Appendix 6.2 Wild Land Assessment

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Appendix 6.2 Wild Land Assessment

Introduction

Wild Land effects are considered in this Technical Appendix 6.2 (TA:6.2) of the LVIA in respect of the Merrick Wild Land Area (WLA). This Technical Appendix has been prepared to accompany Chapter 6 in Volume 1 of the Knockcronal Wind Farm (hereafter the Proposed Development) EIA Report.

WLA 01 - Merrick lies a minimum of around 5.2 km to the south of the Proposed Development, as shown on Figures 6.4 and 6.5. The NatureScot 'Description of Wild Land Areas' (2017) for WLA 01 Merrick provides a useful initial brief overview of this WLA:

'This is the most southerly of only three WLAs to the south of the Highland Boundary Fault, all of which are relatively isolated and small in extent (Merrick is 82 km^2). It includes the central part of Forestry Commission Scotland's (FCS) Galloway Forest Park, and consists of a range of steep hills, including Merrick (a Corbett) which at 843 metres is the highest mainland hill in the south of Scotland. Together with several other hills over 600 metres in height, it forms a ridge with spurs between the tops of Shalloch on Minnoch (another Corbett) and Benyellary, collectively known as 'The Awful Hand'. To the east of this, the rocky Dungeon Hills form a slightly lower ridge to the south of the more rounded hill of Mullwharchar. The hills are predominantly open, rolling moorland, but contain some exposed and craggy peaks.'

Guidance

The assessment follows guidance set out in NatureScot's publication 'Assessing Impacts on Wild Land Areas - technical guidance' (2020). The NatureScot technical guidance (2020) sets out the suggested approach to the assessment of effects on wild land. As noted in paragraph 4 of the guidance, the assessment methodology broadly follows that of GLVIA3, and is based around the following five stages (as described in Table 1 of NatureScot guidance):

- *'Step 1 - Define the study area and scope of the assessment;*
- *Step 2 – Verify the WLA baseline;*
- *Step 3 – Assess the sensitivity of the qualities;*
- *Step 4 – Assess the magnitude of the effects; and*
- *Step 5 – Judge the significance of effects'*

Paragraph 13 of the guidance notes that '*the assessment approach…should be:*

- *concise and proportionate, focused on likely significant effects on the qualities*;'

While the wild land assessment methodology broadly follows that set out in GLVIA3, there are several points that are beneficially explained prior to the assessment itself, as discussed below.

The Status of WLAs

The status of WLAs is clearly set out in paragraph 8; '*WLAs have not been identified on scenic grounds and are not a statutory designation.'*

There is also an acceptance (paragraph 9) that WLAs are not '*wilderness'* and that human influences can and do form part of the baseline character of WLAs:

'*…Whilst the WLA map identifies areas where wildness is most strongly expressed, these are not 'wilderness', empty of any human activities or influence. They reflect Scotland's long history of past occupation and current use and management, albeit that evidence of such is often light and limited in extent.'*

An important phrase in this paragraph is '*light and of limited extent'* as this presents a measure with which to assess the existing external influence of development, and operational wind farms in particular, on the WLA, and indicates to what degree this influence can be accommodated within an area that is considered to be '*wild land'.*

The Need for a WLA assessment

The need for a WLA assessment is discussed in Paragraphs 5 and 6 of the NatureScot guidance, which note that:

'*This guidance should only be applied to proposals whose nature, siting, scale or design are likely to result in a significant effect on the qualities of a WLA. Given this, assessments are more likely for proposals within a WLA, and are less-likely for proposals outwith the WLA.*

An assessment will only be required where it has been deemed necessary by the competent authority. You are encouraged to discuss the need for an assessment with the competent authority at an early stage.'

While the Proposed Development lies outwith this WLA, both NatureScot and South Ayrshire Council (SAC) have requested that a wild land assessment be carried out.

It is also important to note that, according to NatureScot guidance, effects on the wildness qualities expressed in WLAs can only be experienced from within WLAs, and not from within the area surrounding them. Paragraph 3 of the guidance notes that *'This guidance sets out a methodology and general principles for assessing the impact of development and other proposals on WLAs, as they are experienced from within the WLA, not from outwith it.'*

Cumulative Effects

NatureScot guidance notes the following in relation to cumulative effects on WLAs:

'The potential for cumulative effects. Other proposals (either of the same or different type) which are likely to contribute to significant cumulative effects should be identified in discussion with the decision maker. The principles within our guidance document Assessing the cumulative impact of onshore wind energy developments specific to onshore wind energy development can be applied to other development and should aid this assessment.' (paragraph 16, third bullet point)

And '*In judging significance, the following factors should be considered.*

- *The nature and extent of any likely cumulative effects.'* (paragraph 33)

The Effects of Turbine Lighting

For visible medium intensity steady or fixed red aviation warning lights, ICAO indicates a requirement for no lighting to be switched on until 'Night' has been reached, as measured at 50cd/m^2 or darker. This is helpful as it does not require them to be on during 'twilight', when landscape character may be discerned. The 2017 Merrick WLA description, whilst mentioning the Dark Sky Park, does not include darkness as one of the wild land qualities. The wild land qualities that are described in the 2017 Merrick WLA description are evident within the context of landscape characteristics experienced during the day, that are not readily perceived at night in darkness. Effects of the Proposed Development on the Dark Sky Park are assessed in Appendix 6.4 which concluded a Not Significant effect.

Attributes, Responses and Qualities

The wild land assessment requires further judgements to be made to consider the change arising to particular 'wild land qualities'. WLAs take into account that wildness is a product of people's perceptual response to certain physical attributes in the landscape. 'Physical attributes' and 'perceptual responses' are therefore used as the measure by which changes in experience are assessed.

As acknowledged in NatureScot's Advice to Government in 2014, capturing the quality of wildness is a subjective matter that requires informed judgements as people respond differently according

to their individual experience and expectations. However, as the 2020 NatureScot guidance recognises, there is sufficient commonality in appreciation to identify a set of attributes and responses that can be assessed if presented in a systematic, transparent and consistent way.

NatureScot identifies WLAs as having the following physical attributes:

- A high degree of perceived naturalness;
- The lack of modern human artefacts or structures;
- Little evidence of contemporary land uses;
- Landform which is rugged, or otherwise physically challenging; and
- Remoteness and / or inaccessibility.

NatureScot identifies WLAs as having the following perceptual responses evoked by these physical attributes:

- A sense of sanctuary or solitude;
- Risk or, for some visitors, a sense of awe or anxiety;
- Perceptions that the landscape has arresting or inspiring qualities; and
- Fulfilment from the physical challenge required to penetrate into these places.

These physical attributes are strongly expressed, and are of sufficient extent, to evoke the full range of perceptual responses in WLAs. The term 'wild land qualities' (WLQs) encompasses both physical attributes and perceptual responses – reflecting that it is a combination of factors that contributes to the value and appreciation of wildness. Development located outwith WLAs may only impact on perceptual responses to a WLA (since it cannot directly change the physical attributes of a WLA).

Methodology for Assessing Effects on Wild Land Areas

Introduction

As noted in NatureScot guidance[1], the wild land assessment methodology broadly follows that of GLVIA3, and is based around the five stages described in Table 1 of the guidance.

Steps one and two do not require detailed explanation of methodology and are carried out subsequently in this Appendix. The methodology for Steps three, four and five is described below. These steps are assessed in accordance with GLVIA3 and largely follow OPEN's methodology, which is described in full in Technical Appendix 6.1.

In this methodology, WLAs are considered as landscape character receptors rather than visual receptors. This is because the landscape of the WLA is a resource in itself and effects are assessed in terms of the effects on the WLQs of the WLA, as per NatureScot guidance, and not in terms of the effects on views gained by people who may be within the WLA.

Step 3: Assess the Sensitivity of WLA Qualities

NatureScot guidance summarises this step as follows:

'Through detailed field assessment within the study area, assess the sensitivity of the wild land qualities scoped in (including their physical attributes and perceptual responses), to the type and scale of change proposed'.

[1] NatureScot (2020), Assessing Impacts on Wild Land Areas - technical guidance

Value of Wild Land Areas

In applying GLVIA3 to the assessment, and as noted by NatureScot, it is necessary to attribute a value to the receptor (classified as high, medium or low, or interim levels, as described in Technical Appendix 6.1). The value attributed to nationally important designations, including National Parks (NP) and National Scenic Areas (NSA) is normally found to be at the upper end of the scale, or high.

Wild land is not an environmental designation and is not statutorily protected in the way that NPs and NSAs are for their scenic qualities. It is, however, recognised in Scottish Planning Policy (SPP) and planning policy as a nationally important mapped resource, which should be afforded protection for its wildness qualities.

In order to apply objectivity to the attribution of value in wild land areas, it is helpful to have regard to the weighting that SPP gives to it. Whereas in SPP Table 1: Spatial Frameworks Scottish Ministers place NSAs and NPs in the Group 1 category, Wild Land Areas are identified as a Group 2 consideration, recognising the difference in their respective values. As a matter of national policy Wild Land is therefore less highly valued than NSAs and NPs.

NatureScot also helpfully provides some further guidance on this in its publication Spatial Planning for Onshore Wind Turbines – Natural Heritage Considerations, Guidance (June 2015). Annex 1 to this document provides advice on the potential landscape objectives that may be applicable in different landscapes within Scotland in terms of their ability to accommodate wind farms, suggesting that some landscapes should be subject to a higher level of protection than others.

Annex 1 places WLAs in the middle category, where some landscape 'accommodation' of wind farms may be considered appropriate, noting that:

'Within local landscape designations and Wild land Areas, the degree of landscape protection will be less than for National Scenic Areas. In these areas, an appropriate objective may be to accommodate wind farms, rather than seek landscape protection.'

WLAs are therefore considered to have a lower inherent baseline value, in landscape terms, than nationally designated landscapes. In the terms of GLVIA3 and OPEN's methodology, it is reasonable therefore to attribute a medium-high value to WLA 01 Merrick, where it is not covered by any other nationally designated landscapes that might elevate its value.

Susceptibility within Wild Land Areas

Susceptibility relates to the nature of the landscape receptor and how susceptible it is to the potential effects of the Proposed Development, as described in GLVIA3. Susceptibility varies across the WLA depending on the nature and strength of the WLQs, the particular perceptions that are experienced in different areas, and in the context of different external and internal influences.

OPEN's methodology assesses the susceptibility of landscape character receptors through a series of three criteria, as set out in Appendix 6.1. Two of these are relevant to the assessment of susceptibility of WLQs:

- The specific nature of the Proposed Development: the susceptibility of landscape receptors is specific to the change arising from the particular development that is proposed, including its individual components and features, and its size, scale, location, context and characteristics.
- Landscape character: the key characteristics of the existing landscape character of the receptor are considered in the evaluation of susceptibility as they determine the degree to which the receptor may accommodate the influence of the Proposed Development (in the wild land assessment this criterion relates to the documented WLQs, physical attributes and perceptual responses of the WLA).

The third criterion, 'landscape association', is not identified as a separate factor in the judgement of susceptibility within WLAs; this is because the WLQs make specific mention of landscape association where it is a relevant factor, and it is therefore not necessary to include it again when considering susceptibility.

A useful tool in the assessment of the levels of susceptibility across the WLA is NatureScot's 2014 analysis of the data that was gathered in order to inform the identification of WLAs. NatureScot gathered data for each of the 'physical attributes' of wild land and used these to create a 'relative wildness map'. The 'Jenks Natural Breaks Optimisation method' was then used to identify the natural breaks in the distribution of the relative wildness data in order that levels of wildness could be identified and mapped. As a result, eight classes of wildness were identified, with 8 being the highest and 1 being the lowest. See Figures 6.2.1 – 6.2.6 which show the relative wildness mapping for WLA 01 Merrick.

Step 4: Assess the Effects

NatureScot guidance notes this step as follows in Table 1:

'*Assess the effects on individual and / or combinations of qualities, drawing out which physical attributes and perceptual responses will be affected, how and to what degree. This should reflect the size or scale of change, its extent and duration*.'

OPEN's methodology for assessing magnitude of change on landscape character receptors is carried out through the application of a set of criteria as set out in Appendix 6.1.

Broadly, the magnitude of change that the Proposed Development will have on landscape receptors is assessed in terms of the size or scale of the change, the geographical extent of the area influenced and its duration and reversibility. The key elements of the Proposed Development that will influence the level of change on landscape character are the movement, form, material, colour and scale of the turbines, although infrastructure is also considered.

Step 5: Judgement of the Significance of Effects

NatureScot guidance summaries this step as follows in Table 1:

'*Conclude on the overall significance (taking into account any mitigation), in terms of the study area and where relevant the wider WLA*.'

On the basis that the NatureScot guidance is based on the principles of GLVIA3, OPEN's methodology for the assessment of the significance of effects (as described in Appendix 6.1) has also been used for the assessment of the significance of effects on wild land. OPEN's methodology describes the significance of effects as:

A significant effect will occur where the combination of the variables results in the Proposed Development having a defining effect on the view or receptor. A not significant effect will occur where the effect of the Proposed Development is not definitive, and the view or receptor continues to be characterised principally by its baseline characteristics. In this instance, a not significant effect would indicate that the Proposed Development may have an influence, but this influence will not be a defining one.

WLA Assessment

The following sections of this report assess the effects of the Proposed Development on WLA 01 Merrick following the five steps as described by NatureScot.

Step 1: Define the Study Area and Scope of the Assessment

NatureScot guidance summarises this step as follows:

'*Identify a study area appropriate to the scale of the proposal and extent of likely significant effects on the WLA*.'

Paragraph 16 of the guidance notes that:

'The rationale for the selection of the study area and scope of the assessment should be clearly stated and consider the following.

1. *The extent of visibility and recognised routes / movement through the WLA. The scale of the proposal may not equate to the extent of effects (for example, a large proposal where visibility is limited to part of the WLA, a more focused study area may be appropriate).*
2. *The wild land qualities likely to be significantly affected. The focus of the assessment should be on the qualities likely to be affected rather than where the proposal is located.*
3. *The potential for cumulative effects.'*

The Study Area for the wild land assessment is discussed below in relation to these three considerations.

1. Extent of visibility and recognised routes/ movement through the WLA.

The ZTV (Figures 6.2.8) shows localised and intermittent theoretical visibility from the WLA, gained largely from the northern end of the WLA, which is composed of the north facing hills of Shalloch, Shalloch on Minnoch, the ridge of Caerloch Dhu (including the southern side of Cornish Hill) and the rocky outcrops of Craignasheenie. Viewpoint 8 is on Shalloch on Minnoch, Viewpoint 20 is on Cornish Hill and Viewpoint 23 is on the Craignasheenie ridge close to Loch Girvan Eye. There is also some very intermittent theoretical visibility from the mountainous eastern part of the WLA including from Hoodens Hill, Mullwharchar and Craignaw. Theoretical visibility is gained from a minimum of 5.3 km from the southern side of Cornish Hill, up to a maximum of 17.7 km away from Craignaw.

In relation to the next aspect of the first consideration 'recognised routes / movement through the WLA', the WLA description for WLA 01 does not mention specific routes through the WLA and states – '*FCS has published a leaflet showing walkers trails, but the paths shown do not penetrate the WLA, whilst the Southern Upland Way skirts its southern edge.'*

Much of the WLA is extremely challenging in terms of access and routes tend to be isolated to indistinct paths that lead up to key hills and mountains within the WLA. Away from the more popular routes of the Southern Upland Way, Merrick and to Cornish Hill, the tall moorland grasses and heather make for difficult walking conditions which are often boggy underfoot.

There are two guide books that describe routes within the WLA, both are called 'Walking the Galloway Hills' and both published by Cicerone Press[2]. Of the 33 walks in the 1995 guide book, 14 are within the Merrick WLA. Of the 35 walks in the 2019 guide book, 16 are within the Merrick WLA. Of the routes described and mapped across the two books there are many similarities and often the same route is described multiple times either to include additional parts or starting points. Generally there are only approximately 10-12 uniquely identifiable routes in these guide books that cross the WLA or that penetrate it before returning on a similar path. When these routes were compared with

[2] 'Walking The Galloway Hills', by Paddy Dillon, Cicerone Press, 1995. 'Walking The Galloway Hills, 35 wild mountain walks including the Merrick', by Roddy Turnbull, Cicerone, 2019.

the pattern of theoretical visibility on the ZTVs it is clear that of these identified routes within the WLA, the great majority will gain no visibility of the Proposed Development. Where there is visibility, this is largely gained from the routes that are located in the northern part of the WLA. In summary these routes can be described as the routes that connect from Stinchar Bridge to Cornish Hill, Cornish Loch, Loch Girvan Eye, Craigmasheenie and Shalloch on the Minnoch. The viewpoints at Viewpoint 8 - Shalloch on Minnoch, Viewpoint 20 - Cornish Hill and Viewpoint 23 - Loch Girvan Eye represent views from these walking routes.

There is no visibility from the vast majority of the central area of the WLA and no visibility from Merrick itself. Patches of theoretical visibility are found on the summits of distant hills found in the eastern portion of the WLA such as Mullwharchar and Craignaw although much of the routes to these hills have no visibility. There is no visibility from routes to the south or west in the Loch Trool / Glentrool Forest area of the WLA.

2. Wild Land Qualities

The second point noted in NatureScot guidance as being relevant in the 'rationale for the selection of the study area and scope of the assessment' is consideration of the 'wild land qualities likely to be significantly affected'. This WLA has four WLQs. These are described below along with a judgement as to whether or not they may be significantly affected:

- **WLQ 1 - 'A relatively small wild land area but with a strong perception of naturalness, few human artefacts and little contemporary land use.'**

The WLA citation notes that 'There is a strong sense of naturalness across much of this WLA, especially within the interior, where the influence of the surrounding forest plantations is smaller.'

The Proposed Development would have no direct effect on the sense of naturalness. The Proposed Development would have no effect on the interior of the WLA and no influence on the sense of naturalness experienced from the interior where this response is most intense. This is due to restricted visibility of the Proposed Development from this interior area. See wireframe from Viewpoint 15, Merrick, Figure 6.35. The southern parts of the WLA also have very limited theoretical visibility of the Proposed Development and no effect is predicted for southern areas.

The 'strong sense of naturalness across much of this WLA' is also experienced in northern parts of the WLA, where visibility of the Proposed Development is greatest. Whilst the 'sense of naturalness' is influenced by the closer proximity of roads and other infrastructure such as operational wind turbines, it is considered that the Proposed Development may have an indirect effect on the sense of naturalness found in the northern area of the WLA. Taking this into account, it is considered that there is potential for the Proposed Development to have a significant effect on the attributes that comprise this WLQ.

- **WLQ 2 - 'A wild land area that contrasts with the adjacent Forest Park, especially in terms of human activity.'**

The WLA citation notes that 'There is a noticeable difference in terms of human activity between the WLA and the surrounding parts of the Forest Park. Whereas the Forest Park is popular as a recreational destination and contains numerous visitor facilities, the WLA is much more lightly used, with little obvious recreational provision, providing a relatively strong sense of remoteness and solitude.' The Proposed Development will not affect the recreational provision or human activity levels within the WLA directly, and therefore has no potential to influence the sense of remoteness and solitude from increased human activity within the WLA.

The WLA citation notes that 'Looking towards the WLA, the open moorland contrasts noticeably with the forest plantations that surround the WLA, so highlighting the inspiring qualities of the rugged mountain backdrop when experienced from the surrounding Forest Park.'

The Proposed Development has limited potential to affect the upland backdrop provided by the uplands of the WLA from the wider landscape. The contrast of surrounding plantations or upland moorlands with rugged mountain backdrop is most acutely experienced in views from the east and west where the Galloway Hills are more commonly seen in the backdrop to views of / from other landscape character types. There are fewer opportunities in which to appreciate this contrast in

views that would include the Proposed Development as either an intervening feature with the Galloway Hills or as a closely related one.

Where these effects may occur, they are assessed at relevant viewpoint or landscape receptors in Chapter 6: LVIA, not within the WLA assessment. The NatureScot guidance supports this view and states '*This guidance sets out a methodology and general principles for assessing the impact of development and other proposals on WLAs, as they are experienced from within the WLA, not from outwith.'* Taking all of this into account it is considered that the Proposed Development does not have potential to significantly affect the attributes that comprise this WLQ.

- **WLQ 3 - 'Human elements are widely visible from the tops and outermost slopes but lower-lying areas have a much stronger sense of remoteness.'**

Lower lying areas in the north part of the WLA would be less affected by the Proposed Development than from the 'tops and upper slopes' and where visibility does occur, Dersalloch Wind Farm also tends to be visible. Based on the ZTV, it is considered that the introduction of the Proposed Development would not affect lower lying areas in the central parts of the WLA where the stronger sense of remoteness described for this WLQ is experienced. As described above, the ZTV shows that the area of the WLA most affected by the Proposed Development is the area to the north, within a 10km radius of the Proposed Development. From this area the Proposed Development would be seen in the same upland moorland context as other existing wind farm developments located to the north of the WLA (particularly Dersalloch but also Hadyard Hill, Penwhapple and Assel Valley operational wind farms) and would therefore not be considered an uncharacteristic feature in views from the WLA. However, the Proposed Development would add further human elements at closer proximity and larger scale than the other operational wind farms to the north, with potential to further reduce the '*sense of remoteness'* experienced from the affected 'tops and outermost slopes'. Taking all of this into account it is considered that the Proposed Development has potential to significantly affect the attributes that comprise this WLQ.

- **WLQ 4 - 'A rugged landscape that provides a surprisingly high degree of physical challenge.'**

The proposed Development will have no effect on the physical challenges that occur in the WLA. It is considered therefore that the Proposed Development does not have potential to significantly affect this WLQ.

3. The potential for cumulative effects

The third point noted in NatureScot guidance as being relevant in the *'rationale for the selection of the study area and scope of the assessment'* is consideration of the '*The potential for cumulative effects'*. Cumulative effects are assessed in detail at the end of the WLA assessment.

The wind farm development that is most relevant to the Proposed Development in the context of this WLA is the Operational Wind Farm at Dersalloch. This is because Dersalloch is also visible from much of the northern part of WLA where the largest concentration of Proposed Development theoretical visibility is also found.

Cumulative effects may also occur in relation to consented and application stage wind farm developments. The closest Consented stage wind farm to the WLA is Benbrack variation which lies ## to the north east. Key application-stage wind farms in the area include Clauchrie and Craiginmoddie. Whilst Carrick Windfarm is still at scoping stage it has been included in the LVIA due to its close proximity to the Proposed Development. It is also therefore included in the WLA cumulative assessment.

Identification of the WLA Study Area

The considerations described above indicate that the Study Area for the assessment of effects on this WLA should focus on the northern part of the WLA. This is the part of the WLA that lies at closest proximity to the Proposed Development and gains the highest level of theoretical visibility and is the part of the WLA that is most likely to be affected by potential cumulative effects. It can be defined as the part of the WLA that lies to the north of Shalloch on Minnoch. Other parts of the WLA

have qualities that will not be significantly affected by the Proposed Development, gain very limited and distant theoretical visibility, and do not have potential for significant cumulative effects due to reduced cumulative interaction with the Proposed Development in combination with other wind farms. The WLQs that have potential to be most affected by the Proposed Development are WLQ 1 – *'A relatively small wild land area but with a strong perception of naturalness, few human artefacts and little contemporary land use'* and WLQ 3 – '*Human elements are widely visible from the tops and outermost slopes but lower-lying areas have a much stronger sense of remoteness.'*

Step 2: Establish the Baseline

NatureScot guidance summarises this step as follows in Table 1:

'Confirm the wild land qualities (set out in the WLA description) relevant to the study area, describing any major changes that have occurred since the description was prepared and the nature of their contribution to the WLA.'

The baseline study is informed by NatureScot's description of the WLA, the mapping of the eight classes of wildness (NatureScot, 2014), OPEN's site visits, and LVIA viewpoints 8, 20 and 23 which illustrate the outlook across and into the WLA from the northern parts of the WLA but also the outlook from the WLA to the wider landscape.

It is important to note that while LVIA Viewpoints 8, 20 and 23 provide a useful illustration of the views that can be gained from certain elevated locations within the WLA, the assessment of effects on viewpoints and on wild land areas is carried out separately and according to specific methodologies that vary in some respects. The assessment of visual effects at Viewpoints 8, 20 and 23 should therefore not be considered to represent the assessment of effects on wildness qualities, and the viewpoints have been referenced simply to provide an illustration of views within the Study Area.

Baseline Overview

The published description of the Merrick WLA (01) (NatureScot, 2017) provides the following overview of the Merrick WLA (01):

'This is the most southerly of only three WLAs to the south of the Highland Boundary Fault, all of which are relatively isolated and small in extent (Merrick is 82 km2). It includes the central part of Forestry Commission Scotland's (FCS) Galloway Forest Park, and consists of a range of steep hills, including Merrick (a Corbett) which at 843 metres is the highest mainland hill in the south of Scotland. Together with several other hills over 600 metres in height, it forms a ridge with spurs between the tops of Shalloch on Minnoch (another Corbett) and Benyellary, collectively known as 'The Awful Hand'. To the east of this, the rocky Dungeon Hills form a slightly lower ridge to the south of the more rounded hill of Mullwharchar. The hills are predominantly open, rolling moorland, but contain some exposed and craggy peaks.

These ridges enclose a central swathe of lower-lying, undulating ground containing several natural lochs, forming a corridor that rises over 400 m from Loch Trool to Loch Enoch and providing some rugged and sometimes boggy walking. The entire WLA lies within FCS ownership and is surrounded on all sides by extensive forest plantations, predominantly of Sitka spruce.

The WLA is within 2 hours of the Central Belt. It is located 14 km to the north of Newton Stewart and the nearest major road is the A714, which lies 7.5 km to the south-west of the area at its closest point. A network of minor roads as well as un-surfaced roads, promoted as 'forest drives', provide vehicle access to the Forest Park from the south, west and north and there are several designated car parks located around the periphery, the closest of which is less than 2 km from the WLA. The Forest Park contains three visitor centres, attracting 150,000 visitors annually who generally experience the WLA as a rugged moorland backdrop, glimpsed mainly amongst trees and forestry as they move around the Forest Park. FCS has published a leaflet showing walkers trails, but the paths shown do not penetrate the WLA, whilst the Southern Upland Way skirts its southern edge.

The WLA lies within the Galloway Dark Sky Park, the first area in the UK to be so recognised by the International Dark Sky Association and also forms part of the Galloway Hills Regional Scenic Area (RSA), designated by Dumfries and Galloway Council.

The WLA also lies within the Merrick Kells Special Area of Conservation (SAC) and Silver Flowe-Merrick Kells Biosphere Reserve. Silver Flowe, an extensive blanket bog lying below the Dungeon Hills, is one of the least interrupted undisturbed mire systems in Europe and is also designated as a Ramsar site. Merrick Kells is the largest remaining un-afforested area of upland in Galloway and contains three habitats of European interest: blanket bog, montane acid grasslands and wet heath. Aspirations for the Biosphere Reserve include enhancing the priority habitats of native woodland and peatlands, whilst FCS is committed to creating a more gradual transition between forestry and open moorland by the introduction of moorland fringe habitat.

From the tops, the extent of the WLA is generally evident by the transition from moorland to the surrounding forest plantations. Hills to the north and east beyond the WLA have a rugged character and, despite the intervening forestry, the extent is less well defined in this direction. From the central swathe of lower-lying moorland and lochs, outward views are restricted by the adjacent hills and the limits of the WLA are much less obvious'.

Cumulative Windfarm Baseline

Operational and Under Construction wind farms

There are no operational wind farms within the WLA, however, operational wind farms are an established feature of the upland landscape context in the area that surrounds the WLA, as clearly articulated within WLQ 3 in the Description. There are several main operational wind farm groupings in the upland landscapes around the Merrick WLA, which form recent human elements/modern artefacts that influence views from the tops and outermost slopes of the Merrick WLA. These wind farms have had a characterising effect on the upland landscapes of parts of the landscape that is visible from the Merrick WLA, whereby wind turbines have become the key characteristic that has already changed the character to a with wind farm landscape in certain areas. The Foothills with Forest and Windfarm LCT (17c), located 1.9 km to the north of the Merrick WLA and the Plateau Moorlands with Forestry and Windfarms LCT (18c) located 3.4 km to the north of the Merrick WLA are both within South Ayrshire and are defined as 'with windfarm(s)' landscapes. Other landscapes in the area also have wind farms as a key characteristic but are not defined as 'with wind farm(s)'.

Operational and under-construction wind farms are assumed to be part of the baseline conditions to which the other scenarios are added to inform the potential future cumulative wind energy context for the Proposed Development and the associated cumulative assessment of the WLA. Dersalloch Windfarm is the closest operational wind farm to the WLA with 23 x 125 m high turbines at 8.9 km to the north. As described in Step 1, Dersalloch is a key wind farm development in relation to the Proposed Development as it is visible from much of the same northern area of the WLA.

A wide grouping of wind farms at Hadyard Hill (Assel Valley, Hadyard Hill, Penwhapple and Tralorg) lies between approximately 10-18 km to the north west of the WLA and consists of 71 turbines which, apart for the Penwhapple turbine, are of heights between 100m and 110m. Mark Hill is located approximately 13 km to west of the WLA and consists of 28 x 110 m high turbines. These wind farms are also key developments in relation to the Proposed Development as they are visible from much of the same northern area of the WLA.

Other operational and under construction wind farms that have an influence on the WLA but do not cumulatively interact with the Proposed Development to the same degree include the following groups –

- the large scale wind farm landscape that extends across the plateau moorlands to the west of the WLA includes the two large wind farms of Kilgallioch (96 x 146.5 m high turbines) at approximately 16 km from the WLA and Arecleoch (60 x 118 m high turbines) at approximately 21 km from the WLA.

- Airies Farm (14 x 136.5m high turbines) at 19.6 km to the south west of the WLA is the easternmost wind farm that forms part of a smaller cluster of wind farm development (including Airies Farm, Barlmurrie Fell, Artfield Fell, Glenchamber and Carscreugh) to the south of Kilgallioch, but which can often be perceived to join with the pattern of larger scale development created by Kilgallioch and Arecleoch.
- To the north east, the operational wind farms of Windy Standard and Windy Standard II are just within 20km of the WLA and the under construction South Kyle is closer at approximately 15 km.

Consented and Application wind farms

As can be seen in Figure 6.19, there are many consented and application wind farms at the edges of the 20 km Study Area which are located within a similar context to the operational and under construction wind farm groupings described above and within the assessments of key viewpoints in the WLA. These consented and application wind farms, whilst adding slightly to the experience of wind farm development seen in distant views, would have little cumulative influence on the wildness qualities of the WLA.

It is considered that there are no consented wind farms that present a strong enough influence on wildness qualities of the WLA due to distance or cumulative context with existing schemes. Therefore, when considering the northern area of the Merrick WLA (which is the focus of this assessment in relation to the Proposed Development) the key applications for this cumulative assessment are limited to Clauchrie and Craiginmoddie. The scoping stage Carrick Windfarm has been included in the LVIA due to its proximity to the Proposed Development and so it is also included in this WLA assessment.

Linfairn Windfarm

The now withdrawn Linfairn Windfarm had proposed 17 turbines at 126.5 m to tip (a revised down version of an initial Linfairn Windfarm of 25 turbines at 126.5 m to tip). The Proposed Development occupies a part of the same site as the previously proposed Linfairn Windfarm and whilst the Proposed Development turbines are larger in scale than Linfairn, it is more compact in its layout and as a result has slightly less visibility extents across the Merrick WLA. An example of this is from Merrick itself which would have had visibility of Linfairn Windfarm whereas the Proposed Development is not visible.

Whilst Linfairn Windfarm is now withdrawn from the planning system, the NatureScot consultation in relation to the Linfairn Windfarm and the Merrick WLA have some relevance to the Proposed Development and the WLQs of the Merrick WLA with specific relation to the existing Dersalloch wind farm.

NatureScot originally objected to the proposed Linfairn Windfarm on the basis of its *'proximity and prominence would cause significant adverse effects on the qualities of the Merrick WLA'*

In their later consultation letter to the Scottish Government in relation to the pre-examination meeting dated 8 June 2017, NatureScot withdrew their objection and advised they did not wish to present evidence at the Public Inquiry. NatureScot withdrew their objection on the following grounds:

'*We still advise that the proposal would have some adverse effects on the qualities of the Merrick WLA, but these effects will be less significant than we had previously concluded. The reasons for this are:*

a) Greater than predicted effects of Dersalloch wind farm on the qualities of the WLA: Although consented at the time of our original advice, Dersalloch wind farm has since been constructed and now forms part of the assessment baseline. Dersalloch has changed the baseline conditions to a significant degree in relation to the specific effects of the proposed Linfairn wind farm.
b) Better understanding of the effects of the proposed Linfairn wind farm from further fieldwork: Recent fieldwork has provided a better understanding of the effects of the proposal in relation to the qualities of the WLA; in particular the influence of human artefacts and contemporary land use (including wind farms and forest management) and how they are experienced. This has

allowed a more detailed analysis of predicted effects than was possible based on the applicant's wild land assessment and submitted visualisations.'

The justification provided by NatureScot for the removal of their objection is clearly stated in the above excerpts that as a result of Dersalloch, the baseline conditions of the WLQs of the Merrick WLA had changed 'to a significant degree' as a result of its introduction. Given that the diminished qualities of wildness that NatureScot reported in this letter as a result of Dersalloch are clearly stated and that the Proposed Development shares a similarity in visibility extents to both Dersalloch and to the withdrawn Linfairn, it follows that the advice presented to the Scottish Government in 2017 should still carry some material weight in the consideration of the Proposed Development.

The consultation letter also includes an appendix which also states that - *'Two of those qualities are particularly sensitive to the proposed Linfairn wind farm: A relatively small wild land area but with a strong perception of naturalness, few human artefacts and little contemporary land use; and Human elements are widely visible from the tops and outermost slopes, but lower-lying areas have a much stronger sense of remoteness'*. This supports the findings of Step 1 of this WLA assessment which also finds these WLQs (WLQs 1 and 3) of the Merrick WLA have potential to be most affected by the Proposed Development.

Physical Attributes and Perceptual Responses

This step of the assessment carries out a review of the baseline physical attributes and perceptual responses of the Study Area and their contribution to the identified WLQs of the area, as identified in the WLA description.

These are verified against the WLA description, noting that the strength to which the WLQs are expressed will vary in different parts of the WLA. In this case, it has been ascertained in Step 1 that the Proposed Development only has potential to significantly affect two of the WLQs (WLQ 1 and WLQ 3) and this, along with other factors, has been taken into consideration in the identification of the Study Area. Table 1 below lists the physical attributes and perceptual responses of the Study Area and their contribution to the identified WLA Study Area.

Table 6.2.1 –Physical Attributes and Perceptual Responses

Physical Attribute/ Perceptual Response	**Strength of Physical Attribute/Perceptual Response and Contribution to Wild Land Quality (as described in WLA citation)**	**OPEN Comment/ Subsequent Change to Baseline**
Physical Attribute		
High degree of perceived naturalness	*'There is a strong sense of naturalness across much of this WLA, especially within the interior, where the influence of the surrounding forest plantations is smaller.'* *'The contrast between the rocky uplands and the horizontal expanse of the lower-lying areas highlights the naturalness and awe-inspiring qualities of these hills.'* *'The uplands contain extensive tracts of grass and heather moorland with areas of exposed rock and montane vegetation evident on the tops. Lower areas are generally poorly drained, with clumps of distinctive white moor grass and large*	This attribute is expressed to a high degree in the WLA Study Area. Within the WLA Study Area, this attribute is somewhat affected by large scale forestry at the edges of the WLA although the WLA itself is largely composed of heather moorland.

Physical Attribute/ Perceptual Response	Strength of Physical Attribute/Perceptual Response and Contribution to Wild Land Quality (as described in WLA citation)	OPEN Comment/ Subsequent Change to Baseline
	areas of blanket bog, including Silver Flowe'.	
The lack of modern human artefacts or structures and Little evidence of contemporary land uses[3]	*'There are few signs of human artefacts or contemporary land use within the WLA, which is uninhabited, with no roads and very few tracks.'* *'Several isolated conifer blocks, typically located close to access tracks provide the most obvious human elements, contrasting with the sense of naturalness and diminishing the arresting qualities of the backdrop of rugged hills.'*	The attributes are expressed to a moderate degree in the WLA Study Area. In the northern area, which forms the focus of this assessment, these attributes are affected by large scale forestry at the edges of the WLA and operational wind farm development to the north, particularly as a result of the Dersalloch Wind Farm. This attribute is expressed to a higher degree in the interior of the WLA where there is little visibility of the Proposed Development.
Landform which is rugged, or otherwise physically challenging and Remoteness and / or inaccessibility	*'These hills are very rugged and awe inspiring with steep slopes, areas of exposed rock and some crags, more akin to a Highland landscape, but within a lowland context.'* *'There are steep climbs and big drops along the 'Awful Hand', especially around Kirriereoch and the Merrick and it is some 4 km walk to either Shalloch on Minnoch or Benyellary from any public road, so providing a relatively high degree of physical challenge and sense of remoteness. The Dungeon Hills are very rocky, providing more challenging opportunities for climbing and scrambling. Elevated and exposed, both ridges offer little shelter, so heightening the sense of risk.* *Although comparatively sheltered, the lower-lying areas between and around the main ridges are mostly rough and poorly*	These attributes are expressed to a moderate degree in the WLA Study Area. In the northern area of the WLA there are well used paths to Cornish Hill and around Cornish Loch. Whilst the landscape is physically challenging in other areas, walks along the ridges to Shalloch on Minnoch and Craignasheenie and Loch Girvan Eye are only considered moderately challenging due to the boggy moorland underfoot. The WLA Study Area is free of the steeper climbs and big drops described in the WLA citation that correlate better with the central area of WLA 01.

[3] These physical attributes have been described together as they are closely aligned with similar descriptions in the WLA citation.

Physical Attribute/ Perceptual Response	Strength of Physical Attribute/Perceptual Response and Contribution to Wild Land Quality (as described in WLA citation)	OPEN Comment/ Subsequent Change to Baseline
	drained, with lochans, river crossings, tussocky moor grass, boulders and few paths, making these surprisingly challenging to cross on foot.'	
Perceptual Response		
A sense of sanctuary or solitude	*'There is a noticeable difference in terms of human activity between the WLA and the surrounding parts of the Forest Park. Whereas the Forest Park is popular as a recreational destination and contains numerous visitor facilities, the WLA is much more lightly used, with little obvious recreational provision, providing a relatively strong sense of remoteness and solitude.'* *'Most watercourses and lochs appear to be very natural in character, forming an intricate pattern of vegetation and open water that emphasises the sense of sanctuary and solitude provided by the lower-lying areas.'*	These perceptual responses are expressed to a moderate degree in the WLA Study Area. The citation does not make specific reference to the northern area of the WLA which this assessment is focussed on. The northern area does have some recreational interest in the well used paths to Cornish Hill, Cornish Loch and Carrick Forest Drive. Much of the area to the north is open and exposed in character and does not have the wide areas of low lying landscape most readily associated with the sense of sanctuary and solitude noted in the citation. In summary, whilst the area in the north is considered to have remoteness attributes, the sanctuary and solitude experienced in the lower lying areas of the WLA interior is not as evident in the area to the north.
Risk or, for some visitors, a sense of awe or anxiety	'*These hills are very rugged and awe inspiring with steep slopes, areas of exposed rock and some crags, more akin to a Highland landscape, but within a lowland context.'* In relation to the Awful Hand and Dungeon Hills – '*Elevated and exposed, both ridges offer little shelter, so heightening the sense of risk.'*	These perceptual responses are expressed to a moderate degree in the WLA Study Area. The northern area does not contain the same degree of rugged terrain associated with the higher hills described in the WLA citation as 'awe inspiring' and 'akin to a Highland landscape' and which are found in the central parts of the WLA. It is considered that the hills and moorland landscape of the

Physical Attribute/ Perceptual Response	Strength of Physical Attribute/Perceptual Response and Contribution to Wild Land Quality (as described in WLA citation)	OPEN Comment/ Subsequent Change to Baseline
		northern area is more typical of the upland landscapes found elsewhere in South Ayrshire and Dumfries and Galloway (albeit as a more remote example).
Perceptions that the landscape has arresting or inspiring qualities	*'The contrast between the rocky uplands and the horizontal expanse of the lower-lying areas highlights the naturalness and awe-inspiring qualities of these hills.'* *'Looking towards the WLA, the open moorland contrasts noticeably with the forest plantations that surround the WLA, so highlighting the inspiring qualities of the rugged mountain backdrop when experienced from the surrounding Forest Park.'* *'Several isolated conifer blocks, typically located close to access tracks provide the most obvious human elements, contrasting with the sense of naturalness and diminishing the arresting qualities of the backdrop of rugged hills'.*	These perceptual responses are expressed to a moderate/low degree in the WLA Study Area. The northern area does not contain the same degree of rugged terrain associated with the higher hills described in the WLA citation as 'awe inspiring'. This contrast is experienced most commonly as a result of the higher hills within the central parts of the WLA contrasting with the large areas of forest plantations to the east and west. Whilst hills such as Cornish Hill and Shalloch on Minnoch are part of the backdrop to surrounding areas of forest and plateau moorland to the north, they would not be considered to fit the description 'rugged mountain backdrop' that is described in the citation.
Fulfilment from the physical challenge required to penetrate into these places	'*There are steep climbs and big drops along the 'Awful Hand', especially around Kirriereoch and the Merrick and it is some 4 km walk to either Shalloch on Minnoch or Benyellary from any public road, so providing a relatively high degree of physical challenge and sense of remoteness.'*	The Study Area is most easily accessed from the Stinchar Bridge area where paths around Cornish Hill create a relatively easy access from the north. Beyond the Cornish Hill tracks however, the routes to Shalloch on Minnoch or to lower lying areas, including Loch Girvan Eye are much more challenging due to the heather moorland which makes for difficult walking underfoot. While the peatland itself can be challenging to cross, the satisfaction and sense of accomplishment that arises from the physical effort required to

Physical Attribute/ Perceptual Response	Strength of Physical Attribute/Perceptual Response and Contribution to Wild Land Quality (as described in WLA citation)	OPEN Comment/ Subsequent Change to Baseline
		traverse the terrain is rewarded with some dramatic upland scenes. Expressed to a moderate-high degree in the Study Area.

Wildness Mapping

A map of Wild Land Areas in Scotland was published by NatureScot in 2014 and is based on analysis of data representing the physical attributes of wild land, undertaken in February 2014. Mapping of the Merrick WLA (01) and its immediate surrounds are presented in Figures 6.2.1 – 6.2.5 of this Technical Appendix. The maps are a snap-shot at that point in time and do not reflect changes in development or land use since the data was captured. In broad terms the approach adopted by NatureScot takes each of the physical attributes in turn, identifies existing datasets that can best represent these, and separately maps each of them (Figures 6.2.1 – 6.2.4) before combining all four of them in a single map of relative wildness (Figure 6.2.5). To assist with this assessment of effects on the wildness qualities of Merrick WLA (01), areas with highest relative wildness within the WLA have been identified on Figure 6.2.6 and landform within the WLA is shown on Figure 6.2.7.

- **Perceived naturalness** (Figure 6.2.1) – areas of highest perceived naturalness within the Merrick WLA (01) occur along the tops of the range of the Awful Hand i.e. the Benyellary, Merrick, Kirriereoch Hill, Tarfessock to Shalloch ridgeline; as well as the upland 'interior' containing several natural lochs. Areas of lower perceived naturalness occur towards the outer edges of the Merrick WLA (01), including the northern area, which is more influenced by surrounding less-natural land-uses such as commercial coniferous forestry.
- **Rugged or challenging terrain** (Figure 6.2.2) – large areas of the Merrick WLA (01) do not have particularly rugged or challenging terrain, including the more rounded slopes of the northern area and the 'Awful Hand', with high levels of rugged or challenging terrain focused along the ridgelines and the more rugged hills of Craignaw and the Dungeon Hills. See also Figure 6.2.7 WLA Landform.
- **Remoteness from public mechanised transport** (Figure 6.2.3) – large parts of the Merrick WLA (01) have high levels of remoteness, particularly the tops of the range of the Awful Hand and the upland 'interior' of the WLA (01). Areas of lower remoteness occur towards the outer edges of the Merrick WLA (01), including the northern area, which is more accessible from, or closer to roads.
- **Lack of built modern artefacts** (Figure 6.2.4) – much of the Merrick WLA (01) has moderate levels of lack of built modern artefacts, suggesting that many of outer areas and tops of the hills are influenced to some degree by built modern artefacts in the surrounding landscape, with mainly the upland 'interior' of the WLA (01) having less influence of built modern artefacts. The influence of operational wind farm developments built since February 2014 are also not reflected in the mapping, which have increased the presence of built modern artefacts in the surrounding landscape experienced from the tops and outer flanks of the Merrick WLA.
- **Relative wildness** (Figures 6.2.5 and 6.2.6) - combining the above attributes in a single map of relative wildness, Figure 6.2.5 shows areas of highest perceived wildness within the Merrick WLA (01), occurring within the upland 'interior; containing several natural lochs and along the

tops of the mountain formed by the Merrick (843m). These areas of highest perceived wildness are further defined in Figure 6.2.6 based on the highest categories of wildness (wildness score of 132-256). The highest levels of perceived wildness (146.7-256 wildness score) are concentrated to the east/south-east of the Merrick around Loch Enoch, Loch Arron, Loch Neldricken, Loch Valley and Lochs of Glenhead. Lower perceived wildness occurs towards the outer edges of the Merrick WLA (01), including the northern area, which are more influenced by surrounding less-natural land-uses, such as commercial coniferous forestry, have less rugged/challenging terrain, are more accessible and more influenced by modern artefacts/development in the surrounding landscape outwith the WLA (01) boundary.

Baseline summary

The review indicates that in relation to some attributes and responses, the description included within the WLA description is considered to be broadly accurate. However, when considering the WLA Study Area (the northern area of WLA) these attributes and perceptual responses are considered to only be expressed to a moderate degree other than the 'high degree of perceived naturalness' attribute which is reflected within the WLA Study Area. The attributes and responses are expressed to a higher degree within the central areas of the WLA, within the 'interior' and in particular within lower lying areas of the central WLA to the south east of the Merrick. See Figure 6.2.6 based on the highest categories of wildness.

Step 3 – Assess the Sensitivity of the WLA Qualities

Sensitivity is assessed by combining the value of the WLA and its susceptibility to the Proposed Development. NatureScot guidance summarises this step as follows in Table 1:

'Through detailed field assessment within the study area, assess the sensitivity of the wild land qualities scoped in (including their physical attributes and perceptual responses), to the type and scale of change proposed'.

The value of the WLA has been established previously as medium-high as the WLA does not overlap with National Scenic Areas or National Parks which would otherwise increase the value of the WLA.

It has been ascertained in Step 1 that the Proposed Development has the potential to significantly affect the northern part of the WLA (the WLA Study Area). The assessment of the susceptibility and sensitivity therefore focusses on the study area and the two qualities of the WLA (WLQ 1 and WLQ 3) identified as having potential for significant effects. OPEN's methodology for assessing susceptibility is described previously in this Appendix.

The susceptibility of WLQs is specific to the change arising from the particular development that is proposed, including its individual components and features, and its size, scale, location, context and characteristics, as described in OPEN's methodology. In the case of the Proposed Development, three of the physical attributes of the WLA have no susceptibility as they cannot be affected by the Proposed Development due to its location outwith the WLA. These attributes are "high degree of perceived naturalness", "landform which is rugged, or otherwise physically challenging" and "remoteness and / or inaccessibility". The remaining two physical attributes - "the lack of modern human artefacts or structures" and "little evidence of contemporary land uses" – can be affected by development within or outwith the WLA and therefore have susceptibility to the Proposed Development.

The baseline presence and strength of the physical attributes and perceptual responses that contribute to the WLA study area, are of relevance to susceptibility, and are discussed in Step 2, above. This concluded that of the five physical attributes, a 'high degree of perceived naturalness' is expressed to a high degree in the WLA study area and the remaining four ('landform which is rugged, or otherwise physically challenging', 'the lack of modern human artefacts or structures', 'little evidence of contemporary land uses' and 'remoteness and / or inaccessibility') are expressed to a moderate degree.

Of the four perceptual responses, 'a sense of sanctuary or solitude' and 'risk or, for some visitors, a sense of awe or anxiety' are expressed to a moderate degree in the WLA study area; 'perceptions that the landscape has arresting or inspiring qualities' is expressed to a moderate-low degree; and 'fulfilment from the physical challenge required to penetrate into these places' is expressed to a moderate-high degree.

In many cases, the lower strength of attributes/responses is due to the influences of human artefacts within and outwith the study area, including existing wind farms. These influences are common to the outer edges of the WLA and can also be noted at distance from the hilltops central to the WLA. This lack of these external influences underlies the higher degree of relative wildness of the interior which in combination with the more rugged terrain and sense of awe of the interior landscape helps to define the characteristic qualities of the WLA as a whole.

The factors of susceptibility can be summarised as follows – the location of the Proposed Development outwith the WLA; the strength of the attributes/responses, including some high but also some moderate; the lack of susceptibility of three of the attributes to the Proposed Development; the human influences that are prevalent around the study area; the location of the Proposed Development where it will not substantially diminish views of the mountain backdrop from the plateau moorland and forest landscapes to the east and west; and the lack of specific well visited destinations and routes within the WLA study area. Taking this into account, the WLA Study Area is considered to have a medium susceptibility to the Proposed Development. When combined with the medium-high value of the study area, this leads to a **medium-high** sensitivity for the WLA study area.

Step 4 - Assess the Magnitude of the Effect

NatureScot guidance summarises this step as follows:

'Assess the effects on individual and / or combinations of qualities, drawing out which physical attributes and perceptual responses will be affected, how and to what degree. This should reflect the size or scale of change, its extent and duration.'

It has been ascertained in previous steps that the Proposed Development has potential to significantly affect two of the four WLQs of this WLA – WLQ 1 '*A relatively small wild land area but with a strong perception of naturalness, few human artefacts and little contemporary land use'* and WLQ 3 '*Human elements are widely visible from the tops and outermost slopes but lower-lying areas have a much stronger sense of remoteness.'* The assessment of magnitude of change therefore focusses on these WLQs.

LVIA Viewpoints 8, 20 and 23 provide a useful illustration of the views that can be gained from within the Study Area. However, the assessment of effects on viewpoints and on wild land areas is carried out separately and the assessment of effects at Viewpoints 8, 20 and 23 should therefore not be considered in relation to the assessment of effects on wild land, and the viewpoints have been referenced simply to provide an illustration of views within the Study Area.

The magnitude of change to the perception of wildness qualities would vary across the WLA Study Area due to the varied topography of the landscape and the resultant variable influence of the Proposed Development, as illustrated on the ZTV as shown on Figure 6.2.8. The maximum magnitude of change will be **Medium-Low.** This arises from the following considerations.

- There would be no direct physical effects on this WLA and effects are perceived only;
- The Proposed Development is a minimum of 5.2 km from the WLA Study Area and from the northern area of the WLA the angle of view occupied by the Proposed Development is predicted to only be between 10^{o} (at viewpoint 20 Cornish Hill) and 5^{o} (at viewpoint 8 Shalloch on Minnoch) ensuring that it will constitute a relatively minor feature in the setting to the WLA;
- The Proposed Development would affect the perception of only one of the WLA physical attributes 'the lack of modern human artefacts or structures' as it would:

- add to the wind farm influence already perceived from the Study Area and thereby further diminish this attribute, which is apparent in the baseline;
- further extend the external influence of wind energy development to parts of the Study Area that are not affected by baseline wind energy development; and
- the Proposed Development would however be seen in an aspect of the setting to the WLA that is already notably affected by external human influence including large scale forestry plantations, wind farms and distant settled landscape.

- The Proposed Development will have no effect on the remaining four physical attributes including the 'high degree of perceived naturalness' which is expressed to a high level in the Study Area;
- It is considered that the Proposed Development would have a minimal effect on the perceptual responses that contribute to 'a sense of sanctuary or solitude' or that are associated with 'risk or, for some visitors, a sense of awe or anxiety'. Or equally that relate to the attribute of 'perceptions that the landscape has arresting or inspiring qualities'. This is due to the following factors:
  - Much of the area to the north is open and exposed in character and does not have the wide areas of low lying landscape most readily associated with the sense of sanctuary and solitude, sense of awe or arresting or inspiring qualities noted in the WLA citation;
  - The northern area does not contain the same degree of rugged terrain associated with the higher hills described in the WLA citation as 'awe inspiring'. This contrast is experienced most commonly as a result of the higher hills within the central parts of the WLA contrasting with the large areas of forest plantations to the east and west. Whilst hills such as Cornish Hill and Shalloch on Minnoch are part of the backdrop to surrounding areas of forest and plateau moorland to the north, they would not be considered to fit the description 'rugged mountain backdrop' that is described in the citation; and
  - The northern area does not contain the same degree of rugged terrain associated with the higher hills described in the WLA citation as 'awe inspiring' and 'akin to a Highland landscape' and which are found in the central parts of the WLA. It is considered that the hills and moorland landscape of the northern area is more typical of the upland landscapes found elsewhere in South Ayrshire and Dumfries and Galloway (albeit as a more remote example).
- In relation to the response – 'Fulfilment from the physical challenge required to penetrate into these places', the following specific factors are considered:
  - The Study Area is most easily accessed from the Stinchar Bridge area where paths around Cornish Hill create a relatively easy access from the north;
  - Beyond the Cornish Hill tracks however, the routes to Shalloch on Minnoch or to lower lying areas, including Loch Girvan Eye are much more challenging due to the heather moorland which makes for difficult walking underfoot; and
  - Whilst the moorland itself can be challenging to cross, the satisfaction and sense of accomplishment that arises from the physical effort required to traverse the terrain is rewarded with some dramatic upland scenes. Whilst the feeling of accomplishment would not be diminished by the introduction of the Proposed Development, the upland scenes would be partly affected (limited to views north).

- The landform orientation of the northern area of the WLA towards the Proposed Development and the appearance of the Proposed Development in open elevated views from this area can increase its influence. However, the Proposed Development would not introduce wind farm development to views experienced from this area of the WLA as Dersalloch is visible from much of the same area as the Proposed Development and from higher elevations many more wind farm developments can be seen including: Mark Hill, Arecleoch and Kilgallioch to the south-west; the Hadyard Hill cluster (Hadyard Hill Penwhapple, Assel Valley and Tralorg) to the north-west; Windy Standard and Extension, Afton, Hare Hill and Extension, Sanquhar, Whiteside Hill cluster in the distance to the east; and Airies, Artfield Fell, Balmurrie Fell and Glenchamber cluster in the distance to the south-west (south of Kilgallioch).
- The parts of the Study Area that gain theoretical visibility of the Proposed Development are covered primarily by Jenks relative wildness classifications - levels 3, 4, 5 and 6. The two very small areas of relative wildness level 7 within the Study Area (near Cornish Loch and Loch Girvan Eye) are shown on the ZTV as having limited visibility and so minimal magnitude of change; and
- When the WLA is considered as a whole, the Proposed Development will affect a very limited part of it, and will have a very limited or no effect on the parts of the WLA that have the higher Jenks classifications.

Step 5 - Judge the Significance of the Effects

NatureScot guidance summarises this step as follows in Table 1:

'*Conclude on the overall significance (taking into account any mitigation), in terms of the Study Area and where relevant the wider WLA*.'

The significance of the effect is assessed through a combination of the sensitivity and the magnitude of change that will arise on these as a result of the Proposed Development.

The steps above indicate that the Proposed Development only has the potential to have a significant effect on two of the four WLQs of WLA 01 (Merrick). These are – WLQ 1 '*A relatively small wild land area but with a strong perception of naturalness, few human artefacts and little contemporary land use'* and WLQ 3 '*Human elements are widely visible from the tops and outermost slopes but lower-lying areas have a much stronger sense of remoteness.'*

Steps 3 and 4 have ascertained a **Medium-High** sensitivity for the WLA Study Area and that a maximum **Medium-Low magnitude** of change will arise as a result of the Proposed Development.

A combination of the factors considered in the maximum medium-low magnitude of change and the medium-high sensitivity will lead to a **Moderate and Not Significant** effect on the wildness qualities present in the WLA Study Area. The effect on the WLA as a whole would therefore also be not significant. These effects will be long-term and reversible.

In OPEN's methodology, a combination of a medium-low magnitude of change and a medium-high sensitivity can lead to a Moderate effect that is significant or not significant. In this case, the effect is judged to be not significant primarily because the Proposed Development:

- has potential to significantly affect only two of the four WLQ of the WLA;
- would affect the perception of only one physical attribute of those WLQs;
- would have minimal effect on the perceptual responses of the WLQs; and
- lies outwith the WLA and will therefore have no direct physical effects upon it.

Whilst removing all visibility from the WLA is not possible, the siting and design of the Proposed Development ensures that it will have very limited/negligible influence on the physical attributes

and perceptual responses of the part of the WLA that forms the mountainous core of the WLA, where WLQs are best expressed. This has been achieved through the restriction on turbine height of some of the turbines in the layout and the compact arrangement of turbines resulting from turbine removals in response to potential landscape and visual effects, including from the WLA.

Cumulative Effects

NatureScot guidance notes the following in relation to assessing cumulative effects on WLAs.

'The potential for cumulative effects. Other proposals (either of the same or different type) which are likely to contribute to significant cumulative effects should be identified in discussion with the decision maker. The principles within our guidance document Assessing the cumulative impact of onshore wind energy developments specific to onshore wind energy development can be applied to other development and should aid this assessment' (paragraph 16)

OPEN's methodology for the assessment of cumulative effects on landscape character receptors and views is described in Appendix 6.1. This accords with guidance in 'Assessing the cumulative impact of onshore wind energy developments' (SNH, 2012).

The cumulative assessment focusses on the Study Area that is identified in Step 1 of this Appendix. This is because other parts of the WLA are covered by WLQs that will not be significantly affected by the Proposed Development. Moreover, the Proposed Development does not have sufficient influence on the other parts of the WLA to enable it to contribute to a significant cumulative effect.

Operational and under construction wind farms that influence the WLA are listed in the cumulative baseline section of this Appendix. When the Proposed Development is added to operational / under construction wind farms, the maximum cumulative magnitude of change on the Study Area will be low/medium-low, arising at those locations where the Proposed Development is seen in conjunction with readily apparent visibility of the operational wind farms. This arises because, as described in Step 4 above, the Proposed Development will add to the wind farm influence that is already noted in the WLA description and in the cumulative baseline, increasing the external influence of human artefacts and structures on the foothills and forest landscape to the north and further diminishing the attribute of "a lack of modern human artefacts or structures", which is apparent to a moderate degree in the baseline situation. This is particularly experienced as an addition to the Dersalloch Windfarm which is visible from a similar extent of the WLA to the north.

As described in the cumulative baseline, it is considered that there are no consented wind farms that present a strong enough influence on wildness qualities of the WLA due to distance or cumulative context with existing schemes that would merit further consideration. Cumulative wind farms are mapped on Figure 6.19.

In the application scenario, the Clauchrie application would be located to the west of the northern area of the WLA and the Craiginmoddie application would be located to the north west of the northern area of WLA. Clauchrie would bring wind farm development closer to the WLA than previously experienced and Craiginmoddie would increase the influence of wind farm development on the WLA to the north on the Foothills and Forest with Wind Farm character type, appearing to extend the Hadyard Hill cluster further to the east.

The addition of these application schemes in itself would have an additional effect on the WLQs of the northern area and in particular WLQ 3 '*Human elements are widely visible from the tops and outermost slopes but lower-lying areas have a much stronger sense of remoteness.'* Clauchrie in particular would introduce wind farm development at a closer proximity than previously experienced in views to the west of more distant schemes such as Arecleoch and Kilgallioch.

When considering the overall cumulative interaction of the Proposed Development within a changed baseline that includes these application schemes, it is considered that the Proposed Development would extend the spread of development viewed to the north and west and increase the perception of cumulative development from locations within the WLA. However, the Proposed Development would not introduce development at closer proximity in this situation, due to the relatively closer proximity of Clauchrie Windfarm. On balance it is considered that whilst the

magnitude of change would be moderated slightly by these factors, the magnitude of change would remain **Medium-Low** for this scenario resulting in a **Moderate and Not Significant effect.**

When also considering the implications of Carrick Windfarm, the CZTV on Figure 6.20 shows that Carrick Windfarm shares a similar pattern of theoretical visibility across the northern area of the Merrick WLA but is also more visible across the central and western parts of the WLA where the Proposed Development is not visible. The addition of Carrick Windfarm further intensifies the effect of wind farm development located to the north of the WLA almost connecting to the Hadyard Hill cluster through the Craiginmoddie scheme. The Proposed Development would appear immediately behind the Carrick Windfarm in this scenario, only intensifying the influence of turbines in a part of this view north and within only a part of the Carrick Windfarm extent. Taking this into account, the Proposed Development would only add slightly to a scenario that includes large scale wind farm development viewed at closer proximity and would appear modest in comparison with the wider extent of the Carrick Windfarm. The magnitude of change is therefore considered to reduce in this scenario to **Low** resulting in a **Minor and Not Significant effect.**

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