

8 CULTURAL HERITAGE

8.1 Introduction

- 8.1.1 This chapter discusses the Cultural Heritage of the proposed Mynydd Maen Wind Farm, hereafter referred to as the ‘proposed wind farm’, and its surroundings. Cultural Heritage comprises all elements of the historic environment, including archaeology, built heritage and the history of the area.
- 8.1.2 The chapter has been informed by a detailed historic environment desk-based assessment which considers designated assets including scheduled monuments, listed buildings, conservation areas, registered historic parks and gardens, registered battlefields and World Heritage sites. It also considers non-designated archaeological and historic assets recorded on the Glamorgan Gwent Historic Environment Record and the National Monuments Record of Wales.
- 8.1.3 The scope of this assessment was to consider if the proposed wind farm would result in any significant effects to designated and non-designated historic assets within and beyond the Site. It also considered the archaeological potential of the area in question, highlighting any areas of known or suspected archaeological potential and if the proposed wind farm would result in any significant effects to any buried archaeological deposits.

8.2 Statutory and planning context

- 8.2.1 The following Table 8.1 summarises the statutory and planning/policy context (national/regional/local) for assessment work relating to the historic environment in Wales.

Table 8.1 Legislation, Policy and Guidance

Document	Summary
Legislation	
Ancient Monuments and Archaeological Areas Act 1979	Previously the primary legislation for protecting archaeological remains and Scheduled Ancient Monuments in Wales.
Planning (Listed Buildings and Conservation Areas) Act 1990	Previously the primary legislation for protecting listed buildings and Conservation Areas in Wales.
Historic Environment (Wales) Act 2016 (amended 2023)	The 2016 Act (amended in 2023) consolidates the Ancient Monuments and Archaeological Areas Act 1979 and also the Planning (Listed Buildings and Conservation Areas) Act 1990. It is supported by a number of planning guidance documents, a number of which are still in preparation. The Act most specifically provides better safeguards for the protection of Scheduled Monuments, Listed Buildings and Historic Parks and Gardens. It will also include further guidance on place names.
Planning Policy	
Planning Policy Wales v12, rev Feb 2024	Technical Advice Note 24 ‘The Historic Environment’ was adopted on 31st May 2017 and is unaltered by the February revisions of PPW. This replaced Circular 60/96 ‘Planning and the Historic Environment and Circular 61/96 ‘Planning and the Historic Environment: Historic Buildings and Conservation Areas’. This states that ‘The purpose of this TAN is to provide guidance on how the planning system considers the historic environment during development plan preparation and decision making on planning and Listed Building (LBC) applications. This TAN provides

Document	Summary
	<p>specific guidance on how the following aspects of the historic environment should be considered:</p> <ul style="list-style-type: none"> a) World Heritage Sites b) Scheduled monuments c) Archaeological remains d) Listed buildings e) Conservation areas f) Historic parks and gardens g) Historic landscapes h) Historic assets of special local interest'
<p>Future Wales The National Plan 2040 (2021)</p>	<p>Policy 18 - Renewable and Low Carbon Energy Developments of National Significance Proposals for renewable and low carbon energy projects (including repowering) qualifying as Developments of National Significance will be permitted subject to policy 17 and the following criteria:</p> <p>....</p> <p>6. there are no unacceptable adverse impacts on statutorily protected built heritage assets;</p> <p>....</p> <p>The cumulative impacts of existing and consented renewable energy schemes should also be considered.</p>
<p>Caerphilly County Borough Local Development Plan up to 2021:</p>	<p>Policy SP6: Development proposals should contribute to creating sustainable places by having full regard to the context of the local, natural, historic and built environment and its special features ...</p>
<p>Torfaen County Borough Council Local Development Plan(to 2021): BW1 General Policy Development Proposals</p>	<p>Built Environment</p> <ul style="list-style-type: none"> i) The proposal contributes to the preservation and enhancement of the historic built environment wherever possible (including heritage assets and their settings); ii) The proposal does not detrimentally affect the character of the immediate and surrounding built environment; and iii) Where practicable, existing construction materials on the site are re-used or recycled.
<p>Torfaen County Borough Council Local Development Plan (to 2021): HE1 Buildings and Structures of Local Importance</p>	<p>Development proposals affecting buildings and structures of local importance which make a valuable contribution to the character and interest of the local area will not be permitted where the distinctive appearance, architectural integrity or their settings would be significantly adversely affected, unless the benefits of the proposal would outweigh such adverse effects.</p>
<p>Torfaen County Borough Council Local Development Plan (to 2021): HE2 Blaenavon Industrial Landscape World Heritage Site (BILWHS)</p>	<p>Development proposals within, and adjacent to the Blaenavon Industrial World Heritage Site (BIWHS) will only be permitted where it can be demonstrated that: -</p> <ul style="list-style-type: none"> a) The proposal promotes a standard of design in terms of siting, scale, massing and materials, which is sympathetic to and preserves or enhances the character of the local area and settlement form; and b) Important views into and within the BILWHS are not adversely affected by the proposals; and c) The proposal contributes to ensuring the preservation of the 'Outstanding Universal Value' of the BILWHS designation; and d) The proposal would not adversely affect the overall integrity of the BILWHS and its landscape or historic setting. <p>All development proposals within and adjacent to the World Heritage Site should be informed by the BIWHS Design Guidance and should identify how the proposals are consistent with the principles in this document.</p>
<p>Guidance</p>	

Document	Summary
Cadw planning guidance documents	<p>Conservation Principles, Cadw 2011 which includes the following six principles.</p> <ol style="list-style-type: none"> 1. Historic assets will be managed to sustain their values 2. Understanding the significance of historic assets is vital 3. The historic environment is a shared resource 4. Everyone will be able to participate in sustaining the historic environment 5. Decisions about change must be reasonable, transparent and consistent 6. Documenting and learning from decisions is essential <p>Heritage Impact Assessments in Wales, Cadw 2017 Managing Setting of Historic Assets in Wales, Cadw 2017 These notes that the setting of an historic asset includes the surroundings in which it is understood, experienced, and appreciated embracing present and past relationships to the surrounding landscape. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral. Setting is not a historic asset in its own right but has value derived from how different elements may contribute to the significance of a historic asset.</p>
Chartered Institute for Archaeologists (CIfA) guidance	<p>Standard and guidance for the preparation of Historic Environment Desk-Based Assessments, CIfA 2021 Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment, CIfA, 2021 Code of conduct: professional ethics in archaeology, CIfA 2021 Regulations for Professional Conduct, CIfA 2021</p>
Welsh Archaeological Trusts	<p>Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs), Welsh Archaeological Trusts July 2018 (reviewed 2019 and updated 2022)</p>

8.3 Consultation

8.3.1 During the preparation of this Chapter, Glamorgan Gwent Archaeological Trust (GGAT)¹ were consulted on the scope of the assessment and the methodologies to be used. This included the preparation of an archaeological written scheme of investigation to detail the methodology of the assessment. This was agreed with GGAT prior to the assessment process.

8.3.2 Consultation with Cadw has not been undertaken as the proposals will not directly affect any designated historic environment assets, nor will it affect any Registered Historic Landscapes. The methodology used for the assessment follows guidelines used in similar projects where Cadw have been consulted.

8.4 Assessment Methodology

The Historic Environment

8.4.1 For the purposes of Planning Policy in Wales TAN 24 - The Historic Environment, the historic environment is defined as: 'All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past

¹ In April 2024 GGAT became Glamorgan Gwent Archaeology, part of Heneb: The Trust for Welsh Archaeology

human activity, whether visible, buried or submerged, and deliberately planted or managed' (para 1.7, Welsh Government 2017).

- 8.4.2 A historic asset is: 'An identifiable component of the historic environment. It may consist or be a combination of an archaeological site, a historic building or area, historic park and garden or a parcel of historic landscape. Nationally important historic assets will normally be designated. They may constitute elements (a building, monument, site, place or area) within the wider landscape and may include small components of the wider landscape, such as houses or barns, but may also include larger areas such as areas of parkland or subsurface archaeological deposits. Historic assets can vary widely in character and include designated sites and areas such as World Heritage Sites, conservation areas, registered parks and gardens and heritage coasts, but also places like new towns, historic orchards and canals that may be recognised for their heritage significance.'
- 8.4.3 The study area to assess designated historic assets includes the site plus a 10km buffer from its boundary.
- 8.4.4 The study area for historic assets that are not designated includes the site plus a 2km buffer from its boundary.
- 8.4.5 The assessment has included use of the following sources of information to identify historic assets within the study areas:
- The National Heritage List for Wales curated by Cadw (Figures 8.1, 8.2, 8.3 and 8.4);
 - Information held by the Glamorgan Gwent Archaeological Trust Historic Environment Record (GGAT HER) on known archaeological sites, monuments and findspots within 2km of the Site (Figures 8.5 and 8.6);
 - Information held on the National Monuments Record of Wales (NMRW) held by the Royal Commission on the Ancient and Historic Monuments of Wales (Figures 8.5 and 8.6);
 - Maps and documents held by the Glamorgan Archives and online, including Places of Wales Website available through the National Library of Wales, Blackwells Mapping for historic Ordnance Survey maps;
 - Aerial photographs held by the Central Register for Aerial Photography in Wales, NMRW and various online sources;
 - Lidar data available through the DataMap Wales website (Figures 8.7 and 8.8);
 - Information from site visits.
- 8.4.6 The criteria for assessing the sensitivity of cultural heritage assets used in this assessment are outlined in Table 1 below. These are adapted from International Council on Monuments and Sites (ICOMOS) guidance on impacts on World Heritage Properties (2010).

Settings Assessment Methodology

- 8.4.7 A settings assessment has been undertaken giving due consideration to Cadw guidance on setting as laid out in *Managing Setting of Historic Assets in Wales* and *Heritage Impact Assessment in Wales*, and similarly within the Welsh Government's *Planning Policy Wales Technical Advice Note 24: The Historic Environment*.
- 8.4.8 In simple terms, setting is defined as 'the surroundings in which a historic asset is understood, experienced and appreciated'. It therefore must be recognised from the outset that 'setting' is not a historic asset, and cannot itself be harmed. Its importance relates to the contribution it makes to the significance of the historic asset and the extent to which it allows that significance to be understood, experienced and appreciated.'
- 8.4.9 Welsh Government guidance identifies that 'change in the historic environment is inevitable', but it is only harmful when significance is damaged.
- 8.4.10 In that regard, the Cadw Conservation Principles document states that significance of a historic asset 'embraces all of the cultural heritage values that people associate with it, or which prompt them to respond to it'.

- 8.4.11 As such, when assessing the impact of proposals on designated historic assets beyond the boundary of a development site, it is not a question of whether setting would be affected, but rather a question of whether change within an asset's 'setting' would lead to a loss of 'significance' or the ability to understand, experience and appreciate 'significance' based on the above 'heritage interest' as defined by Cadw.
- 8.4.12 On a practical level, the Cadw guidance identifies an approach to assessing setting in relation to development management which is based on a four-stage procedure:
- Stage 1: identify the historic assets;
 - Stage 2: define and analyse the setting which is made up of:
 - its current surroundings
 - our present understanding and appreciation of the historic asset
 - what (if anything) survives of its historic surroundings.
 - Stage 3: evaluate the potential impact of change or development; and
 - Stage 4: consider options to mitigate the impact of a proposed change or development.
- 8.4.13 The following tabular methodology is a guide adapted from ICOMOS guidance on impacts on World Heritage Properties with reference to guidance issued by Cadw in relation to impacts on setting and significance. It is intended to be a guide, not a mechanical process, and it is not a substitute for professional judgment. Assessment on the archaeological potential of the site has been carried out in line with the procedures set out in 'Standard and Guidance for Historic Environment Desk-based Assessment'.
- 8.4.14 It is recognised that settings can be multi-layered and combined. Conservation areas containing listed buildings will form part of the setting of those buildings and will have a setting in themselves. Historic towns, which may contain conservation areas, are also recognised as having settings (through policies relating to landscape character).
- 8.4.15 Assets were visited to ascertain an understanding of the topography, condition, views, landscape surroundings and key features of the setting of the designated assets, including visiting areas overlooking historic settlements and conservation areas and gaining views from and toward scheduled monuments and listed buildings.
- 8.4.16 The methodology looks first at the heritage significance (= value/sensitivity) of the heritage assets, then at sources of effects, then at factors in the assessment of magnitude of change, and finally at the significance of the effects in EIA terms.
- 8.4.17 Table 8.2 below is adapted from the ICOMOS guidance and sets out a guide for the first stage in this assessment, namely an assessment of the significance/sensitivity of heritage assets.

Table 8.2 Receptor Value and Sensitivity

Value	Description
Very High	World Heritage Sites
High	Grade I and II* Registered Parks and Gardens; Scheduled Monuments; Protected Wreck Sites; Registered Battlefields; Grade I and II* Listed Buildings; Registered Historic Landscapes and undesignated heritage assets of equal importance. Well preserved historic landscapes with exceptional coherence and time depth, and areas associated with cultural heritage with globally important activities, innovations or people. A setting which possesses key attributes that make a strong positive contribution to the understanding and/or appreciation of the values that embodies its importance.

Value	Description
Medium	Conservation Areas; Grade II Registered Parks and Gardens; Grade II Listed Buildings; heritage assets on local lists; and undesignated assets of equal importance. Conservation areas that contain buildings that contribute significantly to historic character. Historic townscapes with important historic integrity. Designated special historic landscapes and areas on local registers for their regional or local significance. A setting which possesses some key attributes that make a positive contribution to the understanding and/or appreciation of the values that embodies its importance.
Low	Designated or undesignated assets of local importance poorly preserved with limited value. Unlisted buildings of modest quality in their fabric, townscape of limited historic integrity, and robust undesignated historic landscapes that have intangible cultural heritage associations of local significance. A setting which possesses some attributes that make little positive contribution to the understanding and/or appreciation of the values that embodies its importance.
Negligible	Assets with little or no surviving archaeological interest, buildings or urban landscapes of no architectural interest, intrusive buildings, and landscapes / settings of assets with little or no significance or historic interest.

8.4.18 The magnitude of change for the setting of designated historic assets used in this chapter is as laid out in Table 8.3 and the scale is defined in terms of harm to the setting of the heritage assets. This is used where the proposals will not cause any direct (physical impacts) to the heritage assets, but where changes to their setting could occur from the proposals which could impact upon their significance.

Table 8.3 Definition of Impact Magnitude Regarding Setting of Heritage

Magnitude of Effect	Change to Setting
High	A comprehensive and fundamental change to the key positive attributes of a heritage asset's setting, such that the setting is substantially or totally altered.
Medium	A considerable change to the key positive attributes of a heritage asset's setting such that its contribution to the importance of the asset is appreciably reduced.
Low	A limited change to the key positive attributes of a heritage asset's setting resulting in a slight but discernible reduction to its contribution to the asset's importance.
No Change	No change to the setting of a heritage asset that effects its significance.

8.4.19 Where there will be direct impacts to historic assets (designated or not) Table 8.4 defines the magnitude of that effect.

Table 8.4 Definition of Direct Impact Magnitude for Archaeological Deposits

Magnitude of Effect	Guidance criteria
High	Complete destruction or a fundamental, substantial change of an archaeological site of moderate importance. Partial destruction of an archaeological site of high importance
Medium	A considerable change to the key positive attributes of a heritage asset's setting such that its contribution to the importance of the asset is appreciably reduced.
Low	A limited change to the key positive attributes of a heritage asset's setting resulting in a slight but discernible reduction to its contribution to the asset's importance.
No Change	No change to the setting of a heritage asset that effects its significance.

8.4.20 The approach to determine the significance of effects has been as follows:

- identify the relevant receptors;
- derive their value (importance) based on the criteria set out above in Table 8.2
- identify and consider the likely impacts from each activity
- determine the magnitude of change likely as a result of the impacts (Tables 8.3 and 8.4)
- present the environmentally and ecologically significant effects and then consider how additional mitigation may reduce negative effects.

8.4.21 In addition to determining the significance of the effect, the assessment process also includes a qualitative description regarding the nature of the effect. These terms add additional information about how the effect would affect receptors (Table 8.5).

Table 8.5 Assessment Descriptors

Term	Nature of effect descriptor
Adverse	An effect which has the potential to decrease receptor value or status relative to baseline conditions. This could occur be through physical impacts to a historic asset or where an effect on its setting reduces the significance of the asset.
Beneficial	An effect which has the potential to increase receptor value or status relative to baseline conditions. This could occur where ongoing damage or erosion to an archaeological asset is stopped by the development, or where the setting of a historic asset is enhanced or improved, to increase its significance.
Short-term	Effects that persist only for a short time, e.g. during the construction (or decommissioning) phase only; includes reversible effects. Temporary effects could only occur to the setting of a historic asset.
Long-term	Effects that persist for a much longer time, e.g. for the duration of the operational phase (essentially until the development ceases or is removed/reinstated); includes effects which are permanent (irreversible) or which may decline over longer timescales.

Term	Nature of effect descriptor
	Physical damage to an archaeological site, including through the process of archaeological excavation, would lead to a permanent effect as archaeology is a diminishing and irreplaceable resource.

8.4.22 Environmental mitigation measures are necessary to address likely significant adverse environmental effects. The environmental effects of impacts can be referred to as either being before, or following establishment of, environmental mitigation. The following tables define the significance of environmental effect on historic assets due to physical impacts from the proposed Wind Farm in Table 8.6 and non-direct impacts on setting in Table 8.7.

Table 8.6: Significance of Environmental Effect on Historic Assets Due to Physical Impacts on Heritage Assets

Sensitivity	Magnitude of change			
	Major	Moderate	Minor	No change
Very High	Major	Major	Major/ Moderate	Negligible
High	Major	Major	Major/ Moderate	Negligible
Medium	Major	Major/ Moderate	Moderate	Negligible
Low	Major/ Moderate	Moderate	Minor	Negligible
Negligible	Minor	Minor	Negligible	Negligible

Table 8.7: Significance of Environmental Effect on Historic Assets Due to Impacts on the Setting of Heritage Assets

Sensitivity	Magnitude of change			
	Major	Moderate	Minor	No change
Very High	Major	Moderate	Minor	Negligible
High	Major	Moderate	Minor	Negligible
Medium	Moderate	Minor	Minor	Negligible
Low	Minor	Minor	Negligible	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

8.4.23 The timeline used for archaeological and historic assets considered in this report is laid out in Table 8.8 which defines the periods used for descriptions within this assessment.

Table 8.8 Archaeological Baseline

Timeline

Period	Dates	Prehistoric/ Historic
Palaeolithic	c.450,000 - 12,000 BC	Prehistoric
Mesolithic	c. 12,000 - 4000 BC	Prehistoric
Neolithic	c.4000 - 1800 BC	Prehistoric
Bronze Age	c.1800 - 600 BC	Prehistoric
Iron Age	c.600 BC - AD 43	Prehistoric
Roman	AD 43 - c. AD 410	Historic
Early medieval	c. AD 410 - AD 1086	Historic
Medieval-	1086 - 1485	Historic
Post medieval	1486 - 1900	Historic
Modern	1901 - Present	Historic

Prehistoric

- 8.4.24 The GGAT HER records four prehistoric sites within the study area, none of which lie within the proposed wind farm. The NMR records a single prehistoric site which lies within the site boundary. (Figure 8.6)
- 8.4.25 A possible Bronze Age round cairn is located within the proposed wind farm (NPRN422104). This corresponds to a feature visible on Lidar data and also is presumably the same site recorded as undated on the GGAT HER (GGAT05037g) which has the same description. The NMR records the site at ST 24120 97650, although Lidar data would place it slightly to the west at ST 24115 97652.
- 8.4.26 Other prehistoric finds are recorded within the study area around the proposed wind farm, including the findspot of a Neolithic polished stone axe 1.8 km to the south-east (GGAT03701g). A flint arrowhead of Bronze Age date was recovered from the west facing hillslope around 400 m west of the site boundary (GGAT00107g). A Bronze Age socketed axe was recorded 1.6 km west of the western side of the Site at Panside, north of Newbridge (GGAT00091g).
- 8.4.27 Although on an upland and prominent mountain top, there are very few prehistoric records identified within the proposed wind farm or its surrounding study area. Assessment of Lidar data has indicated two possible Bronze Age barrows in the south-central part of the proposed wind farm (Lidar Area 3 on Figure 8.8).
- 8.4.28 The lack of known prehistoric sites may be as a result of the lack of previous archaeological investigations undertaken within the area, although a number of previous studies have been carried out which did not reveal anything.

Roman

- 8.4.29 There are no Roman sites recorded on the NMR within the study area. Numerous Roman sites are known in the lower lying ground to the south around Caerleon and Caerwent, with a major Roman road running east to west closer to the coast. A number of scheduled Roman sites are also recorded within 10 km of the Site.

Early Medieval

- 8.4.30 No records of early medieval date are recorded within the study area on either the GGAT HER or NMR.

Medieval

- 8.4.31 The GGAT holds 27 records of medieval date within the 2 km study area, one of which lies within the proposed wind farm. The NMR holds a single record of medieval date within the study area. (Figures 8.5 and 8.6)

- 8.4.32 The medieval record within the site refers to ‘Extensive upland common of Magna Porta manor’ lying on Mynydd Maen in the area 170 m to the east of Turbine 12 (GGAT12240g).
- 8.4.33 Five records on the GGAT HER lie close to the east and south-east of the proposed wind farm on slopes above Upper Cwmbran. These all relate to boundary markers associated with Magna Porta Manor (GGAT12223g, GGAT12247g, GGAT12217g, GGAT12214g and GGAT12215g).
- 8.4.34 A grange of Llantarnum Abbey (GGAT12211g) lies 550 m south-east of the proposed wind farm, an ‘upland grange of Magna Porta manor occupying assorted hillside shelf below Mynydd Maen around Grade II listed late 16th/ early 17th century longhouse of Llanderfel Farm’. A chapel is recorded at the Grange site on the NMR, that of Llanderffel Chapel (NPRN307835; GGAT12227g) and an enclosure around it (GGAT08319g), from which burials were recorded when excavated (GGAT08320g). The associated Llanderfel Rhiw Pilgrim route (GGAT12212g) also lies to the south-east, leading to the chapel site. The possible site of the associated medieval Llanderfel coal mine also lies in this area (GGAT10745g).
- 8.4.35 Also lying to the south-east of the proposed wind farm are other medieval sites located in the Upper Cwmbran area. These include a possible upland farmstead at Thornhill Wood (GGAT10243g); possible medieval woodland at Craig Fawr Wood (GGAT12221g); medieval woodland at Tranch Wood (GGAT12279g); a possible medieval farmstead at Greenmeadow (GGAT12227g) and the possible site of the medieval former St Dial’s Chapel (GGAT00111g) although the record is disputed.
- 8.4.36 Further to the south lies the medieval Heol-craig-llorwerth Track which forms another part of the Porta Manor boundary (GGAT12229g). The Heol-y-badd Track also lies south of the proposed wind farm, and is recorded as being the southern boundary of Dorallt Grange (GGAT12232g).
- 8.4.37 A possible structure/enclosure was recorded at Greenmeadow Woods 1.45 km east-south-east of the proposed wind farm (GGAT10253g), which comprises a possible medieval platform house.
- 8.4.38 Cil-lonydd/cilonydd Grange was associated with Llantarnam Abbey, and lies 580 m west of the proposed wind farm, which later became the site of a post-medieval farmhouse, (GGAT08327g). Also west of the proposed wind farm lies Cae Eglwys, the Cilonydd Grange chapel (GGAT00094g) and possible masonry remains of the chapel itself (GGAT00095g). A possible enclosure associated with a destroyed chapel lies west of Cae Eglwys and is said to be a possible churchyard boundary (GGAT03289g). Possible medieval cultivation marks are also recorded in this area (NPRN421324).
- 8.4.39 A possible medieval trackway is recorded to the south of the western part of the proposed wind farm (GGAT07201g).
- 8.4.40 The site of the medieval Hafodyrnys Grange lies to the north-west, possibly a stand-alone grange or sub-unit managed from another grange (GGAT12299g). The medieval Hafodyrnys Mill also lies in this location (GGAT12300g).
- 8.4.41 The medieval Ysbrydion Holy Well lies to the north (GGAT03272g).
- 8.4.42 Lying to the north-west of the proposed wind farm are four possible medieval trackways (535602), (535631), (535619) and (535620).

Post Medieval

- 8.4.43 By far the most numerous sites recorded are again of post medieval date and mostly associated with the later part of the period and the effects of the industrial revolution on the area. The GGAT HER holds 151 records of post medieval date within the study area, 11 of which lies within the proposed wind farm. The NMR holds records of 105 post medieval sites within the study area. None of these lies within the proposed wind farm. (Figures 8.5 and 8.6)
- 8.4.44 The Post medieval records located within site boundary of the proposed wind farm (Figure 8.6) include the following.
- 8.4.45 There are two boundary stones located on the northern edge of the proposed wind farm, between the proposed locations of Turbines 3 and 6. The two stones appear to have been located alongside a track and would therefore most likely be marking its route: GGAT07316g

to the west, lying 170m north-east of Turbine 6 and 330 m west of Turbine 3) and GGAT07317g to the east (lying 200m west of Turbine 3 and 310m north-east of Turbine 6).

- 8.4.46 Located on the north-eastern edge of the proposed wind farm, 190m to the east of Turbine 1, lies another marker stone shown on the first edition OS map (GGAT04999g), a probable mineral rights boundary marker. In the same location as the boundary marker is 'a large irregular bank with depression to the south-west running across the ridge between Twyn Calc and Mynydd Llwyd' (GGAT05039g).
- 8.4.47 Another mineral rights boundary marker lies on the eastern side of the proposed wind farm, 120 m north of Turbine 8 (GGAT04997g). The boundary marker lies immediately adjacent to the proposed access road running from Turbine 2 that joins with the access track between Turbines 4 and 8.
- 8.4.48 Roughly in the centre of the proposed wind farm, 260 m south-west of Turbine 8, lie a number of boundary stones marking mineral rights (GGAT04996g). To the north-east of these markers and 420 m south-west of Turbine 8 lies a standing block of quartz conglomerate situated close to an existing track (GGAT04937g) which may represent another mineral rights marker.
- 8.4.49 Close to the summit of Mynydd Maen, lying 310 m south-east of Turbines 8 and 380 m west-north-west of Turbine 9, east of the centre of the proposed wind farm, lies another boundary stone (GGAT05040g). A second stone marked PP with a bench mark symbol was recorded on the summit of Mynydd Maen adjacent to the modern OS triangulation point (GGAT11900g, which lies 390 m west of Turbine 9) located at ST 5990 97810 (this stone is not recorded on the NMR or HER).
- 8.4.50 In the south-eastern part of the proposed wind farm, lying 340 m east-south-east of Turbine 10 and 250 m north-east of Turbine 11 lies a further mineral rights boundary marker (GGAT04933g).
- 8.4.51 A further mineral rights boundary stone was noted during the site visit, located midway along the western side of the proposed wind farm, ST 24664 97662.

Modern

- 8.4.52 There is a single site of modern date recorded on the GGAT HER within the proposed wind farm, that of a High-Frequency Radio Direction Finder (HF-DF), erected in 1953 (GGAT04932g) (Figure 8.6). The location of this former building corresponds with a demolished brick and concrete structure. A second extant structure lies 180 m to the north, (ST 25580 98315). The buildings are likely to have been related and possibly both formed part of the HF-DF radio facility. This lies around 250 m south of Turbine 4 and 280 m west of Turbine 8.
- 8.4.53 The NMR records the possible location of an aircraft crash site of Lockheed Hudson I N7256 in the southern part of the proposed wind farm (NPRN 515351), 210 m south-east of Turbine 12 and 230 m north-east of Turbine 13. A review of the recorded information on the crash site indicates that it is actually mislocated within the proposed wind farm and the crash site actually lies on Mynydd Maendy in Rhondda Cynon Taf (SS 98216 86705), some 30 km to the west.
- 8.4.54 Other modern sites in the vicinity recorded on the GGAT HER include industrial sites, such as various records at the Glyn Colliery site, the Upper Race Brickworks, quarries, a small reservoir, triangulation points, trackway or holloway, a modern octagonal brick structure, sheep dipping pool, and other industrial buildings.
- 8.4.55 Modern sites recorded on the NMR include a number within Upper Cwmbran, associated with its modern development and expansion, as well as industrial sites and other records also recorded on the HER.
- 8.4.56 Modern sites recorded on the HER and NMR mostly lie beyond the proposed wind farm, generally associated with industrial activities (coal mining) to the north and with the modern development of Cwmbran to the south-east.

Undated or Natural Features

- 8.4.57 The site of an undated 'Bird House' is recorded on the GGAT HER (GGAT04931g), located within the proposed wind farm, 70 m south-east of the proposed location of Turbine 4 (Figure

- 8.6). Lidar data indicates that the feature is visible as a circular earthwork of around 35 m diameter, with a possible small raised area at its centre (Figures 8.7 and 8.8). This is presumed to be the remains of the base of the 'tower or bird house'. It is possible that the structure was built upon an earlier mound, although conjectural, potentially of prehistoric origin. It should be noted that the HER grid reference is located at ST 25660 98320, but Lidar data would indicate that the centre lies at ST 25681 98324, slightly further to the east.
- 8.4.58 An undated quarry is recorded on the HER within the proposed wind farm, some 130 m south-south-west of Turbine 8 (GGAT04936g). The HER provides the grid reference of ST 2585 9806 for the site, but Lidar data would indicate that the quarry actually lies further to the west and is centred on ST 25812 198069.
- 8.4.59 An undated boundary stone is recorded on the HER lying 220 m north-east of Turbine 11 within the proposed wind farm (GGAT04934g). It lies directly south of another boundary stone recorded on the GGAT HER (GGAT04933g) which is described the same and indicated to be of post medieval date.
- 8.4.60 A series of stream channels are recorded on the GGAT HER lying 330 m south of Turbine 7 and 380 m south-west of Turbine 5 (GGAT11117g) which were recorded during pipe trenching.
- 8.4.61 The HER records an undated 'small circular mound with central depression, of c.5 m diameter' which it notes could be a ring cairn on the western side of the proposed wind farm (GGAT05037g). This could not be identified during the site visit, but is clearly visible on Lidar data, which indicates that the mound is around 12.5 m in diameter, with the circular central depression also very visible. The site is also recorded on the NMR as a possible Bronze Age cairn (NPRN 422104). The HER grid reference is given roughly as ST 241 977, but Lidar data pinpoints this to being centred on ST 24115 97652.
- 8.4.62 A series of boundary markers on Craig-Llwydd of uncertain date are recorded in the southern part of the proposed wind farm, 260 m south-west of Turbine 13 (GGAT04935g).
- 8.4.63 The NMR has a single undated record within the proposed wind farm, that of braided trackways 260 m north-east of Turbine 10 (NPRN402676). The term braided trackways refers to numerous alignments of tracks following roughly the same route. Such routes may indicate many years of use.
- 8.4.64 Other undated records lie beyond the edges of the proposed wind farm.

Lidar Analysis and Identification of Hitherto Unrecorded Sites

- 8.4.65 Digital Terrain Model Lidar data at 1 m resolution was used to prospect the proposed wind farm for any hitherto unrecorded archaeological remains that may be present within the site. Six areas of possible archaeological features were identified (Figures 8.7 and 8.8).
- 8.4.66 **Lidar Area 1** lies 280 m south of Turbine 8 and 520 m west of Turbine 9 and comprises a series of earthworks and channels that may indicate an area of previous quarrying (ST 25856 97883) covering an area of around 75 m diameter. They are irregular in shape and size, although one embanked linear channel runs to the northwest on its western edge. The earthworks are visible on aerial photographs from the 1940s. This area of quarrying is not shown on early maps, although recorded as site MM09 'Quarry Coch' in a desk-based assessment of the area previously produced by GGAT. The quarrying is likely to be of post medieval date.
- 8.4.67 To the southwest of **Lidar Area 1** lies **Lidar Area 2**, which comprises an embanked linear channel running roughly east-northeast to west-southwest for a length of 80 m and also recorded as part of Quarry Coch in the earlier desk-based assessment by GGAT. The feature would appear to have been connected with the quarrying at **Lidar Area 1**. The quarrying is likely to be of post-medieval date.
- 8.4.68 **Lidar Area 3** lies in the eastern side of the proposed wind farm, located around 520 m south-west of Turbine 9 and 460 m north-east of Turbine 10. The site comprises two adjacent circular mounds that could potentially represent prehistoric round barrows (centred on ST 25936 97595 and ST 25919 97553). They are between 27 and 30 m in diameter and the mounds are just under 1 m in height. Both appear to comprise a flat-topped mound with a slight encircling ditch. The size and shape are characteristic of round barrows (burial mounds) typically of Bronze Age date.

- 8.4.69 To the north of the two possible round barrows lie a large number of smaller mounds running to the north for around 180 m, which have been identified as **Lidar Area 4**. These are centred on ST 25961 97729 and lie around 420 m west-south-west of Turbine 9 and the possibility is raised that they could be smaller Bronze Age burial cairns, although their number and layout is not typical and they may have formed by vegetation growth (compact reed grasses or clumps of gorse) creating raised root balls rather than being of archaeological origin. Their proximity to the likely barrows at **Lidar Area 3** is such that they are highlighted. The proposed access road between Turbines 10 and 11 and Turbine 9 to the east has been relocated as part of the design of the wind farm to run between Lidar Area 3 and Lidar Area 4 to avoid any direct disturbance.
- 8.4.70 **Lidar Area 5** lies at the western end of the proposed wind farm and comprises two large sub-circular depressions which are likely to represent ponds (centred on ST 24085 97906 and ST 24182 97909). The western pond is shown on Ordnance Survey maps from 1948 onwards, although the eastern pond is not shown. These are likely to be of modern date.
- 8.4.71 On the western side of the proposed wind farm, on its southern part, lie two areas of small quarries on the hillside, **Lidar Area 6**. The quarry to the northeast is centred on ST 24629 97751, measuring roughly 35 m east to west by 20 m north to south. The second quarry area lies 100 m to the southwest centred on ST 24526 97666, measuring roughly 25 m by 20 m. These are likely to be of post medieval date.

Assessment of archaeological potential and significance

- 8.4.72 Based on the archaeological baseline identified for the report laid out in the accompanying Historic Environment Desk-Based Assessment (Technical Appendix 8.2: HEDBA, the following archaeological potentials and possible significance were defined as follows.
- 8.4.73 The potential for archaeological remains dating to the prehistoric period is considered to be moderate based on the available evidence, including sites within the proposed wind farm. The site visit did not identify any further possible prehistoric sites, although possible Bronze Age barrows are visible from interrogation of Lidar data and the potential for adjacent Bronze Age burial cairns has also been highlighted (Lidar Area 4). Should prehistoric remains be identified within the area, they would be considered to be of local (low) to regional (moderate) archaeological importance. Burial remains would be of at least regional (moderate) archaeological importance.
- 8.4.74 The paucity of records Roman within the 2 km study area indicates that the potential for further archaeological remains of Roman date to be present is low. If remains were to be present, they may be considered of local (low) to regional (moderate) archaeological importance providing information on an archaeological period that is very poorly represented within the study area.
- 8.4.75 The potential for remains of early medieval date to be present is considered low, and if present, they would be of at least local (low) archaeological importance providing information on an archaeological period that is very poorly represented within the study area.
- 8.4.76 The upland area of the proposed wind farm is unlikely to have seen much medieval activity other than in the form of isolated farmsteads, field boundaries or shelters for livestock, with the area being used as common land pasture. Two medieval granges are recorded lying on lower ground to the west and south-east of the site, but no associated records lie within the proposed wind farm. There is considered to be a low potential for archaeological remains of medieval date to be present. If they were then they would be of local (low) archaeological importance associated with agricultural use of the upland area.
- 8.4.77 The potential for hitherto unknown archaeological remains of post medieval date to be present within the proposed wind farm is considered moderate, again probably associated with former quarrying sites (such as quarrying remains at Lidar Areas 1, 2 and 6), as well as other boundary markers that are as yet not recorded. Such remains would be considered of local (low) archaeological importance.
- 8.4.78 Overall, there is a low to negligible potential for any modern sites of archaeological importance to be present within the proposed wind farm, excluding remains of the radar

station. If any remains were present they would be of local (low) to negligible archaeological importance. The radar station remains would be of local (low) importance.

8.5 Assessment of effects

- 8.5.1 The construction works for the proposed wind farm would cause direct adverse impact upon any hitherto unrecorded archaeological remains within the footprint of any ground works for the proposed wind farm. Archaeological remains could be exposed, damaged or destroyed by these works as it is assessed that they would lie at a shallow depth below the present ground surface. This would be an adverse environmental effect. The significance of such effects would be dependent upon the significance of any remains that may be present within the working areas (low to high).
- 8.5.2 It is considered unlikely that remains of high significance (equivalent to scheduled monuments) will be encountered during the works, although there is a potential for Bronze Age burial cairns to be present in the areas of Lidar Area 3 and Lidar Area 4. An access track has been redesigned within this area to avoid encroaching into the two areas of archaeological potential and pass between them. If similar remains exist within the area between Lidar Area 3 and Lidar Area 4 and are disturbed by the construction works, this would be a substantial effect upon them, and there would be a major adverse effect upon them. This would be long-term (permanent) and irreversible.
- 8.5.3 Where archaeological remains of medium significance are revealed, where there would be a substantial effect upon them from construction works, then there would be a major adverse effect upon them. This would be long-term (permanent) and irreversible.
- 8.5.4 Where archaeological remains of moderate significance would be partially disturbed or a site of low archaeological significance would be disturbed, then there would be a moderate adverse effect upon them. This would be long-term (permanent) and irreversible.
- 8.5.5 Where partial disturbance of archaeological remains of low significance was to occur, then this would be a minor adverse effect, and again it would be long-term (permanent) and irreversible.
- 8.5.6 If no archaeological remains are present, then there would be no change.

Effects within the setting(s) of designated Historic Assets

- 8.5.7 A study area of 10 km radius around the proposed wind farm was used to identify scheduled monuments, listed buildings, conservation areas and historic parks and gardens.
- 8.5.8 Over 1000 listed buildings were present within the 10 km study area, 80 scheduled monuments along with 33 conservation areas, and 15 Registered Historic Parks and gardens. The Blaenavon World Heritage Site (WHS) lies between 7 km and 15 km to the north of the proposed wind farm.

Blaenavon WHS

- 8.5.9 Given the potential sensitivity of the Blaenavon WHS to changes within its setting, site visits have been undertaken in order to ascertain the contribution made by the proposed wind farm to the setting of this asset in accordance with the staged approach outlined in Cadw's 'Managing Setting of Historic Assets in Wales'. It is specifically relevant to consider how the addition of the turbines to the wider setting may impact the integrity and authenticity of the WHS. This has been considered in accordance with the guidance set out by ICOMOS.
- 8.5.10 The bare earth ZTV indicates the theoretical extent of visibility within the WHS (Figure 8.2). Site visits confirm that because of the distance (between 7 km and 15 km distant), intervening built form and trees, the proposed wind farm is not clearly discernible from the WHS and makes no contribution to its OUV.
- 8.5.11 It is also important to note that the experience of the key assets contained within the WHS (listed buildings and scheduled monuments) would be entirely unchanged by the proposals, as a direct result of the distances involved, the intervening topography, tree cover and built

form. Thus, the OUV of the WHS is not considered to be susceptible to harm by the proposals and requires no further consideration under Stages 3 - 4 of the settings assessment.

Listed Buildings

- 8.5.12 The assessment process has given due consideration to Cadw guidance on setting as detailed in 'Managing Setting of Historic Assets in Wales' and 'Heritage Impact Assessment in Wales' and similarly within the Welsh Government's Planning Policy Wales Technical Advice Note 24: The Historic Environment. As such, the 4 stage process outlined by Cadw for the assessment of setting has been followed. The staged assessment is presented fully in HEDBA Appendix 2: Listed Buildings, and the process which has been followed is summarised below.
- 8.5.13 Under Stage 1, over 1,000 listed buildings were identified within 10 km of the centre of the proposed wind farm. These assets are tabulated fully in HEDBA Appendix 2: Listed Buildings. The first step undertaken as part of Stage 1 was to ascertain which of the listed buildings were intervisible with the wind turbines.
- 8.5.14 The bare earth Zone of Theoretical Visibility based on the blade tip heights of the turbines has been used to determine this intervisibility (Figure 8.3). This was deemed appropriate as the blade tip height is up to 149.9 m and the hub height will be substantially less than this.
- 8.5.15 Where there is no intervisibility with the turbine blades indicated by the ZTV, which being bare earth represents a worse-case-scenario, those listed buildings have been removed from the assessment process.
- 8.5.16 HEDBA Appendix 2: Listed Buildings Stage 1 identifies the total number of listed buildings within the 10 km area, and indicates which of them lie within the ZTV categories identified above.
- 8.5.17 Following this a Stage 2 assessment was undertaken. The distance from the building to the wind turbines was measured to see where intervisibility may still indicate potential harm to the significance from the proposals. Where the distance was great, but intervisibility was indicated by the ZTV, the type of asset was looked at to ascertain if they would still have any potential impacts on their significance, as well as its designation.
- 8.5.18 Grade II listed buildings beyond 2 km were discounted (unless of a type considered susceptible). All Grade II* and Grade I listed buildings within the ZTV and within 10 km were considered further and were assessed during the site visits (if and where permitted and publicly accessible).
- 8.5.19 Stage 3 reconsidered all the listed buildings identified from Stage 2 following site inspection, and where any impacts to significance may occur the level of this impact was further determined.
- 8.5.20 Of the listed buildings initially identified during Stage 1 of the process 56 were carried forward to Stage 3. Following the site visits undertaken as part of the assessment it was evident that while some of these assets possess limited or distant views toward the proposed wind farm, the majority were located at too great a distance to afford a clear or relevant view, and many were screened by intervening topography, trees, planting and built form which was not evident from the ZTV alone.

Conservation Areas

- 8.5.21 Site visits confirmed that all of the conservation areas (Figure 8.4) possess very limited visibility of or towards the proposed wind farm due to intervening built form and tree cover. The closest conservation area, Upper Cwmbran, is indicated by the ZTV to fall within a very low level of intervisibility (1 - 3 turbines), however this analysis does not take into account the built form of Upper Cwmbran itself or the surrounding wooded areas.
- 8.5.22 The remaining Conservation Areas possessed no intervisibility with the proposed wind farm due to their distance or the intervening topography, built form and trees/planting which obscure any clear views. The proposals are not considered to be capable of causing an effect within the settings of these assets which could consequentially cause harm to their significance, character and appearance.

Registered Parks and Historic Gardens

- 8.5.23 There are 15 registered historic parks and gardens (RHPG) within a 10 km radius, 11 of which are within the ZTV (Figure 8.4), the closest being Pontypool Park (Grade II*) c.4 km to the north-east.
- 8.5.24 Site visits confirmed that this Pontypool RHPG has a largely urban setting and is of interest as a result of its surviving features, including Arboretum. The RHPG does not possess intervisibility with the proposed wind farm primarily due to the tree cover within the designated area and the urban development which surrounds, as well as the substantial distance.
- 8.5.25 The remaining RHPGs, which are located at far greater distances, were confirmed during site visits to not possess any significant views of the proposed wind farm. The proposals are not considered to be capable of causing an effect within the settings of these assets which could consequentially cause harm to their significance.

Construction Phase

- 8.5.26 The construction phase of the proposed wind farm could have adverse physical effects on archaeological remains (through exposure, damage or destruction). This would come through the process of construction where the access tracks, turbine hardstandings, turbine bases, turning heads and areas for the ancillary buildings (contractor's compounds, materials storage areas and substation etc,) are carried out and any topsoil stripping or ground disturbance occurs. The significance of such effects would be dependent upon the significance of any remains that may be present within the working areas (low to high). Such effects to buried archaeological remains would be long-term (permanent) and irreversible. There would be no change if no remains are present.
- 8.5.27 Environmental effects on the setting of surrounding designated historic assets would also be limited during this phase, until turbines are erected. At this point the proposed wind farm may be visible from those historic assets within the study area. Following full consideration in accordance with the staged approaches outlined by Cadw and ICOMOS, desk-based and on-site analysis, none of the designated historic assets identified are considered to be adversely impacted by the proposals (see also Technical Appendix 8.2: Historic Environment Desk-Based Assessment (HEDBA), and HEDBA Appendix 2: Listed Buildings therein).
- 8.5.28 The distance of the proposed wind farm from the WHS is such that the Outstanding Unique Value of the WHS would not be harmed by the proposals through any effect within its wider setting and no adverse impact is identified.

Operational Phase

- 8.5.29 Once the proposed wind farm has been constructed and in operation there would be no further adverse physical effects on buried archaeological remains within the site. Any archaeological remains within the footprint of the ground works for the proposed wind farm will have already been removed through mitigation.
- 8.5.30 As assessed above, no adverse environmental effects on the setting of designated historic assets in the area have been identified which would continue during the operation of the proposed wind farm.

Decommissioning Phase

- 8.5.31 During decommissioning, any negative effects from the proposed wind farm to the setting of designated historic assets would be removed. This would revert back to no change for the settings of designated assets.

8.6 Mitigation

- 8.6.1 Mitigation would be implemented against any adverse environmental effects on any hitherto unknown archaeological remains within the footprint of the construction works for the proposed wind farm. The following archaeological approach would be undertaken. The Applicant would be responsible for funding all archaeological works.
- 8.6.2 The first phase of the works would be an archaeological evaluation undertaken on the areas of proposed construction works using trial trenches. The trial trenches would be undertaken in advance of the development commencing. The trial trenches would determine the presence or absence, significance, extent, character, date and state of preservation of any hitherto unidentified archaeological remains. The trial trench work would be especially important to be undertaken within the area of Lidar Area 4, where it potentially lies within an area of Bronze Age burial cairns, although they are also very possibly features caused by vegetation growth.
- 8.6.3 A post-determination phased archaeological approach is considered appropriate as the area is unlikely to contain any archaeological remains of national significance. This is based on the assessment, known archaeology of the area, through site visits undertaken for this assessment and analysis of Lidar data and aerial photography. The proposals are mostly for access tracks and isolated areas around the proposed thirteen wind turbine locations rather than large open areas of development.
- 8.6.4 Geophysical survey of the proposed wind farm is not considered appropriate in this case due to the topography and vegetation cover across the site as being a mix of vegetation cover and with numerous tracks crossing through.
- 8.6.5 It is proposed that an archaeological written scheme of investigation (WSI) would be prepared by a professional archaeological company, and a Registered Organisation with the Chartered Institute for Archaeologists. The WSI or specification would need to be agreed with the Planning Services section of Glamorgan Gwent Archaeological Trust in their capacity as archaeological advisors to Caerphilly and Torfaen County Borough Councils in advance of any works commencing. Written approval from the LPA will also be required. The WSI should cover initial evaluation of the Site, methodologies for subsequent mitigation scenarios that may be required, as well as details regarding the reporting and archiving on all stages of work through to completion of the project. A brief overview of the process to be covered within the WSI is included below.
- 8.6.6 An initial trial trench evaluation would be undertaken across those areas of the proposed wind farm where impacts to archaeological remains might occur. A report on the findings will then be prepared to identify where archaeological remains have been identified, and the nature and date of such remains. An archive on the results would also be required.
- 8.6.7 Should significant archaeological remains be identified during the evaluation then further archaeological mitigation would be required to undertake more detailed investigation and analysis of such remains, possibly through an archaeological excavation. This would target those areas of significant remains identified at the evaluation stage.
- 8.6.8 Following excavation, if and where necessary, post excavation assessment reports on the results would need to be prepared. This would determine the extent of further analysis needed on finds or environmental information recovered from the works and the scope of further reporting and publication if necessary. An archive would be prepared on all of the results.
- 8.6.9 If only a few archaeological remains are revealed or remains of low significance are identified through evaluation, an archaeological watching brief implemented during mobilisation and construction works may be appropriate.
- 8.6.10 All archaeological works undertaken at the proposed wind farm would need to be monitored by the Planning Services section of GGAT to ensure the works are being undertaken to the correct standards and to view the archaeological results.

- 8.6.11 All archaeological reports would be lodged with the GGAT HER and made publicly available, including online. The archives would be stored with appropriate repositories (digital archives with the NMR) and again should be publicly accessible.