic transmissions would occur either through the blocking or deflecting of the line of site of transmissions (as with any large structure), or the dispersal of signals.

10.1.2 The summary below reflects the responses received by The Applicant at the time of the original submission in December 2023. As of the amendment in August 2025, discussions remain ongoing between the Applicant, relevant EMI consultees and the planning authority.

10.1.3 Cornwall Council's Renewable Energy Planning Advice (March 2016) highlights that applications for wind turbine developments must not produce unacceptable adverse impacts on tv reception, communications links, or telecommunications systems which are not capable of being acceptably mitigated.

10.1.4 **Table 16** outlines the telecommunications organisations which have been consulted regarding potential impacts from the proposed development. Details of the correspondence to date can be found in **Appendix I.** At the time of writing, there has been no reply from the MoD regarding the consultation.

10.1.5 Potential impacts from the proposed development were also identified to ATC radar, however the Applicant and the Safeguarding Team have agreed that mitigation is feasible, and discussions are in progress to agree upon suitable mitigation measures.

Table 16: *Responses from telecommunications and aviation organisations that have been consulted.*

Consultee	Date of Consultation Initiated	Date of Consultation Received	Consultation Response
Ofcom	N/A	N/A	Ofcom no longer consult
Atkins Global	28/09/2023	05/10/2023	Objection
Joint Radio Company (JRC)	28/09/2023	16/01/2023	No objection to the proposal
Ministry of Defence (MoD)	28/09/2023	N/A	No response at time of writing

10.2 Aviation

10.2.1 This chapter assesses the potential impact of the proposed Repowering of Bears Down Wind Farm on aviation interests. The Aviation Supporting Statement can be found within **Appendix I.**

10.2.2 The proposed site is situated northeast and perpendicular to the Airport runway, is approximately 2nm (4km) from the Aerodrome Reference Point (ARP).

10.2.3 Straten Consulting were engaged to manage the potential aviation impacts of the development as seen in **figure 1** – **Appendix I.**

10.2.4 The UK Civil Aviation Authority (CAA) requires that where there is a potential for an obstacle to impact an airport's operations and the safety of flying aircraft, an aeronautical study be conducted. Straten Consulting conducted all assessments in line with the CAA regulations, European Aviation Safety Agency (EASA) and the International Civil Aviation Organisation (ICAO) standards and practices.

10.2.5 CAN is the only airport that could be impacted by the site. The Airport is licensed by the UK Civil Aviation Authority (CAA). The airport designation is EGHQ, which is the four-letter international code as listed in the UK Aeronautical Information Publication (AIP).

10.2.6 The proposed development falls with the Airport's safeguarding zones for Obstacle Limitation Surfaces (OLS), Instrument Flight Procedures (IFPs) and navigational aids (NAVAIDS). As a result, a number of assessments were undertaken.

10.2.7 CEE engaged directly with CAN and undertook additional assessments to demonstrate the impact of the regeneration project compared to the existing windfarm. The technical assessment demonstrated the improved impact of radar coverage as a result of reducing the number of turbines.

10.2.8 Three of the 5 turbines impact the IFPs with additional aeronautical studies undertaken to demonstrate that the resultant, taller turbines, does not impact Air Traffic Service operations.

10.2.9 There are no impacts to Navigational Aids, radio stations for air-ground-air communications, to any NATS infrastructure or to any UK Met Office weather radar.

10.2.10 The assessments and aeronautical studies undertaken in support of this application categorically show the Wind Turbine located on the proposed site will have no adverse safety impact on the operation or functioning of aviation interests in the area and Cornwall Airport, Newquay

11.0 Shadow Flicker

11.1 Introduction

11.1.1 The Applicant has completed a shadow flicker analysis for the proposed repowering of Bears Down Wind Farm with four turbines on Land at Bears Down Wind Farm, Trevilledor Cross, Newquay, TR8 4HQ. The full assessment can be found accompanying the formal modification request.

11.1.2 This assessment was updated in line with the proposed modification in August 2025.

11.1.3 Shadow flicker describes the effect of the sun passing behind the rotating blades of a wind turbine, causing a shadow that flicks on and off. Under certain combinations of geographical position and time of day, properties in the local vicinity to the turbine may be affected by shadow flicker. Concerns have been expressed that the stroboscopic effects of shadow flicker may induce epilepsy or similar symptoms. However, the operating speed of the blades on the proposed wind turbine would cause shadow flicker at a substantially lower frequency range than that considered to induce photosensitive epilepsy. As a result, there are no predicted adverse health effects of the development caused by shadow flicker.

11.1.4 Guidance on shadow flicker states that properties within a radius of 10 times[27] the rotor diameter centred on the turbine may be affected by shadow flicker. Based on the 136m rotor diameter of the candidate turbine, The Applicant has carried out modelling of the potential shadow flicker using a study radius of 1,360m. Industry standard Resoft Windfarm® software has been utilised for this analysis. Planning guidance on shadow flicker recommends that effects of shadow flicker at a given property should not exceed 30 minutes a day or 30 hours a year.

11.2 Assessment

11.2.1 The Vestas-136 wind turbine model has a rotor diameter of 136m. From this measurement a 1,360m study area has been set out. The potential shadow flicker effects beyond this distance can be considered negligible.

[27]https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/48052/1416-update-uk-shadow-flicker-evidence-base.pdf

11.2.2 In total, 24 properties were identified within the study area, a summary of the shadow flicker modelling can be found in the full report. Properties which are predicted to potentially experience shadow flicker effects for over 30 minutes a day or over 30 hours a year are marked. As standard practice dictates, it has been assumed that each house within the study area has a window of 1m x 1m, located at the nearest point of the house to the turbine. It is assumed that each window is positioned at a height-to-centre of 2m above ground level, directly facing the proposed wind turbine. These assumptions ensure that the modelling reflects the worst-case scenario.

11.2.3 A total of 21 out of the 24 properties were identified to theoretically experience shadow flicker in excess of 30 hours per year or for over 30 minutes a day. The full set of results, the graphical output of shadow flicker events for all houses and a map showing the modelled properties can be found within the full report.

11.2.4 It is important to note that all shadow flicker values produced by the analysis represent theoretical figures of shadow impact. The modelling calculations assume perfect weather conditions that would introduce shadow flicker (e.g., no cloud cover, wind speed and direction, mist, and fog). The modelling assumes no screening by trees or hedges and walls are present, which are expected to greatly reduce potential shadow flicker effects. Furthermore, some of the affected dwellings may not have windows facing the development and any affected windows may well be rooms that are not generally in use at times when adverse effects may occur.

11.3 Mitigation

11.3.1 Minimising any potential effects of shadow flicker on neighbouring properties has been considered in the positioning of the turbines, by maximising the distance of the proposed turbines from the existing properties. Notwithstanding this, monitoring and mitigating measures will be put in place to address any potential shadow flicker impacts that may arise.

11.3.2 The Applicant has conducted a desktop study which indicates that clusters of vegetation present in the vicinity of the affected properties could provide additional screening to limit the potential of shadow flicker occurring. Similarly, topographic screening may also provide some relief from potential shadow flicker effects in these locations. For detailed timings of each

shadow flicker event from each turbine on the individual houses considered please see the complete report.

11.3.3 Shadow flicker software will be installed into the turbines, on commissioning, to ensure that all impacts could be eliminated throughout the turbine's operational lifetime. The programme will ensure that individual turbines are able to be curtailed (switched off) during periods where the conditions are optimal for introducing shadow flicker. The programme can be initiated at any time during the operational life of the proposed wind turbines.

11.3.4 Further mitigation may include the planting of additional trees at the affected dwellings to generate more screening.

11.4 Conclusion

11.4.1 Shadow flicker modelling of the houses within 1,360m of the wind turbines has shown that under perfect weather conditions 24 properties may experience shadow flicker and 21 of these could theoretically experience shadow flicker over thresholds.

11.4.2 However, the presence of screening features within 1,360m of the proposed development may reduce the occurrence of shadow flicker.

11.4.3 The proposed turbines will have built in software that will allow for the turbines to shut down immediately if a valid complaint from an impacted receptor is received, effectively nullifying any shadow flicker.

12.0 Transport

12.1 Introduction

12.1.1 The Applicant have prepared a Construction Transport Management Plan (CTMP), which outlines the process and associated impacts of the construction of the proposed development. The only significant impacts result from the movement of Heavy Goods Vehicles (HGVs) during the transport phase of the wind turbines. As such, the impact associated with the transport and construction of the proposed development is expected to be modest in scale and duration.

12.1.2 Although the assessment identifies the route to be used, every local Council, Highway, and Police authority will be consulted regarding the proposed route prior to the delivery of the wind turbines.

12.1.3 The CTMP was amended in August 2025 inline with the proposed modification. The full report can now be round appended to the formal modification request separate from this ES.

12.2 Summary

12.2.1 The wind turbine components and ancillary construction plant will be transported by road using the strategic and local highway network. Whilst the exact details of the route along the strategic network have not yet been finalised, it is likely that the route will utilise a number of different A roads and the site entrance will be via a modified junction near Trevilledor Cross. The indicative transport route is shown in **Figure 2** of the CTMP.

12.2.2 The route will begin by exiting Avonmouth Dock onto King Road, then taking the second exit at the St Andrews roundabout onto Crawley Way. The route will continue along Crawley Way for 0.35km, reaching the St Brendan's Roundabout, taking the second exit, and continuing west for 0.78km. The route will then take the M5 slip lane and head south on the M5. The route continues along the M5 for 120km.

12.2.3 The route will take Junction 31 of the M5 onto the A30 and continue along the A30 for 119km, after which the route will take the A39/B3279 slip, taking the 3rd exit onto the A39. The route continues along the A39 for 8.4km, and during this section of the route three roundabouts are identified – the following exits will be taken at each roundabout:

- First roundabout (Halloon roundabout) – 4th exit
- Second roundabout (Trekenning roundabout) – 3rd exit
- Third roundabout (Winnard's Perch roundabout) – 1st exit

12.2.4 Upon exiting the third roundabout, the route joins the B3274 for 3.4km before turning left off the B3274 onto an unnamed road signed for Music Water Theme Park. The route continues along this road for 1.9km, then turns left travelling south for 0.65km before turning into the Bears Down Wind Farm access junction.

12.2.5 Sections of the main highways may require the use of the full width of the carriageway for long loads, hence such loads would require a police escort. Multiple street furnishings along the route will need to be removed, however this will be temporary and restored back to its original state after the delivery of the components.

12.2.6 For the installation of the proposed wind turbines, there will be an approximate total number of 112 HGV movements for the main components and 3,902 normal construction vehicle movements.

12.3 Conclusion

12.3.1 Due to the scale and duration of the proposal, the potential impact of the HGV traffic associated with the proposed wind turbine construction on the local road network and road users should be minimal. All removal of street furniture will be temporary and fully reinstated following installation.

12.3.2 For the installation of the proposed wind turbines, there will be a total number of 112 HGV movements for the main components to the site and an additional 3,902 movement related to site materials.

12.3.3 It is recognised that the delivery of the turbine components will require careful thought and planning. Additionally, each HGV movement will be pre-planned with notifications sent to every local Council, Highway, and Police authority according to the requirements of the Abnormal Indivisible Loads – Roads Vehicles (Authorisation of Special Types) (General) Order 2003.

13.0 Public Consultation

13.1 Introduction

13.1.1 This chapter outlines how CE completed a Pre-Application Consultation as part of the planning process for the re-powering of sixteen wind turbines with five wind turbines at Bears Down Wind Farm, Trevilledor Cross, Newquay, TR8 4HQ.

13.1.2 The Applicant acknowledges the importance of considering the views of the local community prior to submitting a planning application. During the planning process, the Applicant has been in consultation with Cornwall Council, as well as residents who live within close proximity to the site. The consultation process enabled the Applicant to consider feedback from residents and the Local Planning Authority (LPA) during the design process of the proposed development – which helped inform a design that aims to minimise impact to surrounding sensitive receptors.

13.1.3 The public consultation event was held on Wednesday 29th November 2023 at St Eval Community Centre, Orion Drive, St Eval, PL27 7TT. The aims of the public consultation meeting were to:

- Provide members of the community information about the proposal;
- Measure support and opposition to the proposed wind turbine development; and,
- Receive feedback from the local community in relation to the proposal.

13.2 The Consultation Process

13.2.1 An open public consultation event was held on Wednesday 29th November 2023, between 3pm and 7pm at St Eval Community Centre.

13.2.2 To ensure that the local community were notified of the public consultation event, a total of 525 letters of invitation were mailed out to residents within 1.5km of the proposed development location.

13.2.3 Additionally, the event was advertised in the Newquay Voice Newspaper, both in print and online. Adverts were published on the 15th of November, with the online adverts remaining live for 21 days following the publication. The advertisements can be found in the Public Consultation Report in **Appendix P**.

13.2.4 A dedicated web page was established[28], where the full suite of supporting reports were available for review. An email address for the project was set up to allow residents to make enquiries and to schedule bookings for the public consultation event.

13.2.5 Letters of notification and invitation to the public consultation event were mailed to the local Parish Councils in the vicinity of the proposed development. The following Parish Councils were notified:

- St Column
- St Ervan
- St Eval
- St Issey
- St Mawgan

13.2.6 Follow up emails were sent to each Parish Council and an email of notification and an invitation to the public consultation event sent to the LPA following the letter maildrop.

13.2.7 Through the public consultation event the Applicant aimed to communicate the details of the proposed development to members of the local community. The event provided an opportunity for residents to seek clarity and to discuss their views on the proposal. Attendees to the public consultation event were encouraged to register their attendance on entrance to the event and to complete a feedback questionnaire on exit. An online questionnaire was also available to complete for 21 days following the public consultation event, allowing the Applicant to collate and consider all feedback on the proposed development.

13.2.8 The exhibition included a range of displays a well as the suite of reports required for the planning application. The following materials were available to view:

- Proposed wind farm location plan;
- Proposed site layout plan;
- Proposed wind turbine elevation plan;
- Proposal details and general information sheets on the planning process and wind energy;
- Proposed community benefit information;
- Photomontages of the proposed wind turbines from key receptors and residential properties;

[28] https://cleanearthenergy.com/projects/BearsDown/

- Zone of theoretical visibility maps for the proposal;
- Draft technical documents to be submitted with the planning application, including assessments of landscape and visual impacts, residential visual amenity impacts, and ecological impacts;
- The draft Environmental Statement, including an outline of the European, English, and local policy supporting the proposal; and
- The key criteria to satisfy in the planning process.

13.3 Outcomes of Consultation

Attendance

13.3.1 During the public consultation event, 20 people/groups registered their attendance using the sign-in sheet provided. Some attendees did not register their attendance; therefore, the total number of attendees is not captured. A redacted copy of the sign-in sheet can be seen in **Appendix L.**

Feedback Questionnaires

13.3.2 All attendees were encouraged to fill out a feedback questionnaire, designed to monitor attitudes toward the proposal and to give members of the community a chance to communicate their thoughts about the proposal. In total, 13 questionnaires were completed and returned during the public consultation event, and a further two were submitted online following the event. The completed questionnaires can be viewed in **Appendix L.**

Measuring Views on the Proposal

13.3.3 Ten of the respondents registered their support of the proposed wind farm, while three of the respondents registered a neutral response toward the development. Fourteen respondents agreed or strongly agreed with the use of wind energy to support Government targets.

13.3.4 One of the respondents registered opposition to the proposed development. One of the respondents did not voice their opinions of the proposed development.

13.3.5 Generally, the responses show support of renewable energy, (in particular energy generated by wind turbines). Additionally, the majority of respondents agree that the proposed site is an acceptable location for wind turbines development.

Addressing Concerns

Visual Impacts and Residential Amenity

13.3.6 Comments were received during the consultation phase, expressing concern about the size of the proposed wind turbines in comparison to the existing, operational turbines on site. The proposed scale of the development is acknowledged to be more significant than the existing turbines on site – an increase to 150m in height is proposed. The change in scale allows for an estimated generation which is 3.5 times greater than the current generation produced. Generally, the trade-off between the size and number of turbines was well received by the public given the generation benefits.

13.3.7 Residents with landscape and visual queries were directed to the LVIA display boards representing views from various locations. The display boards presented images of existing views alongside photomontages depicting the proposed view of the development, where the existing turbines are edited out and the proposed turbines are rendered in. This aided the visualisation of the height of the proposed turbines. Please see Appendix E for photographs of the displays. It was explained that the viewpoints were specifically chosen by the independent landscape consultant completing the LVIA, to represent potential views of the proposal from a range of locations.

Operational Wind Turbine Noise

13.3.8 Concerns were expressed regarding the noise generated by the proposed wind turbines. Attendees were guided towards the noise contour maps displayed at the event, alongside a copy of the noise report that was created by an independent noise consultant. It was clarified that all predicted noise levels account for the worst-case scenario, constituting the highest predicted wind levels. In summary, noise levels from the proposed development will not exceed established noise limits and therefore would be compliant with ETSU-R-97 guidance and in alignment with discussions with the LPA. It was explained that with less turbines and a slower rotation speed, although being taller the noise generated would remain consistent if not lower for some properties.

Shadow Flicker

13.3.9 There were concerns expressed during the event about the potential effects of shadow flicker from the proposed wind turbines – including feedback that residents in the locality experience

shadow flicker by virtue of existing operational wind turbines. Residents were informed that a shadow flicker programme will be installed within the wind turbines on commissioning, ensuring that any unacceptable shadow flicker effects can be eliminated by curtailing, or 'switching off' the wind turbines during periods of optimum conditions for shadow flicker.

13.3.10 It was also clarified that the results of the shadow flicker modelling presented in the Shadow Flicker Assessment (**Chapter 11** and **Appendix J** of the Environmental Statement) represents a theoretical worst-case scenario, which assumes consistently sunny conditions and does not account for intermittent screening features such as buildings or vegetation.

Impact on Local Business

13.3.11 While not directly addressed during the Public Consultation Event due to the issue not being raised at the time, one of the online questionnaire responses raised concerns regarding the impact of the proposed development on local businesses. The Socioeconomic Report addresses these issues, concluding that due to careful siting of the turbines in an area that is within close proximity to other wind developments, and the nature of the development as a repowering that will result in an overall reduction in the number of turbines, the proposed development will reduce visual clutter while significantly increasing the amount of renewable electricity generated from the site.

13.3.12 The proposal was also assessed as having an overall positive socio-economic impact on the local area. The wind turbines represent a significant additional source of revenue for local businesses within the construction industry which will ripple into other local businesses in the wider community. In addition to the Community Benefit Fund and payments to landowners directly involved in the project, the Applicant's headquarters in Wadebridge will contribute to local employment and raising the profile of industrial and technology companies in Cornwall. Furthermore, provision of a community benefit fund throughout the full term of the development will aid in the growth or maintenance of much needed community projects.

13.4 Conclusion

13.4.1 A comprehensive public consultation process has been followed with this planning application.

13.4.2 Every effort was made prior to the public consultation event to notify members of the community about the event which took place on Wednesday 29th November 2023. All residents within a 1km radius of the proposed site location were notified of the event. In addition, adverts were placed in the Newquay Voice Newspaper, which remained available to view online 21 days after being published.

13.4.3 In total, 20 individuals registered their attendance to the public consultation, and 13 completed a feedback questionnaire. One additional completed feedback questionnaire was received online after the event. An unknown number of additional attendees did not register their attendance or complete a questionnaire.

13.4.4 The results of the 15 completed feedback forms show that ten respondents supported the proposal, three were neutral, one did not state an opinion, and one objected. One respondent did not fill in this section of the questionnaire but did leave feedback comments. The main feedback concerned the noise, shadow flicker, visual intrusion and perceived height. These concerns were addressed during the public consultation event by referring to the LVIA and other reports, visualisations, and conclusions.

13.4.5 In conclusion, the majority of attendees were in support of renewable energy generation and agreed with the use of wind energy as a means to achieve and support government targets of renewable energy generation. Consideration has been given to the feedback received during the consultation process whilst finalising the planning application.

13.4.6 The project web page and project specific email address will remain live throughout the planning process, providing local residents stakeholders, and consultees with a space to continue to ask questions about the proposed development, should any arise.

13.4.7 In August 2025, the Applicant completed additional public consultation regarding the modification to the proposed development. Local residents were informed of the modification through a letter drop, and publication of materials through the Cornwall Council planning portal. Furthermore, the Applicant informed all relevant parish councils, and intends to attend upcoming council meetings to present the revised proposal and respond to questions from members.

14.0 Socioeconomic

14.1 Introduction

14.1.1 A socioeconomic assessment has been undertaken by CE to understand the effect that the proposed repowering scheme on Land at Bears Down could have on the local communities, economy, and the tourism industry. A study area of 10km surrounding the Site has been used to assess potential effects of the proposal.

14.1.2 The following information was collated at the time of original submission, in December 2023, and reflects the socioeconomic context of the proposed development at that time.

14.2 Baseline Assessment

14.2.1 There are no prescribed standard criteria for assessing the socioeconomic effects of developments within the UK. There are however many studies available to review the potential socioeconomic impact of renewable energy which particularly focuses on wind turbine development. The assessment is based on a local review estimating the potential socioeconomic impacts to employment and business.

14.2.2 The site occupies an existing wind farm and lies within an agricultural setting in Cornwall. Although there are hamlets and villages within the area, there are no major cities within its vicinity, the nearest city being Truro located approximately 23km to the South-West of the proposed development. The nearest town is St Columb Major, situated 4.5km to the South of the proposed development. Located in mid-Cornwall, St Columb Major was granted Market Town status by the Royal Charter in 1333 and contains notable buildings such as a 15th Century Church[29]. A notable archaeological site known as Castle-an-Dinas, an Iron Age hillfort that is considered one of the most important hillforts in the southwest of Britain, is present at the summit of the nearby Castle Downs.

14.2.3 Farming and agricultural activities are common within the vicinity of the proposal, making up the main land use throughout the area. There are a variety of tourist attractions within Cornwall,

[29] http://www.edyveanprinters.co.uk/stcolumb.html#:~:text=In%20the%202nd%20Century%20B.C.%20the%20Dumnonia%20Tribe,and%20founded%20present%20day%20St.%20Columb.%20Market%20Town

the majority of which are located near or along the coastline, such as Padstow Sealife Safaris, the Trevose Headland Nature Reserve, and many popular beaches.

14.2.4 According to the Office for National Statistics, Cornwall had a resident population of 568,210 in 2022[30]. The nearest settlement of St Eval had a population of 895 while the nearest town St Columb Major had a population of 3,661 according to the 2021 census[31], as shown in **Table 18.**

Table 17: *Population Figures 2021*

Area	**Total resident population (all ages)**
St Eval	895
St Columb Major	3,661
Cornwall	568,210
England	3,107,500[32]

14.2.5 Employment data was provided from the 2021 NOMIS TS060 – Industry Census for Cornwall[33].

Table 18: *Employment Figures for Cornwall 2021(% is a proportion of total)*

Job Type	**Cornwall %**
A: Agriculture, Forestry And Fishing	2.8
B: Mining and Quarrying	0.5
C: Manufacturing	6.4
D: Electricity, Gas, Steam And Air Conditioning Supply	0.4
E: Water Supply; Sewerage, Waste Management And Remediation Activities	0.8
F: Construction	10.7
G: Wholesale And Retail Trade; Repair Of Motor Vehicles And Motorcycles	15.9
H: Transportation And Storage	3.5
I: Accommodation And Food Service Activities	8.6
J: Information And Communication	2.3
K: Financial And Insurance Activities	1.2

[30] https://populationdata.org.uk/cornwall-population/
[31] https://www.citypopulation.de/en/uk/southwestengland/cornwall/E63006899__st_columb_major/
[32] https://census.gov.uk/census-2021-results/phase-one-first-results
[33] https://www.nomisweb.co.uk/query/construct/components/simpleapicomponent.aspx?menuopt=20770&subcomp=

L: Real Estate Activities	1.6
M: Professional, Scientific And Technical Activities	5.1
N: Administrative And Support Service Activities	5
O: Public Administration And Defence; Compulsory Social Security	5.5
P: Education	9.1
Q: Human Health And Social Work Activities	15.7
R: Arts, Entertainment, Recreation and Other Service Activities	2.2
S: Other Service Activities	1.6

14.2.6 Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles contributes to 15.9% of the total employment in Cornwall and is the largest employment category in the County. Construction and Manufacturing categories contribute to 13% of the total employment: the proposal will contribute to these industries and The Applicant will endeavour to employ local businesses and contractors for onsite construction and general support activities. In addition to this, The Applicant, CE, is already a local business based in Cornwall that employs locally.

14.2.7 In 2010 employment in the UK's large scale onshore wind industry was estimated to be 6,000 direct and full-time equivalent (FTE) employees[34]. According to the ONS, this number was estimated to be 4,400 in 2019[35], a drop likely attributable to the change in legislation following the release of the 2015 Ministerial Statement on Onshore Wind which significantly limited the possibilities for onshore wind development in England. Due to its scale and location, the proposed development has the potential to substantially increase employment in this sector and provide particular benefit to the local economy. In addition to providing Community Benefit Funds, such as those provided by the Denzell Downs Community Fund[36], wind farm developments can also provide positive economic impact due to those staying, working and eating in the area while construction work is ongoing. Despite the drop in employment in the sector, CE have continued to grow and support the local economy through well paid, high-skill jobs within this industry and here in Cornwall. The project would be a valuable part of CE's portfolio and would include many contractors ranging from gardeners to electricians and technicians. These would be involved in construction aspects such as services (consultancy, planning advice and project management), construction (roads, access, fences, foundation,

[34] 'Working for a Green Britain, Employment and Skills in the UK Wind & Marine Industries' (2011)
[35] https://www.ons.gov.uk/economy/environmentalaccounts/articles/windenergyintheuk/june2021.
[36] https://grantscape.org.uk/fund/denzell-downs-community-fund/

etc.), civil and electrical engineering and improvements to cabling (throughout the site and to the grid point of connection). Post-construction, there will be a need for ongoing operational and maintenance activities for the next 35 years, providing further consistent employment.

14.2.8 Powering Up Britain[37] addresses national priorities such as energy security and net zero. It aims to achieve this in the most pro-growth, pro-business way, noting that the energy transition is one of the greatest economic opportunities for this country. The plan states the following:

'Between 1990 and 2021, we have cut our emissions by 48%, decarbonising faster than any other G7 country, whilst growing the economy by 65%. We are already in the top three countries within Europe over the past 5 years for clean energy investment in a transition that will see an opportunity worth £1 trillion for British businesses in low carbon products and services by 2030.'

14.2.9 The proposed development is in line with the stated national priorities within the Net Zero Growth Plan, providing an increase in generated power from the existing development in a manner that contributes towards both energy security and the path towards net zero in a way that will benefit the British economy, in addition to Cornwall's ambition to be Net Zero by 2030.

14.2.10 ScottishPower Renewables (SPR) commissioned BVG Associates (BVGA) to assess the economic impact of eight of their onshore wind farms on the UK, Scottish and local economy. The eight projects were commissioned between 2016 and 2017[38]. The report found that the economic impact over the lifetime of the eight projects included £1,276 million gross value-added in the UK, with £297 million local value-added. This report also estimated that 31,118 UK full-time equivalent years of employment (FTE) will be created over the lifetime of these projects. Of these 7,768 will be local FTE years[39]. This is clear evidence that wind turbine projects can have a real and significant economic benefit on the local and national economy.

14.3 Recreational and Tourist Activity

14.3.1 The Cornwall Local Plan: Strategic Policies (2010 – 2030)[40] notes that the quality of Cornwall's landscapes, seascapes, towns, and cultural heritage enable tourism to play a major part in

[37] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1147340/powering-up-britain-joint-overview.pdf
[38] https://bvgassociates.com/economic-benefits-onshore-wind-farms/
[39] https://bvgassociates.com/wp-content/uploads/2017/09/BVGA-18510-Economic-impact-onshore-wind-report-r3.pdf
[40] https://www.cornwall.gov.uk/media/ozhj5k0z/adopted-local-plan-strategic-policies-2016.pdf

Cornwall's economic, social, and environmental wellbeing. Employment figures within the tourism sector are estimated at 0.5%[41]. An assessment has been completed to identify the main tourist attractions within 10km of the site, impacts over this distance from the site are not expected. This has determined a range of different attractions, including Nature Reserves, Recreation, Theme Parks, Historical and Horticultural.

14.4 Economic Impacts

14.4.1 The proposed development will generate several economic benefits. CE commits to sharing a portion of the revenue with the wider local community, through the setup of a local community fund. Community fund money from similar projects has previously been used for the construction or restoration of important community projects or for improvements to local amenities which do not have access to public funds.

14.4.2 CE endeavours to hire local businesses within the construction phase of the development, which brings in a significant number of manhour tasks and creates new jobs. This in turn indirectly benefits third party suppliers, such as accommodation providers and local businesses where employees are likely to spend money on subsistence while the development, construction, and operational works are underway.

14.4.3 The cost of planning and infrastructure associated with the proposed scheme is estimated to be over £6,304,169. Based on the construction aspects such as services (consultancy, planning advice and project management), construction (roads, access, fences, foundation, etc.), civil and electrical engineering and improvements to cabling (throughout the site and to the grid point of connection), a portion of this money will be fed into local businesses who are contracted to complete these works. There will also be a further benefit to the local economy through operational costs involved in maintaining the proposed development throughout its 35-year lifespan.

14.4.4 After construction has been completed and the wind farm begins generating electricity, the landowners directly involved in the project will benefit from their investment in the project from rental payments. Combined with other expenses, the proposed development represents a substantial long-term investment for the local area. In particular, the Community Benefit Fund

[41] https://www.ons.gov.uk/census/maps/choropleth/work/industry-current/industry-current-88a/79-travel-agency-tour-operator-and-other-reservation-service-and-related-activities?ltla=E06000052&lad=E06000052

will involve a percentage of wind farm income being distributed through community through an independent group.

14.4.5 CE, while operational across the whole of the mainland UK, have had a strong presence in Cornwall since being founded in 2010. One of the UK's leading renewable energy companies, its headquarters remains in Wadebridge, contributing to local employment and raising the profile of industrial and technology companies in Cornwall. Having completed over 30 wind turbine developments, installed over 500 solar PV systems, and providing full Operation and Maintenance at a number of large scale solar farms and over 90 rooftop installations, CE maintains employment and helps to grow the renewables sector.

14.5 Social Impacts

14.5.1 The proposed development will generate enough electricity to power approximately 14,000 Cornwall homes annually, while offsetting approximately 595,000 metric tonnes of carbon over the 35-year operational lifetime of the proposal, providing significant social and socio-environmental benefits to the community. The community benefit fund has the potential to bring notable social benefits if applied to the improvement of important local amenities for which public funding is not available. As an existing example, St Ervan Parish Council notes that the current Bears Down community fund has supported a number of local organisations including Cornwall Air Ambulance Trust[42].

14.5.2 The main concerns related to wind turbine developments often relate to the potential impacts on the wider community from noise, shadow flicker, and landscape and visual amenity disturbance. These potential impacts have been considered, quantified, and assessed individually by independent consultants and CE. The results can be found in the respective technical chapters of this Environmental Statement. -As noted in the LVIA, the proposal avoids and does not have a direct impact on any designated landscapes, is set within a landscape already influenced by wind energy schemes with the ability to accommodate change without detriment to its landscape character or views and is positioned within a landscape that has the capacity to accept wind energy development based on Cornwall Council's landscape sensitivity assessment. The proposed development would be perceived in combination and adjacent to operational wind energy schemes, and very quickly become 'lost' within the wider

[42] https://www.stervan-pc.co.uk/Contents/ContentItems/4jp500vpn1vyyvbjn98cs83zm7

expansive undulating landscape. Overall, it would have limited impacts on landscape relevant designations, landscape character and visual amenity receptors and their views.

14.5.3 Educational visits can be another social benefit of wind turbine developments, providing opportunities to expand student's knowledge on the importance of climate change and renewable energy. Whitelee Windfarm in Scotland offers an educational program developed by Glasgow Science Centre[43], while in Cornwall the Energy Recovery Centre already offers an opportunity to learn about waste management strategies[44]. The proposed development may provide similar opportunities.

14.6 Tourism Impacts

14.6.1 Cornwall has been an early adopter of renewable energy, and there has been no conclusive evidence that it has had a negative impact on tourism. Tourism numbers have been increasing overall over time, and in the future Cornwall is likely to see more climate tourism, which will not be negatively affected by the proposed development. Cornwall has been voted the top UK holiday destination in the British Travel Awards more than 9 times in the last 15 years, providing further evidence that its position as a popular holiday destination and perception as a desirable location to visit has not been negatively impacted by turbine development.

14.6.2 Furthermore, the turbines will be seen in the context of other wind farms in the landscape, in particular their placement on a site that has been a wind farm since 1999. It is therefore concluded that the impacts of the proposal on the area are unlikely to deter visitors from enjoying the area. No significant effects are found on any other tourism or recreational destinations identified within the study area.

14.6.3 Studies suggest that the public are not likely to be deterred from visiting an area due to wind turbine presence, with 70-90% of tourists displaying neutral to positive attitudes towards onshore windfarms in UK rural landscapes[45][46][47][48]. There have been more than 60,000 additional

[43] https://www.whiteleewindfarm.co.uk/visitor-centre/what-we-offer/schools/education-programme
[44] https://suezcornwall.co.uk/community-and-education/education-activities/cornwall-energy-recovery-centre-visitor-centre/
[45] Modrue, T., Moss, O. (2020) The impacts of onshore windfarms on a UK rural tourism landscape: objective evidence, local opposition and national politics. Journal of Sustainable Tourism 20 (2): 1-23
[46] Aitchison, C. (2012). Tourism impacts of windfarms: Submitted to Renewables Inquiry Scottish Government. University of Edinburgh
[47] Regeneris Consulting and the Tourism Co. (2014). Study into the potential economic impact of windfarms and associated grid infrastructure on the Welsh tourism sector, commissioned by the Welsh government
[48] NU –Northumbria University. (2014). Evaluation of the impacts of onshore windfarms on tourism. https://www.northumberland.gov/uk/NorthumberlandCountyCouncil/media/Planning-and-

international visitors to Cornwall & Scillies in 2019 compared to 2009, showing that during the time that wind farm development has expanded, tourism has not declined overall[49]. One notable example of a wind farm as a major tourist attraction is the Whitlee Wind Farm in Eaglesham, Scotland, which a member of the Association of Scottish Visitor Attractions (ASVA) in 2012 after recording nearly 250,000 visitors since 2009[50]. Bears Down Wind Farm has been listed as a local attraction by the St Ervan Parish Council[51], suggesting that a similar appeal exists for wind farms in Cornwall. In addition, visitors are likely to support other local tourism attractions and restaurants/cafes.

14.7 Receptor Sensitivity/Value

14.7.1 Sensitivity or value relates to the importance of the community and socio-economic receptors at national, regional, and local levels. The guidelines used to determine sensitivity or value for community resources are set out in **Table 20.**

Table 19: *Definitions of Sensitivity or Value*

Sensitivity	Typical Descriptors
Very High	Very high importance and rarity, international scale, and very limited potential for substitution.
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	High or medium importance and rarity, regional scale, limited potential for substitution
Low	Low or medium importance and rarity, local scale
Medium	Very low importance and rarity, local scale

14.8 Magnitude of Impact

14.8.1 Guidelines used to determine the magnitude of change on each receptor are shown in **Table 21**.

Table 20: *Guidelines for Magnitude of Change on Receptors*

Magnitude	Typical Descriptors
High	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features, or elements (Adverse).
	Large scale or major improvement of resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial).
Medium	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features, or elements (Adverse).

Building/planning%20policy/Core%20strategy/Evidence%20based/EB14-Evaluation-of-the-impacts-of-onshore-wind-farms-on-tourism.pdf

[49] https://www.visitbritain.org/inbound-trends-uk-nation-region-county?area=1730

[50] https://www.bbc.co.uk/news/uk-scotland-scotland-business-18525763

[51] https://www.stervan-pc.co.uk/Contents/ContentItems/4jp500vpn1vyyvbjn98cs83zm7

Significance	Typical Description
Substantial	Only adverse effects are normally assigned this level of significance. They represent key factors in the decision-making process. These effects are generally, but not exclusively, associated with sites or features of international, national, or regional importance that are likely to suffer a most damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category.
Major	These beneficial or adverse effects are considered to be very important considerations and are likely to be material in the decision-making process.
Moderate	These beneficial or adverse effects may be important but are not likely to be key decision-making factors. The cumulative effects of such factors may influence decision-making if they lead to an increase in the overall adverse effect on a particular resource or receptor.
Minor	These beneficial or adverse effects may be raised as local factors. They are unlikely to be critical in the decision-making process but are important in enhancing the subsequent design of the project.
Negligible	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.
	Benefit to, or addition of, key characteristics, features, or elements; improvement of attribute quality (Beneficial).
Low	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements (Adverse).
	Minor benefit to, or addition of, one (maybe more) key characteristics, features, or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial).
Negligible	Very minor loss or detrimental alteration to one or more characteristics, features, or elements (Adverse).
	Very minor benefit to or positive addition of one or more characteristics, features, or elements (Beneficial).
No Change	No loss or alteration of characteristics, features, or elements; no observable impact in either direction.

14.9 Significance Of Effects

14.9.1 Likely effects on socio-economic receptors have been described with regard to the sensitivity /value of the resource and predicted magnitude of the impact. Significance has been evaluated using **Table 22** below.

Table 21: *Significance based on Sensitivity vs Magnitude of Impact*

Sensitivity	Magnitude of Impact				
	No Change	**Negligible**	**Low**	**Medium**	**High**
Negligible	No Change	Negligible	Negligible or Minor	Negligible or Minor	Minor
Low	No Change	Negligible or Minor	Negligible or Minor	Minor	Minor or Moderate
Medium	No Change	Negligible or Minor	Minor	Moderate	Moderate or Major
High	No Change	Minor	Minor or Moderate	Moderate or Major	Major or Substantial
Very High	No Change	Minor	Moderate or Major	Major or Substantial	Substantial

14.9.2 The summary of likely socio-economic effects is presented in **Table 22**.

Table 22: *Summary of Likely Environmental Effects on Socioeconomics*

Receptor	*Sensitivity of Receptor*	*Description of Impact*	*Short/ Medium/ Long Term*	*Magnitude of Impact*	*Significance of effect*	*Significant / Not Significant*
Construction Phase						
Employment – direct	Medium	Job creation	Medium term	Medium	Moderate	Significant (local) Significant (regional)
Employment – indirect	Medium	Job creation	Medium term	Medium	Moderate	Significant (local) Significant (regional)
Operational Phase						
Employment – direct	Medium	Job creation	Long term	Low	Minor	Not significant
Employment - indirect	Medium	Job creation	Long term	Medium	Moderate	Significant
Demographic profile and community effects	Low	No change of profile	Long Term	No change	No change	Not significant
Tourism effects	Low	Additional attraction	Long Term	No change	No Change	Not significant

14.10 Conclusions

14.10.1 Due to careful siting of the turbines in an area that is within close proximity to other wind developments, and the nature of the development as a repowering that will result in an overall reduction in the number of turbines, the proposed development will reduce visual clutter while significantly increasing the amount of renewable electricity generated from the site.

14.10.2 The proposal has been assessed as having an overall positive socio-economic impact on the local area. The wind turbines represent a significant additional source of revenue for local businesses within the construction industry which will ripple into other local businesses in the wider community. In addition to the Community Benefit Fund and payments to landowners directly involved in the project, The Applicants headquarters in Wadebridge will contribute to local employment and raising the profile of industrial and technology companies in Cornwall. Furthermore, provision of a community benefit fund throughout the full term of the development will aid in the growth or maintenance of much needed community projects.

14.10.3 Individual reports have been conducted to assess noise, shadow flicker, visual and heritage impacts on the local area, and are further discussed in **Appendix G, J, D and F respectively.**

15.0 Conclusion

16.0.1 This Environmental Statement has addressed a wide range of potential effects from the proposed Repowering of Bears Down Wind Farm and demonstrates that the proposed repowering development:

- Is in line with national guidance and is supported by natural, regional, and local policy on renewable energy and sustainable development;
- Will have limited impacts on landscape relevant designations, landscape character and visual amenity receptors and their views;
- Will not have significant impact any habitat or species of nature conservation importance;
- Will have minor adverse impacts on heritage assets and their settings;
- Will meet the noise criteria given in ETSU-R-97;
- Will not adversely impact Flood Risk, hydrology, hydrogeology with the application of the appropriate mitigation measures;
- Will not produce unacceptable levels of shadow flicker on the residents of the properties located in proximity to the proposal thanks to mitigation measures;
- Will not have a significant impact on transportation networks; and
- Will have positive effects on the local community in the form of a community benefit fund, collaborative benefit, and the opportunity to provide jobs, particularly in the construction employment sector. This proposal is not expected to affect tourism within the local area.

16.0.2 This Environmental Impact Statement has not established any exceptional circumstances that outweigh the legislation and planning policy relevant to this renewable energy development.

16.0.3 The proposed landscape area (CA18) is deemed suitable to accommodate Band D turbine developments up to 150m to tip, with 'moderate' sensitivity. The applicant predicts the proposal will generate over 70GWh annually, contributing a significant amount to Cornwall Council's overarching aim of becoming a carbon neutral county by 2030. This proposal is also estimated to save over 595,000 tonnes of carbon during its operational lifetime of 35 years.

16.0.4 Therefore, this planning application for the Repowering of Bears Down Wind Farm should be granted planning permission, allowing the development to contribute to national and local targets to produce renewable energy and contribute to the security of the UK's energy market.

16.0.5 In August 2025, the Applicant modified the proposed development to reduce the scale from five wind turbines to four. The modification represents a balanced and carefully considered response to technical assessments and community feedback received during the planning process.

16.0.6 The revised proposed results in an improvement to- and reduction of – landscape, visual and noise impacts associated with the scheme. The modified scheme continues to make a significant contribution to Cornwalls's renewable energy targets, with a substantial increase in clean energy generation associated with the existing site.

16.0 List of Appendices

Appendix A

EIA Screening Opinion

Appendix B

PR3765-IFP-LP-E

PR3765-IFP-BP-001-E

PR3765-IFP-BP-002-E

PR3765-IFP-BP-003-E

PR3765-IFP-BP-004-E

PR3765-IFP-BP-005-E

PR3765-IFP-BP-006-A

PR3765-IFP-VIS-B

PR3765-IFP-ENTP-E

PR3765-IFP-Substation Elevation -A

Appendix C

Turbine Elevation

Appendix D

LVIA Report

LVIA Figures 1-11

LVIA Viewpoints 12A-E-26A-E

Appendix E

Ecological Impact Assessment

Ornithology Technical Report

Ornithology Appendix

Bat Technical Report

BNG Report

Tree Canopy Statement

Appendix F

HIA Report

Appendix G

Noise Report

Appendix Annex 1-Figure A1.1a

Appendix Annex 1-Figures A1.2a-k

Appendix Annex 1-Figures A1.3a-k

Appendix Annex 4 Total Limits Used

Appendix Annex 4-Figures A4.1a-k

Appendix Annex2 – Turbine Data WT Coords and Topo

Appendix Annex3-16087-BD Choice fixed minimum day

Appendix H

J-3131 Bears Downs Turbines FRA

Appendix I

EMI and MoD Responses

Appendix J

Shadow Flicker Assessment Report

Appendix K

Construction Transport Management Plan (CTMP)

Abnormal Indivisible Load Route Survey

Appendix L

Public Consultation Report

Appendix M

CBR Report

Appendix N

Green Infrastructure Statement

Purchase Options

Copies of this Environmental Statement can be purchased direct from Clean Earth from the address provided below, email (bearsdown@cleanearthenergy.com) or phone (01208895576) for £100 (printed) or £20 (digital).

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