

Glenvernoch Wind Farm

Environmental Impact Assessment Report Volume I Chapter 7: Cultural Heritage and Archaeology

October 2024

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7 CULTURAL HERITAGE AND ARCHAEOLOGY

Introduction

- 7.1 This chapter has been prepared to consider the likely significant effects of the Glenvernoch Wind Farm (the 'Proposed Development') on cultural heritage (historic environment sites and features, archaeology, and built heritage); hereafter referred to as 'historic assets'.
- 7.2 The chapter is supported by Appendix 7.1: Cultural Heritage and Archaeology Baseline and Figures 7.1 to 7.9:
- Figure 7.1 - Heritage Assets assessed within EIAR;
 - Figure 7.2 - Heritage Viewpoint locations;
 - Figure 7.3 to 7.9 Photomontages and wireline visualisations for Heritage Viewpoints 1 to 7; and,
 - Further photomontages provided by the landscape team which correspond with and/or provide indicative views from heritage assets, comprising Landscape Viewpoints 1, 2, 4, and 10.
- 7.3 The Cultural Heritage Chapter was prepared by Donald Sutherland, Principal Heritage Consultant at Pegasus Group. Donald has been a heritage professional for over 9 years and has extensive experience undertaking cultural heritage assessments. The assessment has been carried out in accordance with the Chartered Institute for Archaeologists 'Code of Conduct' (CIfA 2014, revised 2021) and with reference to the relevant statutory and planning framework for cultural heritage
- 7.4 The specific objectives of the Cultural Heritage Baseline and EIAR Chapter are to:
- Identify the cultural heritage baseline within and in the vicinity of the Site.
 - Assess the Site in terms of its archaeological potential.
 - Consider the effects of the construction, operation and decommissioning of the Proposed Development on heritage assets, within the context of the relevant legislation and planning guidance.
 - Consider the cumulative effects of the Proposed Development in combination with other proposed developments, upon cultural heritage assets.
- 7.5 It assesses the potential direct, physical effects on assets within the Site and the indirect effects of the Proposed Development on the settings of heritage assets in the wider landscape.

Legislation and Policy Context

- 7.6 A full and detailed consideration of all relevant legislation and policy relevant to this application can be found in the Planning Statement which accompanies this application

and a discussion of relevant policy and legislation can also be found in section 3 of Appendix 7.1.

7.7 The following legislation was reviewed as part of the baseline study:

- Ancient Monuments and Archaeological Areas Act 1979;
- Planning (Listed Buildings and Conservation Areas (Scotland) Act 1997 (as amended by Historic Environment (Amendment) (Scotland) Act 2011); and,
- The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (as amended).

7.8 The primary planning policy and guidance at the national level comprises:

- National Planning Framework 4 (NPF4) (2023);
- Historic Environment Policy for Scotland (HEPS) (2019);
- Scottish Natural Heritage (now NatureScot) & Historic Environment Scotland (2018) 'Environmental Impact Assessment Handbook';
- Chartered Institute for Archaeologists (revised edition, October 2020) 'Standard and Guidance for Historic Environment Desk-Based Assessment';
- Historic Environment Scotland (2020) 'Managing Change in the Historic Environment: Setting';
- Onshore Wind Sector Deal for Scotland 2023;
- Planning Advice Note 2/2011: 'Planning and Archaeology' (PAN 2/2011).

7.9 At the regional and local level, planning policy and guidance is set out in:

- The Dumfries and Galloway Local Development Plan 2, adopted October 2019; and,
- Supplementary guidance in Wind Energy: Development Management Considerations, February 2020.

Scoping and Consultation

7.10 Consultation was undertaken with Historic Environment Scotland (HES) and Dumfries and Galloway Council's Archaeology Service (DGCAS) both as part of the 2023 Scoping Request and throughout the preparation of the application.

7.11 The details of the consultation are set out in the table below:

7.12 Table 7.1 below summarises the responses received relevant to the cultural heritage assessment.

Table 7.1: Consultation Responses

Consultee	Summary of Response	How / where addressed
Historic Environment Scotland 02/10/2023	Formal Scoping Opinion – Identified an initial list of historic environment assets with the potential to experience impacts: • Deil's Dike (SM1966) • Middle Bridge of Cree, cairn (SM1943) • Loch Ochiltree crannogs (SM2266) • Prehistoric Ritual and Funerary Monuments along the River Cree (SMxxx) • White Cairn, chambered cairn (SM1048) • White Cairn, chambered cairn (SM1049) • The Thieves Standing Stones (SM1044) • Drumfern Cairn and remains of Stone Circle (SM1019) • Drumwhirn, cairn north of Boreland (SM1021) • Challoch, All Saints Episcopal Church (LB19190) Noted this list was not exhaustive. Endorsed methodology of Scoping to use the ZTV as a tool of assessment, but noted that views towards assets may also be important elements of their setting, and should be considered, where appropriate. Accepted 10km study area proposed, but noted that where the ZTV identified assets beyond 10km which have long-distance views that contribute to their significance, it will be important to assess the impacts of these. Identified specific assets for which visuals might be useful as part of the assessment, comprising: • Deil's Dike (SM1966) • Middle Bridge of Cree, cairn (SM1943) • Loch Ochiltree crannogs (SM2266) • White Cairn, chambered cairn (SM1049) • Challoch, All Saints Episcopal Church (LB19190)	The identified assets as well as other assets in the wider vicinity, both within, and beyond the 10km buffer have been considered within the baseline, and EIAR (paras. 7.52-7.59), where appropriate. A ZTV has been used to inform the assessment, but has not been used exclusively, having been informed by professional judgement. Visualisations have been prepared for the suggested assets, supplemented by landscape visualisations which have provided illustrative views from certain assets.

Historic Environment Scotland 13/9/2024	Proposed viewpoints and draft visualisations were sent to HES on 13th September 2024. No response yet received.	Further wirelines have been prepared from additional assets not specifically requested by HES, to help inform the assessment.
Dumfries and Galloway Council 7/2/2024	No comments relating to heritage accompanied the Formal Scoping Opinion	N/A
Archaeologist – Dumfries and Galloway Council 03/06/2024	Email received, following an Historic Environment Record (HER) search clarifying that for this type of development, usual HER data supply is all sites in the footprint and access +1 km, regionally significant sites where longer distance views are a setting issue out to 5km and nationally significant assets, not all of which are designated, out to 10km. In addition Council designations such as Conservation Areas (Policy HE2) Archaeologically Sensitive Areas (Policy HE4) and Designed Gardens and Landscapes, both Inventory and non-Inventory (Policy HE6) are included out to 10km.	Data was obtained to the requested specifications and used for assessment purposes.
Archaeologist – Dumfries and Galloway Council 29/08/2024	Further discussions re the HER data and specific assets in the vicinity. It was noted that Deil's Dyke was likely to represent later feature(s) rather than form part of a wider, long-distance, prehistoric boundary feature.	Additional comments regarding the data and specific assets was taken into account and helped inform the assessment.

Elements Scoped Out of Assessment

- 7.13 No elements of the historic environment have been scoped out of the assessment. The Cultural Heritage and Archaeology Baseline (Appendix 7.1) sets out the sieving process which has been used to reduce the number of historic assets considered within this Chapter to ensure that only those assets where an effect is considered likely are discussed.

- 7.14 It is noted that photomontages have not been carried out for every heritage asset identified by consultees. It was considered that not all of the assets warranted a full photomontage given the relative lack of visibility/predicted impact. The choice of photomontage/wireline was undertaken early in the assessment process following a desk-based review and analysis of the Zone of Theoretical Visibility. This was then cross-referenced with the assets and a list was drawn up of photomontages and wirelines. A provisional list of Heritage Viewpoints and supporting Landscape Viewpoints was sent to Historic Environment Scotland (HES) for consultation on 13th September 2024. A response has not yet been received from HES, however wirelines from Cultural Heritage Viewpoints 3-7 were added for robustness, to support the assessment.

Methodology

Study Area

- 7.15 All of the study areas used to assess effects from the Proposed Development have been measured from the red line boundary.
- 7.16 For designated assets a search area of 10 km was taken from the Proposed Development.
- 7.17 Professional judgement has been used to consider assets beyond this distance to ensure there were none within proximity to the study area which had the potential to experience impacts from the Proposed Development. No assets beyond their relevant study area have been assessed as having the potential to experience impacts from the Proposed Development.
- 7.18 The search area for non-designated historic assets (archaeological sites, findspots, locally significant buildings, locally historic landscapes) is 1 km from the Proposed Development. Data was also reviewed for regionally significant assets out to 5 km, and for potentially nationally significant assets, as identified by the DGHER, out to 10 km from the Proposed Development boundaries. A number of the identified potential nationally significant assets corresponded with designated assets which have been assessed as part of the EIA Chapter.

Desk Study

- 7.19 The following information sources were consulted as part of the desk-based assessment:
- Historic Environment Scotland data download portal – for up to date information on designated historic assets;
 - Dumfries and Galloway Historic Environment Record - for data on non-designated historic assets;
 - Historic-Land-use Assessment Data for Scotland obtained from HES data download portal;
 - Mapping from the National Library of Scotland website and other sources;
 - Documentary sources, including online resources such as Scotland's Places and grey literature reports including EIAs and baselines for other wind farm schemes in the area;

- Modern and historic aerial photographs held at the National Collection of Aerial Photography (NCAP) and using Google Earth; and,
- Online resources including Ordnance Survey Open Source data; geological data available from the British Geological Survey.

Field Survey

- 7.20 A site visit was undertaken by a Principal Heritage Consultant on 23rd-24th July 2024. The purpose of this site visit was to visit identified historic assets to visually assess their setting and to analyse the views from these assets to establish if and to what extent these contributed to their significance.

Assessment Methodology

- 7.21 The assessment has been carried out following the results of site visits, review of guidance documentation and the results of desk-based assessment and professional judgement.
- 7.22 The basis of assessment has been undertaken using guidance from a number of sources including the 2018 Environmental Impact Assessment Handbook produced by Historic Environment Scotland and Scottish Natural Heritage (now NatureScot). This process is intended to be an aide to assessment. It is acknowledged that tabular and matrix-led assessments can sometimes lead to an inflation or underestimation of the true effects of a development due to the mechanical process, however, professional judgement is used where appropriate to ensure a true reflection of the impact is considered on the historic environment resource. This includes a narrative consideration of the impacts and effects where necessary.

Assigning Sensitivity to Heritage Assets

- 7.23 The value/sensitivity of an historic asset for the purposes of Environmental Impact Assessments is determined by professional judgement guided by statutory and non-statutory designations, national and local policies, though the professional judgement is used for example if archaeological assets are shown to be of schedulable quality, the level of value will be a reflection of this. This process is outlined in Table 7.2.

Table 7.2 – Criteria for establishing the Value/Sensitivity of Heritage Assets

Sensitivity of Asset	Definition / Criteria
High	Remains of inscribed international importance, such as World Heritage Sites. Conservation Areas of high value. Category A Listed Buildings. Scheduled Monuments. Gardens and Landscapes which appear on the Inventory. Battlefields which appear on the Inventory. Designated historic landscapes of international sensitivity with exceptional coherence, time-depth. Non-designated assets of national importance.
Medium	Category B & C Listed Buildings.

	Conservation areas of local quality and regional value. Assets that can be shown to have particularly important qualities in their fabric or historical association or can contribute significantly to acknowledged international or national research objectives. Non-designated assets of regional importance. Designated landscapes of high quality and importance, and of demonstrable national sensitivity.
Low	Non-designated assets of local importance. Assets of limited value, but with the potential to contribute to local research Historic landscapes with specific and substantial importance to local interest groups, but with limited sensitivity.
Not Significant	Archaeological sites compromised by poor preservation. Sites of findspots (asset previously removed) with no contextual associations. Assets identified as having no historic, evidential, aesthetic or communal interest.

- 7.24 As part of this assessment of value, the contribution made by setting will be set out in terms of a positive, negative or neutral contribution and an assessment will be made of how sensitive the setting of the asset is to change. This will be set out within the narrative, rather than following a tabulated system. The reason for this is the setting of an asset is not homogenous – it will change and encompass many different elements, depending on the asset. Therefore, trying to assign a single level of sensitivity to setting would not be an effective way of assessing change.

Assessing Level of Impact

- 7.25 Once a level of value/sensitivity has been assigned, the level of impact from the development is assessed. Potential impacts are defined as a change resulting from the development which affects the significance of an historic asset. These impacts are considered in terms of being either direct, indirect or cumulative, from construction or operation, and temporary, long-term or permanent. The assessment will include consideration of an asset's setting.
- 7.26 The level of an impact can be judged in a five-point scale as set out in Table 7.3 below. The impact score is arrived at without reference to the importance of the asset and the impact is assessed without taking into account any subsequent mitigation proposals.

Table 7.3 – Criteria for establishing Level of Impact

Impact	Criteria
High	Total removal or substantial alteration of asset, such that the physical resource or the key components of its setting are totally altered resulting in complete change to an asset's setting and heritage value of the asset.
Medium	Partial alteration of an asset, such that the heritage value of the resource or the key components of its setting are clearly modified.
Low	Minor alteration of an asset, such that the components of its setting are changed, but the physical characteristics are not affected and the impact does not result in a loss of heritage value.

Minimal	Slight changes to historic elements that hardly affect the setting of an asset and do not result in any loss of value.
No impact	No change to fabric or a change to setting which results in no change to the key characteristics of the asset.

Criteria for Assessing the Significance of Effects

- 7.27 The assessment of effects will be undertaken in two stages. The magnitude of impact is cross-referenced with the value of the asset (sensitivity) to categorise the effect that is likely to result from the proposed extension.
- 7.28 Following this stage, further consideration of mitigation is carried out, and the mitigation is assessed as to whether this would reduce the significance of the effect (the impact remains unchanged). Once further mitigation is applied, the asset is re-assessed, allowing the residual effect to be determined, as seen in Table 7.4.

Table 7.4 – Significance of Effect

Magnitude of Impact	Sensitivity of Asset			
	High	Medium	Low	Not Significant
High	Major	Major	Moderate	Neutral
Medium	Major	Moderate	Minor	Neutral
Low	Moderate	Minor/Moderate	Minor	Neutral
Minimal	Minor	Minor	Minor	Neutral
No Impact	Neutral	Neutral	Neutral	Neutral

- 7.29 NPF4 Policy 7 d) identifies that development proposals affecting the setting of a listed building should preserve its character, and its special architectural or historic interest.
- 7.30 When considering scheduled monuments, Policy 7 h) iii. of NPF4 sets out that where a proposed development has the potential to have an adverse effect on a scheduled monument or the integrity of its setting, exceptional circumstances must be demonstrated to justify the impact, and that impacts have been minimised. Therefore, it needs to be shown that even if an adverse effect is found, as long as the integrity of the setting is preserved, the effect is considered acceptable.
- 7.31 For Conservation Areas, the test of Policy 7 d) is that proposals outwith a Conservation Area which will impact on its setting, should preserve or enhance the character and appearance of the conservation area. Proposals that do not harm the character or appearance of the conservation area should be treated as preserving its character or appearance.
- 7.32 It is understood that a matrix-led approach can sometimes artificially inflate or diminish the actual levels of effect experienced by an asset through the rigidity of the process. Professional judgement will be applied to the use of the matrix and the conclusions will also be set out within the narrative of the report to ensure a true reflection of the level of effect arising from the scheme is set out.

- 7.33 A significant effect in the professional judgment of Pegasus, for the purposes of the EIA Regulations, is considered to be Major adverse. Moderate adverse effects can be considered 'significant' or 'not significant'. The distinction is made by applying professional judgement to the matrix-led process, allowing a true reflection of the effect to be considered, rather than a level of effect which has been artificially inflated due to the constraints of the EIA process.

Baseline Conditions

- 7.34 A fuller discussion of the historic and archaeological background of the Proposed Development Area and study area can be found in Appendix 7.1: Cultural Heritage Baseline.
- 7.35 The Proposed Development is located in Dumfries and Galloway, Scotland. The Site is centred at approximately easting and northing co-ordinates (E)235247, (N)573276. The closest settlements to the proposed turbines are the village of Glentworth, located approximately 2.8km north of the Site, and the town of Newton Stewart which is located approximately 7km south-east of the Site. There are pockets of small hills within the central areas of the Proposed Development Area rising to 90m AOD, 100m AOD and 105m AOD, before the land rises in the north-west of the site at Butter Cairn (164m AOD) and Top of the Fell (184m AOD).
- 7.36 The Proposed Development Area is located within the administrative area of Dumfries and Galloway Council.

Designations

- 7.37 As stated above designated heritage assets comprise listed buildings, scheduled monuments, conservation areas, gardens listed on the Inventory and battlefields listed on the Inventory.
- 7.38 Given the scale of the search areas set out above, a large number of designated assets were identified within the study area. The designated assets comprise:
- 27 Scheduled Monuments;
 - Seven Category A listed buildings;
 - 65 Category B listed Buildings;
 - 71 Category C listed buildings; and,
 - One Conservation Area.
- 7.39 No gardens listed on the Inventory and battlefields listed on the Inventory were located within the search area.

Historic and Archaeological Background

- 7.40 A full historic and archaeological background can be found in Appendix 7.1. For brevity, a summary is provided below:

- 7.41 Two elements of potential prehistoric archaeology are recorded within the Proposed Development area, comprising a findspot of a flint knife, and a possible prehistoric boundary feature named Deil's Dyke. Based on the recorded information alongside the findspot, it is however possibly mis-located and might have been found north-east of the Site. The Deil's Dyke is also more likely to represent an amalgamation of medieval and/or post-medieval boundary features rather than a single prehistoric feature, the notion of which appears to be a 19th-century construct (see Appendix 7.1). In the wider landscape a large number of prehistoric features including cairns, cup and ring marked stones, and standing stones are also recorded, several of which are scheduled monuments. The number of cairns and prehistoric features within this landscape indicate that it was utilised during this period, most likely because of the valley location and access to resources. There is no evidence of settlement activity within the area but it is clear that this was a landscape utilised at points by groups during the prehistoric period.
- 7.42 There is no recorded evidence of Roman activity in the study area.
- 7.43 Otherwise, the only archaeological assets identified to date within the Proposed Development boundary comprise several historic farmsteads and agricultural features, some of which may have medieval origins, but which are predominantly likely to date from the post-medieval period.
- 7.44 The possible former site of a medieval chapel (Kirkhobble) is recorded in the east of the Site, however the evidence for this appears to be uncertain, with the remains at the recorded chapel site more likely to relate to a former farmstead, and the actual location of the former chapel potentially lying outside the Site. Glenvernoch farmstead in the north of the Site is recorded as having potential medieval origins but will not be directly impacted by the proposals. There are a small number of other elements of medieval heritage recorded in the vicinity of the Site which predominantly comprise historic farmsteads and/or relate to agricultural activity.
- 7.45 It is anticipated that any further unknown archaeology within the Proposed Development is likely to be of early modern date and would be related to the agricultural history and use of the Site, for example unmapped sheepfolds or shelters. It is not considered that the Site has the potential to contain archaeology of national significance or commensurate to a Scheduled monument, other than the aforementioned Deil's Dyke.
- 7.46 Several features from the post-medieval period are recorded within the Proposed Development area, all of which relate to historic farmsteads and/or agricultural features. The Statistical Accounts of Scotland 1791-1845 (split into the Old and New) describes the north of the parish (in which the Site lies) in 1792 as having far inferior soil to the south, except for a few spots on the water and Loch of Cree, which if properly improved are capable of raising excellent crops. This is largely echoed in the New Statistical Account of 1845 when it is also noted that approximately 600 acres of the parish is under woodland, but that there is little natural wood, with all apparently being relatively recently planted and managed woodland.
- 7.47 Blaeu's 1654 map of Galloway which shows the Site at a large scale, with woodland represented along the eastern extent of the Site at this time and several farmsteads named within the Site and its vicinity. This includes 'Glenbarranach (Glenvernoch)', and

'Knock Vill (Knockville)' which is recorded by the DGHER. Knockville is not named but is represented as a group of buildings with associated rig and furrow on the Roy Military Survey of Scotland, dated 1747-55. Glenvernoch and Kirkhobble farmsteads (discussed in medieval section above) are also recorded within the Site on this map. Further farmsteads are recorded within the Site on the mid-19th century, 1st Edition OS map, with 'Craigie' recorded in the west and 'River Cree' in the east of the Site. Several enclosures area also recorded within the Site by the DGHER, and are noted as being depicted on the 1st Edition OS map. A review of LiDAR data, historic maps, and supplementary information provided by the DGHER has identified several other agricultural features of possible post-medieval date, including sheep and hay rees, and areas of remnant rig and furrow. Some of the proposed turbine locations are likely to coincide with some areas of remnant rig and furrow, however these are considered to be of low archaeological significance, and the impact to the overall areas would be very limited.

- 7.48 Recorded post-medieval heritage in the vicinity is likewise predominantly represented by agricultural buildings and features, with a number of historic farmsteads recorded, along with field systems, and enclosures. Possible corn drying kilns and lime kilns are also identified in association with some of these features.
- 7.49 The Proposed Development area appears to have changed little from the 18th century, largely remaining as rough, open pasture, with some localised areas of enclosure and improved land, focussed on the various farmsteads within the area. A single element of modern heritage is recorded within the Site, comprising the site of an aircraft wreck in the north. The potential crash site will be unaffected by the proposals, with the nearest proposed turbine c.1.65km away.

Historic Landscape

- 7.50 The Historic Land-use Assessment (HLA) mapping identifies the majority of the Proposed Development Site as being Rough Grazing, dating from the late-20th century to present. Some localised areas are recorded as 'Rectilinear Fields and Farms', which largely correspond to the extant and/or historic farmsteads within the Site and are dated from the 18th century to present. Some localised areas of late-20th century, 'Unenclosed Improved Pasture' and 20th century 'Plantation' woodland are also recorded.

Asset Sieving Process

- 7.51 As part of Landscape and Visual Impact Assessment (Chapter 6), a ZTV was produced (see figures 6.11-6.16). It is acknowledged that the ZTV is merely an aide to assessment and that the setting of historic assets is not a purely visual consideration; the significance of an asset can be affected through changes to setting without visibility of the turbines. Therefore, those assets which fell outside of the ZTV within the study area were analysed to establish their setting and whether they had issues of intervisibility or historic associations with assets within the ZTV. No assets which lay outside the ZTV were found to have a setting which would be impacted by the Proposed Development; therefore their significance would not be affected.
- 7.52 27 Scheduled Monuments were located within the wider 10 km study area. After the ZTV was applied to determine scheduled monuments with the potential for visibility to the

Proposed Development, this number was reduced to 25. These 25 monuments were considered within the baseline, using a combination of professional judgement and desk-based research. One scheduled monument, Deil's Dyke (ref. SM1966), extends into the west of the Proposed Development. This was reviewed in detail as part of the baseline and taken forward for further assessment. However, it was considered that the Proposed Development was not anticipated to impact the significance of the asset (Cultural Heritage and Archaeology Baseline – Technical Appendix 7.1, paras. 5.33-5.36). The results of this sieving exercise identified eight scheduled monuments with the potential to experience impacts from the Proposed Development. These eight monuments are:

- Middle Bridge of Cree, cairn – SM1943;
- Loch Ochiltree crannogs – SM2266;
- Prehistoric Ritual and Funerary Monuments south-east of the Proposed Development Area, overlooking the River Cree, comprising:
 - Drumfern, cairn and remains of stone circle – SM1019;
 - The Thieves, standing stones, Blair Hill – SM1044;
 - Napper's Cottage, chambered – SM5676;
 - Dalvaird, cairn 320m NNE of – SM1015.
- Drumwhirn cairn N of Boreland – SM1021; and,
- White Cairn, chambered cairn – SM1048.

7.53 Seven Category A and 65 Category B listed buildings were located within the wider 10 km study area. When the ZTV was applied, this reduced the number to four Category A and 25 Category B listed buildings. These listed buildings were considered within the Technical Appendix 7.1. It was concluded that the Proposed Development does not form part of the setting of the majority of these buildings, and that they would not experience any change from the Proposed Development. These are scoped out of further consideration and not considered within this EIA.

7.54 The Listed building taken forward for further assessment is the Category A Listed Challoch All Saints Episcopal Church, c.4.5km south-east of the Site (ref. LB19190).

7.55 The 10 km study area contained 71 Category C listed buildings. When the ZTV was applied this reduced the number to 38. The Category C listed buildings have been considered within the Technical Appendix 7.1 and it is considered the Proposed Development Area does not form part of the setting of the assets, and that none of the Category C buildings have the potential to experience impacts from the Proposed Development. These are scoped out of further consideration and not considered within this EIA.

7.56 One Conservation Area, Newton Stewart, lay within the wider 10 km study area which lay within the ZTV which is considered within the baseline. Following this assessment, no key views were identified which would be affected by the Proposed Scheme and it was considered that the Proposed Development did not form part of its setting. The Conservation Areas has therefore been scoped out and is not discussed further within this EIA.

- 7.57 The DumGal HER provided data for regionally significant sites within a 5 km search area, and potentially nationally significant sites within a 10 km search area, a number of which corresponded with designated heritage assets. On review, all non-designated assets were scoped out due to the fact that their setting did not include the Proposed Development Area, nor were views that may potentially contain the Proposed Scheme an important element of the key character of these assets.
- 7.58 Where assets have been scoped out, a fuller explanation of this is given within the Technical Appendix 7.1.

Assumptions and Limitations

- 7.59 Information relied upon in the production of the baseline and EiAR is assumed to have been correct at the time of writing. This describes data provided by third parties such as the DumGal HER and the digital datasets of HES. Assessment of cumulative effects has been reliant on the availability of information on other developments.

Future Baseline

- 7.60 Several designated heritage assets in the wider vicinity of the Proposed Development are located within or adjacent to areas of commercial forestry, which at present, screen the Proposals from these assets (see Appendix 7.1).
- 7.61 It is acknowledged that this is a dynamic landscape, however there is no evidence to currently suggest that this woodland will be removed in the lifetime of the application, or that further areas of woodland will be planted.
- 7.62 In the event that such woodland is removed, effects are considered to be comparable to other assets assessed in detail as part of the baseline assessment and this Chapter. It is therefore considered that the Proposed Development would not result in any significant effects, even in the event that such woodland was removed.

Assessment of Effects

Construction Phase

- 7.63 A detailed description of the Proposed Development is set out in Chapter 4: Design Evolution of the EiAR. The description below summarises those details of the Proposed Development that have particular relevance to this Chapter:
- Excavations required for 13 no. turbine bases;
 - Establishment of crane pads adjacent to 13 no. turbine locations;
 - Excavations required for a substation, and energy storage compound;
 - Formation of new internal site access tracks (approximately 9.5km of new tracks);
 - Formation of a new access onto the A714;
 - On-site underground cabling;
 - Up to two borrow pit workings; and,

- Temporary construction and storage compounds and ancillary infrastructure.

- 7.64 The associated infrastructure for each scenario will be contained within the respective identified micro sited areas (micro siting of 50 m).
- 7.65 The construction of all aspects of development have the potential to physically impact upon the agricultural features of likely post-medieval/modern date, including remnant rig and furrow, and field boundaries/enclosures visible on historic maps and/or LiDAR data. Such features are considered to be of low significance, with the overall impacts anticipated to be low/minimal. At most, it is therefore anticipated that this would result in a **Minor Adverse** impact, and not significant.
- 7.66 The construction of all aspects of the Proposed Development has the potential to physically impact upon unknown archaeological deposits which are considered as assets of low value. Where archaeological deposits would be disturbed, this would reduce and/or remove their archaeological significance, though there would be a record made of these assets before their removal. Therefore, the level of impact of the Proposed Development is considered to be medium, resulting in a **Minor Adverse** effect.

Operational Effects

- 7.67 Cultural Heritage and Landscape visualisations have been used to assist with the assessment of impact. These are outlined below and referenced in relation to the relevant asset(s). Photomontages have been provided for some assets so as to illustrate the location, size, and degree of visibility of the Proposed Development from certain assets. For others, wirelines have been created, which show the location and massing of the Proposed Development as a simple outline.

Table 7.5: Cultural Heritage Visualisation Photomontages and Wirelines

Figure Ref.	Figure Title - Site Name (& Ref No)
7.3	Cultural Heritage VP1 – Photomontages and wirelines from The Thieves Standing Stones (ref. SM1044)
7.4	Cultural Heritage VP2 – Photomontages and wirelines from western bank of Loch Ochiltree, facing towards Loch Ochiltree crannogs (ref. SM2266)
7.5	Cultural Heritage VP3 – Wireline from Middle Bridge of Cree, cairn 110m WNW of (ref. SM1943)
7.6	Cultural Heritage VP4 – Wireline from White Cairn, chambered cairn 630m W of Glentool School (ref. SM1049)
7.7	Cultural Heritage VP5 – Wireline from Dalvaird, cairn 320m NNE of (ref. SM1015)
7.8	Cultural Heritage VP6 – Wireline from Drumwhirn, cairn N of Boreland (ref. SM1021)
7.9	Cultural Heritage VP7 – Wireline from White Cairn, cairn 910m NNE of Bargrennan Cottage (ref. SM1048)

- 7.68 A number of landscape specific viewpoints have also been utilised to provide visualisations from identified assets, or at least indicative views from their vicinity; wirelines and photomontages are provided for each of these. These comprise:

- Landscape VP1 – Southern Upland Way (Hill of Ochiltree), used to provide illustrative views from Deil's Dyke (ref. SM1966);
- Landscape VP2 – A714, north of Bargrennan, used to provide illustrative views from south of White Cairn (ref. SM1048);
- Landscape VP4 – Southern Upland Way (Bargrennan), used to provide illustrative views from south of Middle Bridge of Cree, cairn (ref. SM1943);
- Landscape VP10 – All Saints Church, Challoch (ref. LB19190), used to provide illustrative views; and,
- Landscape VP18 – Moor of Barclye Archaeological Sensitive Area, used to provide illustrative views from concentration of scheduled monuments south-east of the Proposed Development.

Middle Bridge of Cree, cairn

- 7.69 The scheduled monument of **Middle Bridge of Cree, cairn** (ref. SM1943) is an asset of **high** value. This is a prehistoric cairn, lying at c.45m aOD, in a slightly hollow, overlooking the River Cree. The cairn is oval in shape, measuring c.23m east-west by c.16m. The key characteristics of this asset is formed primarily through its physical fabric and its intrinsic archaeological characteristics which provide evidence of prehistoric land-use and ritual funerary activity. The cairn also has potential to reveal evidence of the culture and society of who constructed this monument through artefactual material and the contemporary land surface beneath the cairn.
- 7.70 The setting of this asset is formed by the hollow in which it is located, and its situation overlooking the River Cree. Due to local topography, views southward and westwards are limited. Slightly longer distance views are afforded northwards, but these are not long-distance views. Views beyond the River Cree are likewise largely screened by the woodland in this direction, although occasional longer distance views are afforded to the hills and woodland beyond. The location of the cairn was clearly not chosen to afford long-ranging views, and it is considered that beyond the immediate surrounds of the asset, which have potential to hold associated archaeological remains, the nearby River Cree forms the most important element of the asset's setting. There are no particular views to other cairns within close proximity which could indicate a distinct, visual relationship.
- 7.71 Cultural Heritage Viewpoint 3 was located at the monument and wirelines were created (Cultural Heritage Viewpoint 3, Figure 7.5). The wirelines show that there will be glimpsed visibility of the uppermost tips of the blades of turbines 1, 4, 7, 8, and 10 extending above the ridge – but barely. It is considered that the extent of the tips visible is so minimal that in reality, the turbines will be imperceptible from this asset. This is illustrated at Figure 7.5. It is the case that this barely perceptible view of the tips of at most five turbines would not cause any impact on the ability to understand the key characteristics of the asset, nor would it affect any of the elements of the views from the asset which form the setting.
- 7.72 The integrity of the setting of the asset would not be adversely affected. The level of impact is considered to be no impact. The effect would be **Neutral**, and not significant.

Loch Ochiltree crannogs

- 7.73 The scheduled monument of **Loch Ochiltree Crannogs** (ref. SM2266), is an asset of **high** value. The boundaries of the Scheduled area cover three small islands within Loch Ochiltree, although there is some uncertainty as to whether these are genuine crannogs. The larger northern island is noted as holding the remains of a rectangular house, unlikely to pre-date the 18th century, and with no sign of defensive walls around the island. The smaller islet to the south is simply noted as having been previously recorded as a crannog, and the south-western islet is noted as having what appears to be an area of irregularly dumped stone, c.7m in diameter, and rising to c.0.5m above the level of the loch.
- 7.74 Since the nature of these assets is uncertain, their significance also has a degree of uncertainty, however assuming these are genuine crannogs, their significance is principally derived from their physical fabric, which have archaeological interest.
- 7.75 With regard to setting, the most important element of this is considered to comprise the surrounding Loch which will have informed their location, and which has potential to hold associated archaeology. Views from the possible crannogs are generally restricted by the woodland across them, but longer-distance views across the loch are possible from their edges. Views southwards beyond the loch are generally restricted by the woodland plantations in this direction, while longer distance views across the land to the west and hills beyond are possible. The longest distance views extend northwards, down the loch, with views eastwards being restricted by the Hill of Ochiltree. The crannogs are best appreciated from the loch itself but can be observed as wooded islets from the surrounding landscape.
- 7.76 Cultural Heritage Viewpoint 2 was located on the western bank of Loch Ochiltree, facing east-south-eastwards, towards the monument and Site beyond; photomontages and wirelines were created (Cultural Heritage Viewpoint 2, Figure 7.4). The visualisations shows that there will be partial visibility of some turbine blades associated with the Proposed Development, with the upper extents of the blades of turbines 2, 3, 5, 6, 9, 11, 12, and 13 extending above the ridge line when viewing the islets from the western bank of Loch Ochiltree. As the islets are lower-lying and in closer proximity to the ridgeline, it is anticipated that the turbines will be less visible from the asset itself and will not generally be appreciable due to the woodland which covers the islets. It is considered that the addition of visible turbines in this area does form a slight detractor from this view, however these are not considered to be key or important views from the asset, with views in this direction limited by the local topography.
- 7.77 It is the case that some of the turbines associated with the Proposed Development will be a visible feature of views eastwards towards this, and from this asset. This will slightly reduce the contribution this view makes to the heritage significance of this asset by adding modern infrastructure into the view, but fundamentally, the key characteristics of this asset, and the elements which contribute towards its significance will not experience change. The integrity of the setting of the asset would not be adversely affected. The level of impact caused by the change in the view is considered to be minimal. The effect would be **Minor Adverse**, and not significant.

Prehistoric Ritual and Funerary Monuments south-east of Proposed Development Area, overlooking the River Cree

7.78 A group of Scheduled Monuments lie within an Area of Archaeological Sensitivity to the south-east of the Proposed Development Area, occupying elevated positions overlooking the River Cree. These all comprise prehistoric ritual and/or funerary monuments. Due to their similarities in terms of nature, siting and general location in relation to the Proposed Development Area, they will be considered as a group. The grouped assets comprise:

- **Drumfern, cairn and remains of stone circle** (ref. SM1019) – the monument comprises a cairn c.10m in diameter and c.0.4m high, located on a south-facing slope. A stone circle c.26m across, with seven surviving stones, none of which exceed 0.9m in height, lies approximately 27m east-north-east of the cairn;
- **The Thieves, standing stones, Blair Hill** (ref. SM1044) - two standing stones c.2m, and c.2.2m tall, approximately c.4.4m apart, with a broken slab protruding from the turf between them;
- **Napper's Cottage, chambered cairn** (ref. SM5676) – a Clyde cairn dating to the Neolithic period which appears to be oval-shaped, aligned east-west, and is approximately 25m x 15m; and,
- **Dalvaird, cairn 320m NNE of** (ref. SM1015) – the remains of a prehistoric burial cairn, visible as an oval-shaped, upstanding mound.

7.79 All of the above assets or of **high** value and primarily derive their significance from their physical fabric which has archaeological interest, providing evidence of prehistoric funerary and ritual practices. The key elements of their setting are primarily the immediately surrounding land which has potential to hold associated archaeological remains. The assets also contribute to one another's significance due to their proximity and situation on the same slope. While not necessarily contemporary, their placement in relation to one another was potentially deliberate. The key element of the wider settings of these monuments is the Cree River valley. It is this relationship with the valley and the course of the river which seems to have dictated the location of these assets. Views from these assets form part of their setting, however these views are extensive, and it is this breadth and panorama of the views that considered to make a contribution to the significance by helping to understand the prominent location, the river valley location and the relationship between the assets and the surrounding landscape.

7.80 While not all of the features were necessarily designed to be appreciable from a distance (e.g. the Drumfern cairn and stone circle are relatively diminutive), the assets were placed by design in prominent locations, overlooking the River Cree and low-lying land to the south-west. Local topography restricts views north-westwards (towards the Proposed Development area) from both The Thieves standing stone, and Napper's Lodge chambered cairn, which have their most expansive views to the south. Views from Napper's Lodge are further focussed southwards across the landscape by a depression to the south. Similarly, the broadly north-north-east to south-south-west alignment of The Thieves standing stones focusses views in this direction. More expansive views are afforded to the south-west and west from Drumfern cairn, although the stone circle extends round a slight rise to the rear, so views are more limited from the northern side of this feature. However, as with the preceding assets views from Drumfern cairn appear to be focussed

southwards. Similarly, views from Dalvaire cairn are limited to the north and west by the surrounding topography, with more expansive views afforded across the Cree valley to the south-west.

- 7.81 Cultural Heritage Viewpoint 1 was located at the Thieves, standing stones so as to provide illustrative views from the most prominently located asset in a cluster; photomontages and wirelines were created (Cultural Heritage Viewpoint 1, Figure 7.3). Wirelines were also created from Dalvaire, cairn 320m NNE, of which lay slightly removed from the other three assets (Cultural Heritage Viewpoint 5, Figure 7.7). Further illustrative views are also provided by Landscape VP 18, which is located within the wider Archaeological Sensitive Area, south of Drumfern, cairn and remains of stone circle. The visualisations show that there will be some visibility of the upper extent of a single turbine, along with partial visibility of some turbine blades associated with the Proposed Development from the Thieves, standing stones. The upper extent of turbine 2, including the hub, as well as the upper extents of the blades of the remaining turbines are identified as extending above the ridge line, with more limited visibility of the turbines in the north. Cultural Heritage Viewpoint 5 shows at least partial anticipated visibility of the majority of the turbines, again with greater visibility of the southern extent of the Proposed Development. It should however be noted that these are worst-case views and that intervening forestry in proximity to the asset is anticipated to create some screening. Landscape VP 18 is located further southwards and suggests that more of the turbines (hubs and blades) will be visible from this location, however they show that intervening vegetation is anticipated to at least partially screen some turbines.
- 7.82 It is the case that the turbines of the Proposed Development will be a visible feature within westerly and/or north-westerly views from these assets. However, it is considered that views in the direction of the Site are not the most important views, being more peripheral than the more expansive, and longer distance views afforded to the south-west, across the Cree valley, to the lower-lying land beyond. The key characteristics of these assets and their setting, that is the topographical position, the river valley, the long-distance views across a vast landscape and the intrinsic archaeological interest of the assets would be preserved. The integrity of the setting of the assets would not be adversely affected. It is acknowledged that the visibility of the turbines will vary from asset to asset and when moving between assets, as illustrated by the viewpoint examples. This assessment has therefore considered the worst-case scenario in terms of visibility from the asset grouping – that illustrated by Figure 7.7. Whilst it is the case that greater amounts of the turbines themselves will be visible, these views, although slightly changed, would still preserve the ability to understand the relationship and sense of the prehistoric use of the slope of this river valley. The change introduced by turbines, even at the worst-case locations will not cause a change to the understanding, experience or appreciation of the asset which would affect the integrity of their setting. It is considered that the operation of the Proposed Development will result in a low level of impact and a **Moderate Adverse** level of effect, which would not be significant.

Drumwhirn cairn N of Boreland

- 7.83 The scheduled monument of **Drumwhirn cairn N of Boreland** (ref. SM1021), is an asset of **high** value. This is a possible long cairn, c.3.7m high, aligned north-north-east to south-south-west. If it was a former long cairn then the monument would have been originally

pear-shaped and c.41.1m long, tapering in at its southern end. The possible southern tail only survives at ground level however, with stones having been robbed from the cairn to form sheep pens around the base of the cairn. The northern end has also potentially been truncated by ploughing. The key characteristic of this asset is formed primarily through its physical fabric and its intrinsic archaeological characteristics which provide evidence of prehistoric land-use and ritual funerary activity. The cairn also has potential to reveal evidence of the culture and society who constructed this monument through artefactual material and the contemporary land surface beneath the cairn.

- 7.84 The setting of this asset is formed by the hill on which it is located. This provides a vantage point from which panoramic views are available which take in a wide variety of landscapes including surrounding hills and along and across the Cree River valley to the north-west, west, and south. Views from the asset form part of the setting, however these views are extensive, and it is this breadth and panorama of the views that are considered to make a contribution to the significance by helping to understand the prominent location and the relationship between the asset and the surrounding landscape. There are no particular views to other cairns within close proximity which could indicate a distinct, visual relationship.
- 7.85 Cultural Heritage Viewpoint 6 is located at the monument and wirelines were created (Cultural Heritage Viewpoint 6, Figure 7.8). The visualisations shows that all turbines associated with the Proposed Development will be a visible feature in north-westerly views from the asset. Further illustrative views are also provided by Landscape VP 18, which is located within the wider Archaeological Sensitive Area, north-east of Drumwhirn cairn. These visualisations likewise show that the majority of the turbines will be visible from this area, however they show that intervening vegetation is anticipated to at least partially screen some turbines.
- 7.86 It is the case that the turbines of the Proposed Development will be a visible feature within north-westerly views from this asset, which extend down/across the river valley in this direction. The key characteristic of this asset and its setting which comprise the topographical position, the river valley, the long-distance, panoramic views across a vast landscape and the intrinsic archaeological interest of the assets would be preserved. The integrity of the setting of the asset would not therefore be adversely affected.
- 7.87 This assessment has therefore considered the worst-case scenario in terms of visibility from the asset – that illustrated by Figure 7.8. Whilst it is the case that greater amounts of the turbines themselves will be visible, these views, although slightly changed, would still preserve the ability to understand the relationship and sense of the prehistoric use of the slope of this river valley. The change introduced by turbines, even in the worst-case scenario, will not cause a change to the understanding, experience or appreciation of the asset which would affect the integrity of their setting. It is considered that the operation of the Proposed Development will result in a low level of impact and a **Moderate Adverse** level of effect, which would not be significant.

White Cairn, chambered cairn, cairn 910m NNE of Bargrennan Cottage

- 7.88 The scheduled monument of **White Cairn, chambered cairn, cairn 910m NNE of Bargrennan Cottage** (ref. SM1048), is an asset of **high** value. This is a prehistoric kerb cairn,

surviving as a partly turf-covered, stony mound, c.18m in diameter, and c.2m high. It is noted as being slightly robbed to the south and with evidence of a small excavation in its top, but no evidence of a cist or chamber. The key characteristics of this asset are formed primarily through its physical fabric and its intrinsic archaeological interest which provide evidence of prehistoric land-use and ritual funerary activity. The cairn also has potential to reveal evidence of the culture and society who constructed this monument through artefactual material and the contemporary land surface beneath the cairn.

- 7.89 The setting of this asset is formed by the hill upon which it is situated. This provides a vantage point from which panoramic views are available which take in a wide variety of landscapes including surrounding hills and across the Cree River valley to the north-west, west, and south. Views from the asset form part of the setting, however these views are extensive, and it is this breadth and panorama of the views that are considered to make a contribution to the significance by helping to understand the prominent location and the relationship between the asset and the surrounding landscape, particularly the Cree valley. There are no particular views to other cairns within close proximity which could indicate a distinct, visual relationship.
- 7.90 Cultural Heritage Viewpoint 7 is located at the monument and wirelines were created (Cultural Heritage Viewpoint 7, Figure 7.9). The visualisations shows that all of the turbines of the Proposed Development will be distantly visible in views southwards from the asset, across the Cree valley. Landscape Viewpoint 2 is taken from the A714 south of the scheduled monument, with photomontages providing illustrative views showing the anticipated visibility of the turbines.
- 7.91 It is the case that the turbines of the Proposed Development will be a visible feature within southerly views from this asset, which extend down/across the river valley in this direction. The key characteristic of this asset and its setting which comprise the topographical position, the river valley, the long-distance, panoramic views across a vast landscape and the intrinsic archaeological interest of the assets would be preserved. The integrity of the setting of the asset would not therefore be adversely affected. The change introduced by turbines will not cause a change to the understanding, experience or appreciation of the asset which would affect the integrity of their setting.
- 7.92 It is considered that the operation of the Proposed Development will result in a low level of impact and a **Moderate Adverse** level of effect, and not significant.

Challoch, All Saints Episcopal Church with boundary walls and gatepiers

- 7.93 The Category A Listed **Challoch, All Saints Episcopal Church with boundary walls and gatepiers** (ref. LB19190) is an asset of **high** value. This is an Early English aisleless church with chancel, vestry, and 2 porches. It was designed by W.G. Habershon, and A.R. Pite, and constructed in 1871-2 of squared whinstone with red sandstone ashlar dressings. The church was commissioned as a private Chapel by Edward J. Stopford Blair of Penninghame House and bequeathed to the Diocese in 1885. The significance of the asset is primarily derived from its physical fabric and internal fittings, which have historic and architectural interest.

- 7.94 The key elements of the asset's setting comprise the surrounding churchyard, and historically associated Category B Listed rectory to the south. Penninghame House to the north is also considered to contribute due to the historic association, however there is no readily appreciable visible connection between the two due to the distance, intervening topography and vegetation. The church is situated in an elevated position and is readily appreciable when approaching from both the north and south, along the A714. This is clearly by design, with the former personal Chapel being a clear statement of status. The church does not however have a tower and views outward from the church are considered to be largely incidental.
- 7.95 Landscape Viewpoint 10 was taken from the A714 adjacent to the listed building and was used to provide illustrative views of the Proposed Development. Photomontages and wirelines were created from this viewpoint. The visualisations show that upper extents of the turbines associated with the Proposed Development, will be visible in distant views northwards, above the woodland in this direction, which will provide some screening of the more northerly turbines.
- 7.96 Although the Proposed Development will result in the addition of some visible built form to distant views northwards from the asset, it is considered that views outwards from the asset are largely incidental. The Proposals will not impact or interrupt any important views which contribute to the understanding or experience of the asset, and the turbines are too distant to challenge the dominance of the asset. They will also not affect any key or important views of the asset which is best appreciated from the immediate rural surrounds and adjacent road. Furthermore, views of the turbines will not affect the ability to understand or appreciate the church, or its associated graveyard, and relationship with historically associated buildings. The effect will be **Neutral**, and not significant.

Glengruboch

- 7.97 The non-designated heritage asset **Glengruboch** (ref. MDG23660), is an asset of **high** value. This is a potential prehistoric ritual or funerary enclosure, formed by a turf-covered, stony bank, c.0.5m high, and measures c.16.3m north-east to south-west, and c.12.6m across. It is noted as being broken on the south-east with a c.8.1m gap in the enclosure. The key characteristics of this asset are formed primarily through its physical fabric and its intrinsic archaeological interest which provide potential evidence of prehistoric land-use and ritual funerary activity. The enclosure also has potential to reveal evidence of the culture and society who constructed this monument through artefactual material and the contemporary land surface beneath the feature.
- 7.98 The setting of this asset is formed by the hill upon which it is situated. This provides a vantage point from which wide-ranging views are available which take in a variety of landscapes particularly to the south and south-east, across the Cree River valley. Views from the asset form part of the setting, however these views are extensive, and it is this breadth and panorama of the views that are considered to make a contribution to the significance by helping to understand the prominent location and the relationship between the asset and the surrounding landscape, particularly the Cree valley.
- 7.99 Landscape Viewpoint 2 is taken from the A714 north-east of the monument, with photomontages providing illustrative views showing the anticipated visibility of the

turbines. The visualisations shows that all of the turbines of the Proposed Development will be distantly visible in views southwards from the asset, across the Cree valley.

- 7.100 It is the case that the turbines of the Proposed Development will be a visible feature within southerly views from this asset, which extend down/across the river valley in this direction. The key characteristic of this asset and its setting which comprise the topographical position, the river valley, the long-distance, panoramic views across a vast landscape and the intrinsic archaeological interest of the assets would be preserved. The integrity of the setting of the asset would not therefore be adversely affected. The change introduced by turbines will not cause a change to the understanding, experience or appreciation of the asset which would affect the integrity of their setting.
- 7.101 It is considered that the operation of the Proposed Development will result in a low level of impact and a **Moderate Adverse** level of effect, and not significant.

Decommissioning Phase

- 7.102 No significant effects are predicted arising from the decommissioning phase. The only impact associated with the decommissioning phase would be the reversal of any impact to significance caused by the operational scheme.
- 7.103 There would be no impact on any unknown archaeological assets as this would have been mitigated during the construction phase where required.

Cumulative Effects

- 7.104 For the cumulative assessment, wind farm schemes within a 20 km search area for selected heritage assets were considered (Figure 6.10). This search area reflects the detailed study area used within the LVIA Chapter 6 for consideration of cumulative effects.
- 7.105 The schemes considered as part of this section are those schemes which are consented, but not yet constructed, and those in the planning stages. Operational wind farms have been considered as part of the baseline.
- 7.106 The assets considered within this section are those assets which have been assessed in the main body of the text above. This is because a cumulative effect can only occur with this scheme in combination with other schemes. Any impact which may arise from another scheme alone is a matter of the assessment for that scheme. Any impacts which arise from the Proposed Development alone are a matter for the main body of the assessment which has been considered in detail above.
- 7.107 In order to aide in the cumulative effects assessment, key Cultural Heritage Viewpoints and relevant Landscape Viewpoints, which provide illustrative views from heritage assets, have been made into photomontages, one element of which includes a wireline showing the consented and in planning schemes, therefore the cumulative impacts can be assessed. In addition, the cumulative ZTVs (CZTVs) produced to support Chapter 6 – Landscape and Visual Assessment (Figure 6.28 – 6.32) have been utilised to assist in the assessment.

- 7.108 It should be reiterated that ZTVs imply a much greater geographical extent of influence on the landscape and views of it than would actually be the case. These cumulative ZTVs are based on a 'bare-earth' scenario – that is they have been created using terrain data only and do not include any buildings or vegetation as would be the case with a 'screened' ZTV. It therefore follows that the cumulative ZTVs also exaggerate the actual impacts of the turbines as they do not take account of vegetation or buildings in the landscape, which may restrict the nature and extent of views.
- 7.109 For this assessment, a 'worst-case' scenario has been adopted in that all schemes consented and in planning are built out.

Middle Bridge of Cree, cairn

- 7.110 Landscape Viewpoint 4 is located on the Southern Upland Way, south of Middle Bridge of Cree, cairn and has been used to provide illustrative views from the asset. No additional schemes are included in the visualisations, or are suggested by the ZTVs (Figures 6.28-6.29) therefore no cumulative effects are anticipated.

Loch Ochiltree crannogs

- 7.111 Cultural Heritage Viewpoint 1, Figure 7.3 shows that in views towards the Proposed Development only the Blair Hill wind farm development, which is at Scoping stage, but understood to be close to submission would also be visible. However, the ZTV shows that from the asset itself, only the Proposed Development at Glenvernoch will be visible from the scheduled monument itself (Figure 6.32). The ZTVs also show visibility between the asset and consented, and operational windfarms which lie to the west and north-west (Figures 6.28-6.30).
- 7.112 The views of the Blair Hill scheme in combination with the Proposed Development would extend the views of turbines across a wider vista when looking towards the heritage asset from the western bank of Loch Ochiltree. However, given the distance from the asset, the fact that these are not key views, and are not anticipated to be readily appreciable from the asset itself, it is considered that the significance of the asset would not be significantly affected. Likewise, while other turbines will be visible in wider views to the west and north, west, the integrity of the setting of this asset will not be adversely affected by the combination of the Proposed Development and additional wind turbine schemes. The combination of the schemes would result in a minor adverse cumulative effect. This is not a significant effect, and is not an increased effect.

Prehistoric Ritual and Funerary Monuments south-east of Proposed Development Area, overlooking the River Cree, including Drumwhirn cairn N of Boreland

- 7.113 Cultural Heritage Viewpoint 2, Figure 7.4 has been used to provide illustrative views from the group of assets to the south-east of the Proposed Development and shows that views would contain a number of additional wind farms and/or windfarm extensions which would appear in the distance behind the Proposed Development, and alongside existing windfarms. The ZTVs show that anticipated visibility of the Proposed Development and additional consented and operational windfarms which lie distant to the west and north-west (Figures 6.28-6.29). The proposed Blair Hill windfarm will also be visible from the assets

(Figure 6.32) and is located within close proximity to the assets. It will not however be co-visible with the Proposed Development as it lies east of the assets.

- 7.114 While the proposed schemes to the west and north-west would be visible in combination with the Proposed Development and, if all developed, would introduce a large number of turbines into the view from this asset, the majority of the turbines would be at a great distance from the asset and would be seen alongside extant wind turbines. Although they would cause a change to the wider landscape, it is not considered that they would significantly impact upon the ability to understand the relationship between the asset and its location.
- 7.115 The proposed Blair Hill windfarm will lie in much closer proximity to the assets but lies in the opposite direction of the Proposed Development. This scheme will bring turbines into close proximity to this asset grouping, and introduce turbines in the view in an opposing direction to the Proposed Scheme, potentially meaning that the assets may begin to experience a 'surrounding' effect from turbine development. It is considered that the Blair Hill scheme in combination with the Proposed Scheme will potentially result in a higher cumulative effect than arising from the Proposed Development. The proximity of the Blair Hill scheme means that the ability to appreciate views east from the assets will be impacted, and the proposed turbines will extend across higher ground above the assets, with potential to dominate the landscape and overshadow the assets.
- 7.116 It is considered this would result in a moderate adverse cumulative effect. This is not a significant effect, and is not an increased effect.

White Cairn, chambered cairn

- 7.117 Landscape Viewpoint 2 lies at the A714, south of White Cairn, chambered cairn but has been used for illustrative purposes. The visualisations show that views of the Proposed Development will include distant, partial views of the proposed Blair Hill windfarm development. Very distant views of the Gass wind farm, also at Scoping/PreApp stage, are also shown alongside the operational Airies, and Carscreugh windfarms (Figures 6.28-9). However, none of these distant windfarms were considered to impact the significance of this asset, therefore cumulative effects will not occur.
- 7.118 The ZTV shows anticipated visibility of the Proposed Development and the proposed Blair Hill windfarm (Figure 6.32).
- 7.119 While this scheme would be visible in combination with the Proposed Development and, if developed, would introduce a number of turbines into the view from this asset, the majority of the turbines would be at a considerable distance and would not enclose the asset to a degree that would remove the panoramic wider views. Although they would cause a change to the wider landscape, it is not considered that they would significantly impact upon the ability to understand the relationship between the asset and its location. It is therefore considered that this would result in a moderate adverse cumulative effect. The integrity of the setting of this asset will not be adversely affected by the combination of the Proposed Development and additional wind turbine schemes. This is not a significant effect, and is not an increased effect.

Challoch, All Saints Episcopal Church with boundary walls and gatepiers

- 7.120 Landscape Viewpoint 10 shows that in views towards the Proposed Development only the Balunton wind farm development, which is at Scoping/PreApp stage.
- 7.121 The scheme would be visible in combination with the Proposed Development, however it is anticipated that the intervening vegetation will at least partially screen the Balunton development. It was demonstrated from the main assessment that although there would be anticipated visibility of development associated with the Proposed Scheme, that these wider views were largely incidental, and that the Site did not form part of the setting, and the impact of the Proposals has been assessed as no impact, Neutral effect. Therefore, there cannot be a cumulative effect resulting from any of the other schemes in combination with the Proposed Development. This is not a significant effect.

Glengruboch

- 7.122 Landscape Viewpoint 2 lies at the A714, north-east of Glengruboch enclosure but has been used for illustrative purposes. The visualisations show that views of the Proposed Development will include distant, partial views of the proposed Blair Hill windfarm development. Very distant views of the Gass wind farm, also at Scoping/PreApp stage, are also shown alongside the operational Airies, and Carscreugh windfarms (Figures 6.28-9). However, none of these distant windfarms were considered to impact the significance of this asset, therefore cumulative effects will not occur.
- 7.123 The ZTV shows anticipated visibility of the Proposed Development and the proposed Blair Hill windfarm (Figure 6.32).
- 7.124 While this scheme would be visible in combination with the Proposed Development and, if developed, would introduce a number of turbines into the view from this asset, the majority of the turbines would be at a considerable distance and would not enclose the asset to a degree that would remove the wider views. Although they would cause a change to the wider landscape, it is not considered that they would significantly impact upon the ability to understand the relationship between the asset and its location. It is therefore considered that this would result in a moderate adverse cumulative effect. The integrity of the setting of this asset will not be adversely affected by the combination of the Proposed Development and additional wind turbine schemes. This is not a significant effect, and is not an increased effect.

Mitigation Measures

- 7.125 It is proposed that a programme of fieldwalking take place on the area of the proposed turbines, crane pads and access tracks to identify any archaeological assets which may be present within the areas and may be impacted by the proposed scheme. Should archaeological remains be identified, consultation will be undertaken with Dumfries and Galloway Council's Archaeologist, to assess whether archaeological investigation would yield results which could provide information to the archaeological record. If archaeological investigation was warranted, the scope of such works would be agreed with Dumfries and Galloway Council prior to commencement.

- 7.126 Where there is the known site of the former agricultural features, these areas will be subject to walkover with a follow up programme of archaeological recording (e.g. watching brief) if and where appropriate. Should micro-siting be required, as far is possible, it will be ensured that turbines will be sited so as to avoid any known archaeological features.

Residual Effects

- 7.127 The assessment has concluded that there would be a Minor Adverse residual effect upon:

- Loch Ochiltree Crannogs (ref. SM2266);
- Historic agricultural features; and,
- Unknown archaeological deposits.

- 7.128 The assessment has concluded that there would be a Moderate Adverse residual effect upon:

- Prehistoric Ritual and Funerary Monuments south-east of Proposed Development Area, overlooking the River Cree comprising:
 - Drumfern, cairn and remains of stone circle (ref. SM1019);
 - The Thieves, standing stones, Blair Hill (ref. SM1044);
 - Napper's Cottage, chambered cairn (ref. SM5676); and,
 - Dalvaird, cairn 320m NNE of (ref. SM1015).
- Drumwhirl cairn N of Boreland (ref. SM1021); and,
- White Cairn, chambered cairn, cairn 910m NNE of Bargrennan Cottage (ref. SM1048).

- 7.129 No residual effects which would be considered as significant in EIA terms have been identified as arising from the Proposed Development.

Summary of Effects

- 7.130 Table 7.6 provides a summary of the effects detailed within this chapter.

Table 7.6: Summary of Effects

Receptor	Value	Description of Impact (temporary or permanent, physical or setting)	Magnitude of Impact	Level of Effect	Mitigation Proposed	Residual Effect (Significant/Not Significant in EIA terms)
Construction Phase						
Unknown archaeological deposits	Low	Physical, permanent from construction of turbines and ancillary features	Moderate	Minor Adverse	Programme of archaeological fieldwork	Minor Adverse – Not significant
Historic agricultural features (e.g., remnant rig and furrow and field boundaries/enclosures)	Low	Physical, permanent from construction of access track between	Low/minimal	Minor Adverse	Programme of archaeological fieldwork	Minor Adverse – Not significant
Operational Phase						
Loch Ochiltree Crannogs (ref. SM2266)	High	Temporary, setting	Minimal	Minor Adverse	None	Minor Adverse – Not significant
Drumfern, cairn and remains of stone circle (ref. SM1019)	High	Temporary, setting	Low	Moderate Adverse	None	Moderate Adverse – Not significant
The Thieves, standing stones, Blair Hill (ref. SM1044)	High	Temporary, setting	Low	Moderate Adverse	None	Moderate Adverse – Not significant
Napper's Cottage, chambered cairn (ref. SM5676)	High	Temporary, setting	Low	Moderate Adverse	None	Moderate Adverse – Not significant

Receptor	Value	Description of Impact (temporary or permanent, physical or setting)	Magnitude of Impact	Level of Effect	Mitigation Proposed	Residual Effect (Significant/Not Significant in EIA terms)
Dalvaird, cairn 320m NNE of (ref. SM1015)	High	Temporary, setting	Low	Moderate Adverse	None	Moderate Adverse – Not significant
Drumwhirn cairn N of Boreland (ref. SM1021)	High	Temporary, setting	Low	Moderate Adverse	None	Moderate Adverse – Not significant
White Cairn, chambered cairn, cairn 910m NNE of Bargrennan Cottage (ref. SM1048)	High	Temporary, setting	Low	Moderate Adverse	None	Moderate Adverse – Not significant
Category A Listed Challoch, All Saints Episcopal Church with boundary walls and gatepiers (ref. LB19190)	High	Temporary, setting	No impact	Neutral	None	Neutral – Not significant
Glengruboch (ref. MDG23660)	High	Temporary, setting	Low	Moderate Adverse	None	Moderate Adverse – Not significant