

Appendix 6.2: Loch Lomond and the Trossachs National Park Special Landscape Qualities Assessment



Car Duibh Wind Farm Limited

**An Càrr Dubh Wind
Farm EIA**

**LVIA - Appendix 6.2
Loch Lomond and the
Trossachs National Park
Special Landscape
Qualities Assessment**

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Car Duibh Wind Farm Limited

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LVIA - Appendix 6.2

**Loch Lomond and the Trossachs National Park
Special Landscape Qualities Assessment**

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Loch Lomond and the Trossachs National Park Special Landscape Qualities Assessment

Introduction

A6.2.1 This appendix sets out an assessment of the effects of the Proposed Development upon the Special Landscape Qualities (SLQ) of the Loch Lomond and the Trossachs National Park (LLTNP). This assessment has been carried out in accordance with NatureScot's (formerly Scottish Natural Heritage) working draft methodology (2018) 'Assessing the impacts on Special Landscape Qualities'¹ which advocates a four-stage approach, as follows:

- **Step 1** The Proposal – Gain as full an understanding of the proposal as possible;
- **Step 2** Define the Study Area and Scope of the Assessment identifying the area likely to be affected;
- **Step 3** The Analysis of Impacts and Effects on SLQs; and
- **Step 4** Summary of Impacts on the SLQs, implications for the NSA/NP and possible future effects on SLQs and recommendations for mitigation.”

Step 1

A6.2.2 With regard to **Step 1**, the proposal is for a wind farm of up to 13 turbines of up to 180m to tip with associated ancillary development. The Proposed Development is located approximately 11.5km to the north-west of the LLTNP western boundary, at its closest point, as shown on **Figure 6.1.6**. At this distance the key components which have the potential to result in effects on the SLQ of the LLTNP will primarily be the turbines. Aviation lighting is proposed on seven of the turbine hubs, with the cardinal turbines lit with c.2000 candela red lights (exact brightness will depend on viewing angle) and which will be reduced to 10% candela intensity when atmospheric conditions are clear. Note that the actual candela value of each light will vary according to the angle it is viewed from and that, in general, locations that are below the hub height of the turbines will experience the lights as being less bright. Further details of the assessment of effects of aviation lighting are included in **Appendix 6.4: Aviation Lighting Night-Time Assessment**. Further details on the overall project are included in **Chapter 4: Project Description**.

Step 2

A6.2.3 The study area (**Step 2**) has been informed by the Zone of Theoretical Visibility (ZTV, refer to **Figure 6.1.7**) which identifies theoretical visibility within 11.5-25km to the east, north-east and south-east of the Proposed Development. It is also informed by reference to visualisations from relevant assessment viewpoints within the LLTNP, namely viewpoints 19: Beinn Bheula, 21: Beinn Ime, 22: Beinn Mhor (Cowal Peninsula and LLTNP), 23: The Cobbler (Ben Arthur), 25: Troisgeach, 26: Ben Lui Hilltop (1130m) and 30: Ben Donich. No night-time viewpoints are included from within the LLTNP, however night-time visuals are provided from the nearby summit of Beinn Bhuidhe (Viewpoint 29)², which is located within Ben Lui Wild Land Area. Viewpoint 29: Beinn Bhuidhe is located approximately 5km from the LLTNP boundary and is representative of night-time views experienced by recreational receptors at the summits of hills within LLTNP, particularly in the north-western extents of the LLTNP.

A6.2.4 The majority of theoretical visibility is indicated from high elevations and site facing hillsides, including from summits within the western fringes of LLTNP at:

- Beinn Bheula (Viewpoint 19), Beinn Mhor (Viewpoint 22) and Beinn Bheag in the south-east,
- Beinn Ime (Viewpoint 21), The Cobbler (Viewpoint 23), Ben Donich (Viewpoint 30), Ben Chorrnach, Ben Vorlich and Ben Vane in the east; and,
- Troisgeach (Viewpoint 25), Ben Oss, Ben Lui (Viewpoint 26) and Beinn Dubhchraig in the north-east.

A6.2.5 There is also theoretical visibility from a short section of the A815 as road users travel in a north-western direction along Loch Eck and towards Loch Fyne (beyond LLTNP), and this is considered in the sequential assessment of the LVIA. However, actual visibility from this route within the LLTNP boundary is very limited due to the presence of intervening vegetation.

A6.2.6 Beyond 25km, the pattern of theoretical visibility becomes more intermittent and limited to higher hills and mountains tops, including Ben Lomond (theoretical visibility of up to six turbines) to the south-east and Ben More to the north-east. The increased viewing distance and presence of operational wind farms in typically long-distance, large-scale open and panoramic views to the west of the LLTNP will limit the potential for significant effects on SLQs. As such, the Study Area is defined as follows and is focused on the hills which are located within the westerly extents of the LLTNP. The Study Area is shown within the red line below:

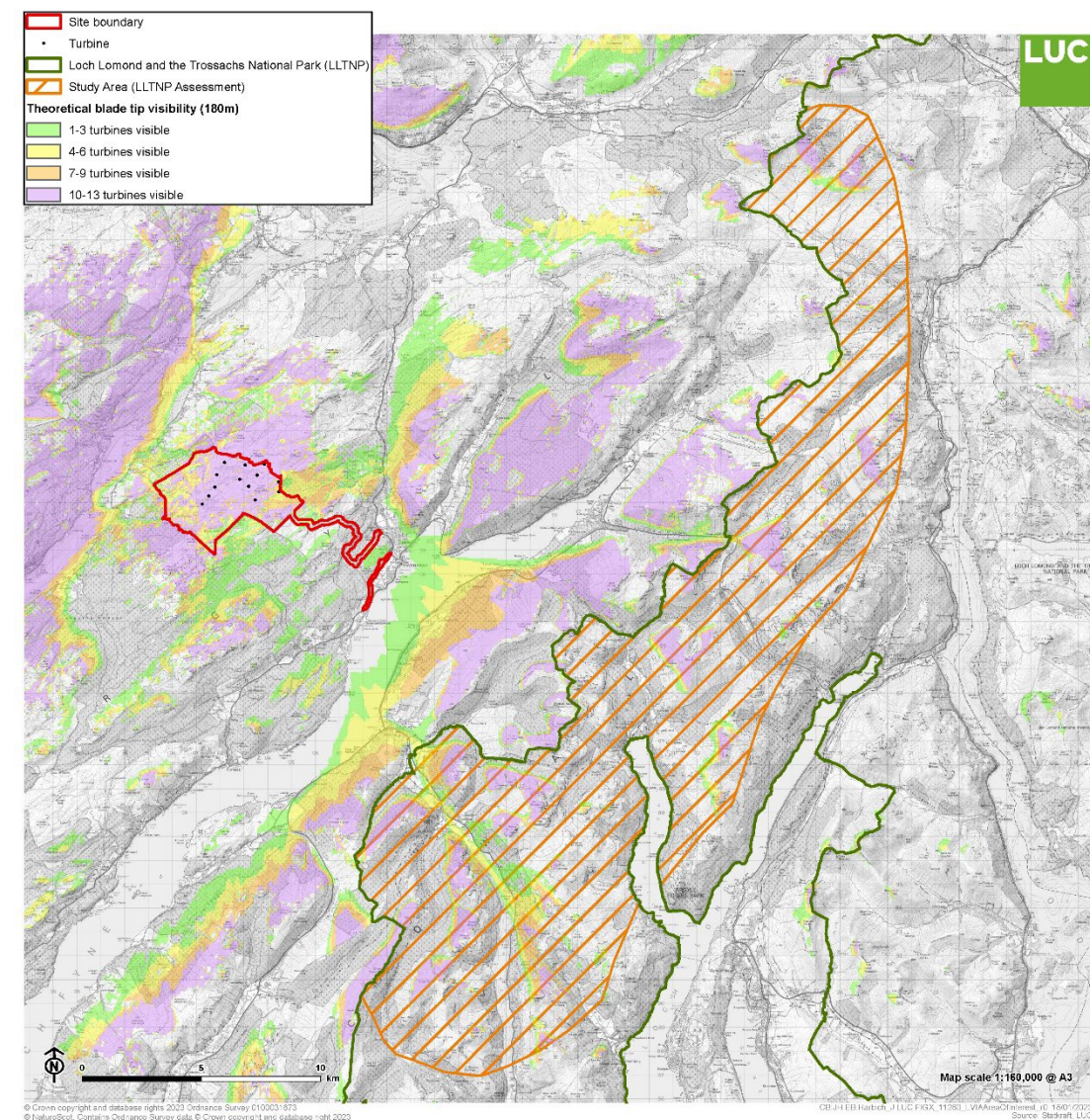


Figure 1 LLTNP Study Area

¹ NatureScot (unpublished, 2018) Guidance for Assessing the Effects on Special Qualities and Special Landscape Qualities. Working Draft 11.

² As agreed by NatureScot in correspondence dated 6th June 2022.

Step 3

A6.2.7 Table A6.2.1 sets out the analysis and effects on SLQ (Step 3) which is presented in tabular format to provide transparency in the judgements which have been taken at each stage of the assessment. The full suite of SLQs for the LLTNP are listed and expanded upon in 'The Special Landscape Qualities of the Loch Lomond and The Trossachs National Park'³. The SLQs which were taken forward for assessment were agreed through consultation with NatureScot (correspondence dated 28th January 2022). The sensitivity of the resource is considered to be high given the national status of the LLTNP, albeit that not all areas or all SLQs will have the same level of sensitivity to change. In accordance with the methodology set out in **Appendix 6.1: LVIA and Visual Methodology**, judgements on scale of effect and geographical extent inform the overall level of effect. With regard to duration and reversibility, all effects are judged to be long term and reversible, unless otherwise stated. Effects of moderate and above are considered to be significant in the context of the EIA Regulations.

A6.2.8 With regard to proposed mitigation, the key mitigation for the wind farm has been embedded in the design process through selection of turbine size and layout considerations.

A6.2.9 A summary of impacts on the SLQ and overall implications for the LLTNP is provided at the end of this appendix (Step 4). This final stage draws together all the strands of the assessment and provides a concluding statement of effect.

Table A6.2.1: Assessment of effects on selected SLQs

Relevant SLQs	Underpinning landscape characteristics to inform detailed SLQ descriptions	Impacts of the Proposed Development on underpinning key characteristics	Level of effect
General Qualities			
A world-renowned landscape famed for its rural beauty	<p><i>"This world-renowned landscape has Loch Lomond as its centre, an immense, island studded loch that leads from the pastoral Lowlands into the heart of the mountainous Highlands, with dramatic contrasts in scenery along its length.</i></p> <p><i>The loch's iconic status is reinforced by the well-known traditional song that endows it with romantic connotations. The words are perceptive in encapsulating Loch Lomond's landscape, its 'bonnie banks, bonnie braes, shady glens, hieland hills, the steep, steep side of Ben Lomond, the wild birdies, the wild flowers, the sunshine on the waters'. This portrait underpins the 'love of the countryside' that the area engenders, so that the loch symbolises the rural beauty of Scotland, an appreciation that endures. Hence the loch and its surrounds epitomises Scotland: a distinctive and inspiring country of loch, farmland, glens and mountains.</i></p> <p><i>The loch was one of the highlights of the Scottish tour of the 18th and 19th centuries, when it was the visitor's last experience of Highland scenery or, where the route started from Glasgow, the first. In the accounts, poetry and paintings of these early travellers, a huge contrast was drawn between the sombre dramatic scenery of Glencoe and Loch Lomond's Highland pastoral beauty."</i></p>	<p>With reference to the Study Area, the areas with theoretical visibility are focused across open hilltops and upper site-facing hills flanks. None of the lower lying areas, such as Loch Lomond and its islands, glens or straths, will enable visibility of the Proposed Development, due to screening afforded by the Arrochar Alps.</p> <p>Likewise, the Proposed Development will not be seen in views towards mountainous areas from lochside locations. Therefore, the "dramatic contrasts in scenery" along the length of Loch Lomond will not be affected by the introduction of the Proposed Development.</p> <p>Whilst the Proposed Development will be seen from localised hill summit locations to the west of the loch, it will be seen at medium to long ranging distances (12-28km) and in the context of existing wind farm development. Therefore, the Proposed Development will not affect the "dramatic scenery" and "rural beauty" and the other qualities of the LLTNP which "epitomises Scotland".</p> <p>Overall, this SLQ is unlikely to be compromised by the introduction of the Proposed Development, including night-time lighting, as is illustrated at Viewpoint 29: Beinn Bhuidhe⁴.</p>	Low scale of change and small geographical extents, resulting in a Not Significant (minor) effect.
Tranquillity	<p><i>"It is easy to find tranquillity within the Park, to find uncrowded places where there is a predominance of natural sounds and sights, whether beside a shimmering loch, following the course of a mountain burn, walking the sheltered woodlands or climbing an open hill. This sense of peacefulness is enhanced by the small scale of human settlement within the expansive landforms, and by the general absence of large-scale development."</i></p>	<p>With reference to the Study Area, theoretical visibility of the Proposed Development is limited to hill summits and elevated site-facing slopes close to the western boundary of the LLTNP. Hill summits throughout LLTNP, including those in the west (e.g., the Arrochar Alps) are representative of this quality and experienced by people "climbing.. open hill[s]". Some hills (e.g., Ben Lui) are already influenced by nearby development, (e.g., settlement and the A85) or are popular with people, which may reduce the sense of tranquillity in these areas.</p> <p>Several operational wind farms are already present in views from these elevated locations, including An Suidhe, Carraig Gheal, Beinn Ghlas, Clachan Flats and A'Chruach. The Proposed Development, being closer to the LLTNP than most other wind farms (Clachan Flats is the exception), will appear more prominent in views from the most westerly summits of the LLTNP.</p> <p>However, the addition of the Proposed Development, at distances of approximately 12-28km is unlikely to compromise the "tranquillity" or "sense of peacefulness", particularly as existing wind farms are also experienced from these elevated locations. Given the intervening distance, it is unlikely the</p>	Low scale of change and small geographical extents, resulting in a Not Significant (minor) effect.

³ <https://www.nature.scot/sites/default/files/2017-07/Publication%202010%20-%20SNH%20Commissioned%20Report%20376%20-%20The%20Special%20Landscape%20Qualities%20of%20the%20Loch%20Lomond%20and%20The%20Trossachs%20National%20Park.pdf>

⁴ Viewpoint representative of elevated, night-time views from within LLTNP.

Relevant SLQs	Underpinning landscape characteristics to inform detailed SLQ descriptions	Impacts of the Proposed Development on underpinning key characteristics	Level of effect
		<p>Proposed Development will appear as a "large-scale development" which would detract from the "expansive landforms".</p> <p>Overall, this SLQ is unlikely to be compromised by the introduction of the Proposed Development, including night-time lighting, as is illustrated at Viewpoint 29: Beinn Bhuidhe⁵.</p>	
The easily accessible landscape splendour	<p>"The landscape splendour of the Park is easily accessible from major centres of population within the Central Belt, with some three million people within one hour's easy travel. Although the area is popularly known as 'Glasgow's playground', it is also a major draw for visitors not just from nearby Glasgow but from all over the world. It is a prime tourist destination, and an end in itself, with many not venturing further into the Highlands beyond."</p>	<p>With reference to the Study Area, theoretical visibility of the Proposed Development is limited to localised areas from west, south-west and north-west facing upper hills slopes and summits on the hills west of Loch Lomond. Areas with distant theoretical visibility are generally located along the western edge of the LLTNP, and include notable summits such as Beinn Ime (Viewpoint 21), The Cobbler (Viewpoint 23) and Ben Lui (Viewpoint 26).</p> <p>Recreational pursuits in the area will largely be focused on hillwalking. Whilst views of the surrounding landscape are likely to be valued by hillwalkers, it is unlikely that medium to long distance views (approximately 12km to 28km) of the Proposed Development outside the LLTNP are likely to compromise this SLQ, including night-time lighting, as is illustrated at Viewpoint 29: Beinn Bhuidhe⁶.</p>	Low scale of change and small geographical extents, resulting in a Not Significant (minor) effect.
Argyll Forest Landscape Area			
A remote area of high hills and deep glens	<p>"This is a mountainous area of distinctive summits rising above forested slopes and steep-sided, glacially-carved troughs filled with sea lochs, lochs or flat-bottomed glens. The uplands are rugged and wild, especially in the north, and the whole area has a sense of remoteness and isolation, emphasised by the sometimes persistent cloud, drizzle or rain.</p> <p>The high mountains and long sea lochs restrict access by road into the area, so that travel by sea has always been the easiest, preferred means of travel. This continues today with the ferries across the Firth of Clyde providing access into Holy Loch, Loch Goil and the lower reaches of Loch Long."</p>	<p>With reference to the Study Area and the Argyll Forest Landscape Area, theoretical visibility of the Proposed Development is limited to west and north-west facing elevated slopes and open hill summits near the western edge of the LLTNP. This includes the summits of The Cobbler (Ben Arthur) (Viewpoint 23), Ben Donich (Viewpoint 30), Beinn Bheula (Viewpoint 19), Beinn Bheag and Beinn Mhor (Viewpoint 22). Views have already been altered by wind farms including An Suidhe, Carraig Gheal, Beinn Ghlas, Clachan Flats and A'Chruach.</p> <p>The mountainous area is "rugged and wild" with a sense of "remoteness and isolation" which contributes towards the "tranquillity" of the area. Theoretical visibility is indicated from the aforementioned summits in the Argyll Forest Landscape Area. Medium and longer distance views of the Proposed Development (distances of approximately 12-21km) and other wind farm development outside the LLTNP is unlikely to compromise the "sense of remoteness and isolation" at the summits.</p> <p>The "steep-sided, glacially-carved troughs" in which sea lochs, lochs and flat-bottomed glens are present do not have theoretical visibility of the Proposed Development. Some theoretical visibility of up to six turbines is indicated from the lower slopes enclosing Loch Eck, however in reality, intervening vegetation will screen this visibility.</p> <p>Likewise, ferries which cross the Firth of Clyde, providing access to Holy Loch, Loch Goil and Loch Long will have no theoretical visibility of the Proposed Development. Figure 6.1.7 indicates no theoretical visibility from these waterbodies. The sense of "remoteness and isolation" from across this area will not be affected by the Proposed Development.</p> <p>Overall, considering both elevated locations and deep glens, this SLQ is unlikely to be compromised by the introduction of the Proposed Development, including night-time lighting, as is illustrated at Viewpoint 29: Beinn Bhuidhe⁷.</p>	Low scale of change and small geographical extents, resulting in a Not Significant (minor) effect.
Arrochar's mountainous and distinctive peaks	<p>"A distinctive mountain group, popularly called the Arrochar Alps, fills the northern corner, and extends into the Loch Lomond area. The hills are visually striking, curiously-shaped, and rocky with craggy peaks and crests. Each is distinctive and recognisable. They are highly visible from the shores and open</p>	<p>With reference to the Study Area and the Argyll Forest Landscape Area, theoretical visibility of the Proposed Development is limited to west and north-west facing elevated slopes and open hill summits near the western edge of LLTNP. This includes the summits of The Cobbler (Ben Arthur) (Viewpoint 23),</p>	Low scale of change and small geographical extents, resulting in a Not Significant (minor) effect.

⁵ Viewpoint representative of elevated, night-time views from within LLTNP.

⁶ Viewpoint representative of elevated, night-time views from within LLTNP.

⁷ Viewpoint representative of elevated, night-time views from within LLTNP.

Relevant SLQs	Underpinning landscape characteristics to inform detailed SLQ descriptions	Impacts of the Proposed Development on underpinning key characteristics	Level of effect
	<p><i>waters of Loch Long and Loch Lomond and offer spectacular panoramas from their summits. Their proximity to the sea means that snow seldom lies deep on the summits.</i></p> <p><i>These hills are important in the history of Scottish mountaineering, principally because they provide good climbing and are easily accessible from Glasgow, whether by train or car or, in the past, by steamer to Arrochar. Although popular with climbers, nevertheless the tops harbour a sense of remoteness and stillness, away from the busy road through Glen Croe at the head of Loch Long."</i></p>	<p>Ben Donich (Viewpoint 30), Beinn Bheula (Viewpoint 19), Beinn Bheag and Beinn Mhor (Viewpoint 22).</p> <p>Views west have already been altered by wind farms including An Suidhe, Carraig Gheal, Beinn Ghlas, and A'Chruach. In addition, Clachan Flats Wind Farm is also visible, and is closer to the LLTNP boundary from further north near Ben Donich, whilst Cruach Mhor is closer to the LLTNP boundary in the south near Beinn Mhor. The Proposed Development will not be visible in views towards the Arrochar Alps from the shores and open waters of Loch Long and Loch Lomond, or in views towards the interior of the LLTNP.</p> <p>Due to their accessibility, the Arrochar Alps are popular for hillwalking. Whilst views of the surrounding landscape are valued by hillwalkers it is unlikely that medium to long distance views (approximately 12km to 22km) of the Proposed Development outside the LLTNP is likely to compromise the "sense of remoteness and stillness" which contributes to the "tranquillity" experienced in the area.</p> <p>Overall, the Proposed Development will not be visible in views towards Arrochar's distinctive peaks in views from the Loch Long and Loch Lomond area. Medium to longer distance views of further wind farm development outside the LLTNP is unlikely to compromise the "spectacular panoramas" and "sense of remoteness" from the summits, or wider parts of the LLTNP. Therefore, this SLQ is unlikely to be compromised by the Proposed Development, including night-time lighting, as is illustrated at Viewpoint 29: Beinn Bhuidhe⁸.</p>	
Loch Lomond Landscape Area			
Distinctive mountain groups	<p><i>"Loch Lomond and its immediate surrounds are enclosed by hills and mountains on three sides which provide an impressive backdrop to views across the loch and grand panoramas from their summits. The three major mountain groups are each distinctive in their own way, adding to the variety of scene around the shores.</i></p> <p><i>North of Tarbert the loch is over-shadowed on its west side by the Arrochar Alps. These are large in scale and highly irregular in form, with craggy peaks rising from broad rocky ridges and slopes. They are cut by U-shaped valleys and deeply incised glens. Large forestry plantations cover the lower slopes, especially the distinctive conical hill of Cruach Tairbeirt that lies directly on Loch Lomond's shores, and heads the Arrochar-Tarbert corridor.</i></p> <p><i>Enclosing Loch Lomond to the west are the Luss Hills ranging from Glen Fruin in the south to Tarbert. This is a large upland hinterland of rounded conical hills and smooth, sweeping slopes dissected by broad U-shaped valleys.</i></p> <p><i>To the east are the East Lomond Uplands with their steep, craggy slopes. The ridges lie parallel to the loch, interrupted by peaks and dissected by steep valleys. South of Ben Lomond the uplands become less dramatic in form, the hill sides dropping more gently to the loch shores until they eventually form a series of foothills to merge with the moorlands and pasture lowlands of the southern loch shores. The outlier of Conic Hill is striking with its whaleback ridge."</i></p>	<p>With reference to the Study Area and the Loch Lomond Landscape Area, theoretical visibility of the Proposed Development is limited to elevated slopes and open hill summits near the western edge of LLTNP. This includes the notable summits of Beinn Ime (Viewpoint 21) and Ben Vorlich, which form part of the Arrochar Alps, and Troisgeach (Viewpoint 25). These views have already been altered by wind farms including An Suidhe, Carraig Gheal, Beinn Ghlas, and A'Chruach. In addition, Clachan Flats Wind Farm is also visible, and is closer to the LLTNP boundary.</p> <p>The "U-shaped valleys and deeply incised glens" of the Arrochar Alps will have no theoretical visibility of the Proposed Development due to screening provided by intervening mountains. Furthermore, the Proposed Development will not be visible in views towards the distinctive mountain groups which surround Loch Lomond (Arrochar Alps, Luss Hills and East Lomond Uplands), in views from the Loch Lomond area.</p> <p>There will be no effect on views of the distinctive mountain groups (Arrochar Alps, Luss Hills and East Lomond Uplands) from Loch Lomond. Medium to longer distance views of further wind farm development outside the LLTNP in views from localised hill summits within the Arrochar Alps is unlikely to compromise the "grand panoramas" or the distinctiveness of the mountains in this part of the LLTNP. This SLQ is unlikely to be compromised by the Proposed Development, including night-time lighting, as is illustrated at Viewpoint 29: Beinn Bhuidhe⁹.</p>	Low scale of change and small geographical extents, resulting in a Not Significant (minor) effect.
Breadalbane Landscape Area			
Steep mountains and long glens	<p><i>"Breadalbane is a great tract of hills and mountains rising steeply and dramatically from the glen floors: Ben Lui, Cruach Ardrain, Ben More, Ben Vorlich, Ben Ledi, and others. These form the Southern Highlands – the</i></p>	<p>With reference to the Study Area and the Breadalbane Landscape Area, theoretical visibility of the Proposed Development is largely limited to the summits and site-facing slopes of Ben Lui (Viewpoint 26) and Ben Oss, in the</p>	Low scale of change and small geographical extents, resulting in a Not Significant (minor) effect.

⁸ Viewpoint representative of elevated, night-time views from within LLTNP.

⁹ Viewpoint representative of elevated, night-time views from within LLTNP.

Relevant SLQs	Underpinning landscape characteristics to inform detailed SLQ descriptions	Impacts of the Proposed Development on underpinning key characteristics	Level of effect
	<p><i>southernmost extent of the Grampian mountains. The hills dominate the scene, with human activity constrained.</i></p> <p><i>The bare upper hillsides and summits appear untouched, remote and wild, rising above the long glens where farming, forestry and infrastructure are found. Flat land is scarce, but where it does occur, it is settled and intensively used."</i></p>	<p>north-west of LLTNP. These views have already been altered by wind farms including An Suidhe, Carraig Gheal, Beinn Ghlas, and A'Chruach.</p> <p>Areas of flat and lower-lying land do not have theoretical visibility of the Proposed Development. Therefore, the perceptual qualities of these "settled and intensively used" areas will not be affected by the Proposed Development.</p> <p>Longer distance views of the Proposed Development (distances of approximately 26-28km) and other wind farm development outside the LLTNP are unlikely to compromise the "untouched, remote and wild" summits. Therefore, this SLQ is unlikely to be compromised by the Proposed Development, including night-time lighting, as is illustrated at Viewpoint 29: Beinn Bhuidhe¹⁰.</p>	

Step 4 – Summary

A6.2.10 In summary, none of the SLQ considered in this assessment are judged to be subject to effects of greater significance than minor. Visibility of the Proposed Development will be localised to upper site-facing (generally west, south-west and north-westerly facing) hill flanks and summits within the Arrochar Alps in the west of the LLTNP, as illustrated by the assessment viewpoints within LLTNP (19: Beinn Bheula, 21: Beinn Ime, 22: Beinn Mhor (Cowal Peninsula and LLTNP), 23: The Cobbler (Ben Arthur), 25: Troisgeach, 26: Ben Lui Hilltop (1130m) and 30: Ben Donich.). Theoretical visibility is indicated from the southernmost extents of the Grampian mountains, at Ben Lui (Viewpoint 26) and Ben Oss. The western boundary of the LLTNP is largely defined by the Arrochar Alps, which in themselves screen views further east within the LLTNP. From the somewhat limited elevated areas with potential visibility of the Proposed Development across the Study Area, operational wind farms to the west, south-west and north-west, outside the LLTNP, have already altered the large scale and panoramic views. In many of these views in the northern end of the Study Area, the operational Clachan Flats Wind Farm will continue to be the closest proximity wind farm. Further south, Cruach Mhor and A'Chruach Wind Farm are closer to the boundary of the LLTNP. In conclusion, the Proposed Development is unlikely to compromise the SLQs of the LLTNP. As such, drawing together the effects upon each SLQ to consider implications of changes to them as a whole, the integrity of the LLTNP and the reasons for its designation will not be significantly affected by the proposal.

¹⁰ Viewpoint representative of elevated, night-time views from within LLTNP.