

8.5. Assessment of Cumulative Effects with Scoping Sites

Introduction

- 8.5.1. At the request of the Local Authority, a review of scoping sites within the vicinity of the Proposed development has been undertaken, as set out below. This is against the approach advocated in GLVIA3 largely due to the uncertainty that these schemes will come forward as a full application and the lack of adequate information about project details. All sites considered are shown in Figures 8.2 and 8.3.
- 8.5.2. In a constantly changing situation in terms of wind farms applications being submitted or amended a cut off date of 1st July 2018 has been used, after which no further research was undertaken on the evolving status of wind energy development in the study area.
- 8.5.3. In order that the cumulative assessment remains focused on other schemes that have the greatest potential to give rise to significant cumulative effects it has been necessary, four wind farms at the scoping stage have been selected to be considered for assessment. These four schemes have also been suggested by both the Local Authority for consideration. Details of the wind farms are set out in Table 8.5.1 below.
- 8.5.4. The developments are shown on the visualisations where relevant. The cumulative visualisations are included in the second section of Volume 3 Landscape and Visual and Cultural Heritage Visualisations.

Table 8.5.1: Scoping Schemes Considered in the Assessment

Site	Blade tip height of turbines	Number of turbines
Scoping		
Stroanshalloch	149.5	11
Glenshimmeroch	149.9	20
Troston Loch	149.5	15
Cornharrow	158.5	13

- 8.5.5. The purpose of this appendix is to consider the additional effects that may arise as a result of the Proposed Development in combination with the other scoping schemes if they were all operational.
- 8.5.6. The baseline in the cumulative impact assessment is therefore extended to consider all other wind farms, consented, in planning and at scoping.
- 8.5.7. It should be noted that the information with regards to the four scoping schemes has been sourced via publicly accessible databases, largely via Dumfries and Galloways Council's public access system. It should be recognised that the information gathered with regards to the wind farm proposals is subject to the change, particularly as design iteration often occurs between the submission of scoping and the submission of a planning application.

8.5.8. The assessment of cumulative effects is therefore considered to present a very worst case scenario. There are many aspects of the four scoping schemes that could change prior to the submission of an application including turbine locations, turbine numbers and turbine tip heights.

Cumulative ZTVs, Wireframes and Photomontages

8.5.9. Cumulative ZTVs (CZTVs) have been produced to illustrate the theoretical visibility of the four wind farms in combination with the Proposed Development as follows:

- Cumulative ZTV with Cornharrow (Figure 8.33);
- Cumulative ZTV with Troston Loch (Figure 8.34); Cumulative ZTV with Stroanshalloch (Figure 8.35); and
- Cumulative ZTV with Glenshimmeroch (Figure 8.36).

8.5.10. It should be noted that ZTVs imply a much greater geographical extent of influence on the landscape and views of it than would actually be the case. It therefore follows that the cumulative ZTVs also exaggerate the actual impacts of the turbines on landscape character and visual amenity as they do not take account of vegetation or buildings in the landscape, which may restrict the nature and extent of views.

8.5.11. Table 8.5.1 provides a summary of cumulative effects at each of the 22 assessment viewpoints.

Table 8.5.1 Summary of cumulative visual effects

		Visibility of Wind Farms at Each Viewpoint Location			
		Key: X = In Combination, O = In Succession, [] = theoretically visible only (i.e. not actually visible)			
Viewpoint		Straonshalloch	Cornharrow	Glenshimmeroch	Troston Loch Loch
1	Stroanfreggan Bridge (B729)				
2	Stroanfreggan Craig				
3	Guttery Glen (B729)				

		Visibility of Wind Farms at Each Viewpoint Location Key: X = In Combination, O = In Succession, [] = theoretically visible only (i.e. not actually visible)			
Viewpoint		Straonshalloch	Cornharrow	Glenshimmeroch	Troston Loch Loch
4	Smittons Bridge				
5	Stroanfreggan Cairn				
6	Head of Ken Valley				
7	Southern Upland Way at Culmark Hill	O	O	O	O
8	Minor Road south of B729	[O]	X	O	O
9	High Bridge of Ken				
10	Southern Upland Way, Benbrack (Striding Arch)	O		O	O
11	B7000 at East Arndarroch	[O]	O	O	O
12	Dundeugh Hill	O	X	O	O
13	Beninner	X	X	X	X
14	Cairnsmore of Carsphairn	X	X	X	X

		Visibility of Wind Farms at Each Viewpoint Location Key: X = In Combination, O = In Succession, [] = theoretically visible only (i.e. not actually visible)			
Viewpoint		Straonshalloch	Cornharrow	Glenshimmeroch	Troston Loch Loch
15	Craig of Knockgray	X	X	X	X
16	Alhang	O	O	X	X
17	Southern Upland Way at Waterside Hill	XO	X	X	X
18	A713 at Stroangassel		X	[O]	
19	A713 south of Carsphairn	[X]	[X]	[O]	X
20	Woodhead Mines	X	X	X	X
21	Corserine (Hennessey's shelter)	X	X	X	X
22	Carsphairn War Memorial		[X]	[X]	[X]

Cumulative Effects on Landscape Features and Character

8.5.12. As demonstrated in the main LVIA section of this report, the Proposed Development would not give rise to any notable effects on existing landscape features. It follows therefore that whatever cumulative effects other operational and consented wind farms have on existing landscape features, the Proposed Development would not contribute any further to this effect and therefore there would be no cumulative effect as a result of the Proposed Development on any landscape features.

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- 8.5.13. Firstly, a review of the cumulative ZTVs concludes that combined visibility of the Proposed Development is greatest with Glenshimmeroch. The least amount of combined visibility will occur with Stroanshalloch. The areas of the landscape in which combined visibility will occur are located to the south and south west of the Site within character types 19A Southern Uplands with Forest, 9 – Upper Dale (Valley), 18A - Foothills with Forest, 21 - Rugged Granite Uplands and 21A - Rugged Granite Uplands with Forest.
- 8.5.14. With the introduction of Cornharrow, Stroanshalloch, Troston Loch and Glenshimmeroch to the wider landscape alongside the Proposed Development, the character of the landscape would be different, particularly to the south east of the Site where there no wind farms currently located within relatively close proximity. In this direction from the Site, the existing Blackcraig Hill wind farm, the consented Knockman Hill scheme, and the proposed Margree wind farm are all located at greater distance to the Site and thus cumulative effects with the Proposed Development are minimal.
- 8.5.15. With reference to the DGWFLCS, the scope for further development within the character type and unit within which the Proposed Development, Stroanshalloch and Cornharrow are located (Ken unit of character type 19A) is limited in terms of large typology turbines. This is also the case for the Stroan unit of character type 18A - Foothills with Forest in which Troston Loch and Glenshimmeroch are located.
- 8.5.16. The Cornharrow wind farm is located directly west of the existing Wether Hill wind farm and would essentially form an extension to this scheme. The Wether Hill Extension wind farm is located directly east of Wether Hill and the three schemes would form one large cluster of turbines. It is noted that the proposed Cornharrow turbines are markedly taller than the existing Wether Hill turbines which are 91 m to blade tip, and the Wether Hill Extension turbines which are 100 m to blade tip. Nevertheless, the location of Cornharrow, on the southern fringes of the Southern Uplands, within character type 19A, is in keeping with the existing spread of wind farm development.
- 8.5.17. With the introduction of the Cornharrow Wind Farm, the Ken unit of character type 19A – Southern Uplands would not become defined by wind energy development due to its location directly adjacent to Wether Hill. It will marginally extend the horizontal array of turbines in the landscape when seen from higher ground and hill summits within the upland landscape.
- 8.5.18. In this context, the introduction of Cornharrow alongside the Proposed Development, in a landscape where Longburn is also present, would great an east to west linear formation of wind farms not the Wether Hill/Cornharrow cluster would be separated from Longburn and the Proposed Development by a large area of coniferous plantation. The topography is also very varied and as such the perception of the five wind farms in the landscape would be generally low, particularly from the lower lying valleys. The defining characteristics of character type 19A would not
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be greatly altered but would instead the existing characteristics would be reinforced.

- 8.5.19. This is also the case as a result of Stroanshalloch to the landscape of character type 19A. There is limited intervisibility between Stroanshalloch and the Proposed Development from within the low lying valley landscape within the character type due to the varied nature of the landscape between the two sites. From higher ground within the character type, extensive areas of coniferous plantation will reduce the overall level of intervisibility between the two wind farms. The two schemes will be seen in combination with each other from more distant character types but would also be seen in the context of the other existing wind farms.
- 8.5.20. In considering the effects upon landscape character as a result of the introduction of Troston Loch and Glenshimmeroch to character type 18A, alongside the Proposed Development and Stroanshalloch within character 19A, the Glenshimmeroch and Troston Loch schemes would extend the presence of turbines further south in the landscape, into an area where turbines are not currently present. It should be noted however that Blackcraig wind farm is visible from within the character type, at distance, and Knockman Hill and Margree will also be visible to varying degrees. The effects upon character type 18A are likely to be locally significant, particularly from the hill summit at Bennan, which will be almost encircled by turbines and from the landscape in the vicinity of Culmark Hill where turbines will be seen in all directions except to the west. However, such effects will occur regardless of the presence of the Proposed Development.
- 8.5.21. The Troston Loch and Glenshimmeroch wind farms will shorten the perceived gap between the Blackcraig Hill/ Knockman Hill/Margree cluster of turbines and the Wether Hill/Cornharrow/Longburn/Stroanshalloch/Proposed development cluster, creating a linear belt of turbines when perceived from higher ground to the west, and from the landscape to the west of the Water of Ken Valley within character type 9. There are likely to be some localised significant effects upon the perception of landscape character with character type 9, but these will be brought about in the absence of the Proposed Development.
- 8.5.22. Overall, the significant cumulative effects upon landscape character would not arise as a direct result of the introduction of the Proposed Development, rather the introduction of turbines further south within the landscape.

Cumulative Effects on the Galloway Hills RSA

- 8.5.23. The above discussion in relation to landscape character has determined that the extent of wind energy development within the landscape beyond the RSA boundary will be extended further south with the introduction of Troston Loch and Glenshimmeroch. This will be perceived from the RSA, particularly from the higher ground within the Rhinns of Kells and from Cairnsmore of Carsphairn, as shown on the cumulative ZTVs at Figures 8.59 to 8.64.

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- 8.5.24. Nevertheless, the four scoping schemes, alongside the Proposed Development, will be perceived in the context of existing wind energy development in the wider landscape. In views from Cairnsmore of Carsphairn, Woodhead Mines, Beninner, Craig of Knockgray and Corserine all of the scoping schemes will be seen in the same part of the view as existing wind energy development, alongside consented schemes and those in planning.
- 8.5.25. It is noted that Troston Loch and Stroanshalloch will extend the presence of turbines in the landscape between the Blackcraig Hill/Knockman Hill/Margree grouping and the turbines located within the Southern Uplands landscape as seen from a number of the viewpoint locations within the RSA. However, their presence will still remain in the same part of the view as existing wind farms rather than introduce turbines into a different angle of view.
- 8.5.26. In summary, there will be no significant cumulative effects upon the Galloway Hills RSA.

Cumulative Effects on Visual Amenity

- 8.5.27. Table 8.5.1 above summarises the occurrence of in-combination and in-succession effects at each of the 22 assessment viewpoints.
- 8.5.28. Through analysis of Table 8.5.1 and the cumulative visualisations a few observations can be made.
- 8.5.29. Firstly, it is noted that the Proposed Development would, from the vast majority of locations, be visible in combination with the four scoping sites from the high peaks and hill top locations within the study area. In views from low lying locations, the Proposed Development is most likely to be seen in combination with Cornharrow due to its location in a similar part of the landscape, with successional views of Troston Loch and Glenshimmeroch. There will be limited locations from which Stroanshalloch would be seen in succession to the Proposed Development due to the varied nature of the landscape between the two sites, and the presence of dense areas of plantation.
- 8.5.30. The greatest level of cumulative effects will be experienced in the landscape to the south and south east of the Site as a result of the introduction of Glenshimmeroch and Troston Loch to the landscape. The two scoping schemes extend the presence of turbines further south in the landscape and as such there will be localised parts of the landscape from which there will be turbines located in almost all directions of view at relatively close proximity.
- 8.5.31. In particular there will be turbines visible to the north west through to the south from the landscape in the vicinity of Culmark Hill and thus from the Southern Upland Way and farmsteads in the locality. There will also be turbines present in almost all angles of view from the minor road that passes over Fingland Moss, which is also a cycle route. There are also a number of farmsteads located along off this minor road. The cumulative

visual effects from these locations will be significant. This would occur in the absence of the Proposed Development.

- 8.5.32. From the wider landscape, Glenshimmeroch and Troston Loch will be clearly visible from higher ground within the Glenkens valley. From the Southern Upland Way at Waterside Hill there will be wind energy development visible in the view to the north west through to the east. The presence of the two schemes will be greater than other wind farms at greater distance, such as the existing Blackcraig Hill, the consented Knockman Hill, the proposed Margree scheme, alongside Cornharrow, Stroanshalloch, and the Proposed Development.
- 8.5.33. In summary, there will be some localised significant cumulative effects as a result of the introduction of Glenshimmeroch and Troston Loch to the landscape in which Cornharrow, Stroanshalloch and the Proposed Development are also present alongside all other existing, consented and in planning schemes. Such effects would occur in the absence of the Proposed Development.

Sequential Cumulative Effects on Visual Amenity

- 8.5.34. The four routes that form the primary receptors to the sequential cumulative assessment are the B729, the B7000, the A713, and the Southern Upland Way.
- 8.5.35. The Proposed Development will be seen in succession to Troston Loch and Glenshimmeroch as one travels along the B729 between Smittons and Guttery Glen. The Stroanshalloch scheme is barely visible from this part of the route, but it would be partially visible further along the route in the vicinity of Craighdarroch. The scoping schemes would be seen alongside Wether Hill which is also intermittently visible along the route and Longburn would also form a prominent feature in views west of Guttery Glen.
- 8.5.36. Overall, the addition of Glenshimmeroch and Troston Loch to the view to the south would result in turbines being visible to both sides of the road, in combination and in succession with the Proposed Development. The Proposed Development would appear in the context of the existing turbines of Longburn whereas Troston and Glenshimmeroch would be seen in part of the view that does not feature wind energy development. There would be a localised significant sequential effects upon receptors using the B729. Such effects have already been established as part of scenario 3 in the main cumulative assessment, and Glenshimmeroch and Troston Loch would reinforce this effect.
- 8.5.37. The Glenshimmeroch and Troston Loch turbines would extend the visibility of turbines along the route of the B7000. They would be seen both in succession combination with the Proposed Development, but such visibility will be intermittent and glimpsed. The cumulative effect would not be significant.
- 8.5.38. Views from the A713 would be distant across the Water of Ken Valley. The Proposed Development would form the main feature of views from the

route as it heads south from Carsphairn; the other four wind farms would be less visible. In views from further south on the A713, the Glenshimmeroch and Troston Loch schemes will be intermittently visible as glimpsed views beyond the layers of vegetation in the landscape. The Stroanshalloch and Cornharrow turbines would barely be visible. Overall there would be no significant sequential effects experienced from the A713.

- 8.5.39. The Southern Upland Way passes through the landscape in a south westerly to north easterly direction. The route passes in close proximity to Lorg, Longburn, Cornharrow, Troston Loch and Glenshimmeroch. There are likely to be some significant sequential effects upon a short section of the route due to the addition of Glenshimmeroch and Troston Loch to the landscape as the presence of turbines will be extended south beyond Longburn up to a distance of c. 5 km. Such effects would occur without the presence of the Proposed Development.

Summary

- 8.5.40. It is considered that the addition of the Proposed Development to the landscape alongside Cornharrow, Troston Loch, Glenshimmeroch and Stroanshalloch would not give rise to any additional significant cumulative effects over and above those already assessed in the main cumulative assessment.
- 8.5.41. The additional significant cumulative effects arise as a result of the presence of Glenshimmeroch and Troston Loch within an open and relatively undeveloped area of baseline landscape.