

5 Landscape & Visual

5.1 Introduction

The Landscape and Visual Impact Assessment (LVIA) will form one chapter of the Environmental Statement, and will identify and assess potential effects of the proposed development on the landscape resource of the site and its environs, and visual amenity of the site and surrounding areas. Our approach to Landscape and Visual Assessment is rigorous and our methodology is continuously reviewed and updated to comply with current best practice guidance.

Landscape impacts can be physical or can relate to the landscape character and how this resource is perceived as a result of the proposed development. Visual impacts are a consequence of a change in the view as a result of the introduction of the proposed development and the effect on the overall visual amenity.

The LVIA will be carried out in accordance with current guidance and best practice documents, listed at the end of this section of the report. The assessment would be prepared with reference to the Guidelines for Landscape and Visual Impact Assessment GLVIA, 3rd edition. Reference would also be made to relevant guidelines on landscape and visual assessment issued by Scottish Natural Heritage (SNH), Argyll and Bute Council and the Scottish Government.

5.2 Methods

5.2.1 Study Area

The study area adopted for the LVIA will extend to 35km from the outermost turbines in accordance with current best practice as set out in the guidelines by SNH. The study will be carried out by a process of a desk study and site survey of the proposed area.

5.2.2 Method of Assessment

Consultation will be carried out with Argyll and Bute Council and SNH to discuss landscape and visual considerations relating to the proposal as part of the assessment process. The site layout will be developed through an iterative process between the developer, the project engineers, and Environmental Impact Assessment consultants. The scope of the design process and site layout optimisation is described in the Proposed Development section. An important part of this process will be agreeing design principles with statutory consultees. The landscape and visual assessment would involve four key stages:

- Establishment of the baseline conditions relating to the landscape and visual resource of the study area including: geographical context; landscape character; landscape quality and value; existing wind development within the study area; and through Zone of Theoretical Visibility (ZTV) analysis, the identification of potential visual receptors.
- An assessment of sensitivity (nature of the landscape and visual receptors) and magnitude (nature of effect) from those identified within the baseline conditions.
- Evaluation of the anticipated effects from the introduction of the development into the baseline context to inform layout optimisation and site design to create the most appropriate wind farm design in response to the key landscape and visual characteristics and to help mitigate potential impacts;
- Assessment of landscape and visual effects based on a combination of sensitivity (nature of the landscape and visual receptors) and magnitude (nature of effect) including a description of the anticipated effects and their significance. The assessment would take into account the potential for mitigation measures to reduce these effects.

5.3 Baseline

The baseline study within the LVIA chapter will be in two parts:

- Landscape Appraisal: The landscape appraisal will review relevant guidance, including that contained within development plans¹ and landscape character assessments. This will be supported by a survey of the existing land use and landscape elements and features to establish the landscape character and elements within the local landscape resource that are particularly relevant to the development proposed; and
- Visual Appraisal: This will identify the key visual receptors that lie within the study area and include the selection of viewpoints from within the surrounding landscape, focusing on publicly accessible viewpoints and designated areas identified within development plans.

5.3.1 Landscape

A preliminary review of Landscape Character Assessments within the study area shows the site lies within the Upland Forest Mosaic landscape type, as identified in the Argyll and Firth of Clyde Landscape Character Assessment (SNH Review No 78). Within the 35km study area the Ayrshire landscape assessment (SNH Review No 111), would also apply.

The key characteristics of Upland Forest Mosaic can be described as follows:

- Upland plateau with rounded ridges, craggy outcrops and an irregular slope profile;
- Upland lochs: winding narrow glens and wider river valleys;
- Extensive, large-scale mosaic of forestry plantations and small area of open moorland; No field boundaries;
- Very few buildings: occasional isolated dwellings on edges of moor; and
- Little access: roads typically follow shorelines.

A preliminary review of environmental designations shows a number of landscape designations and areas of recognised value within the study area. There are no statutory designations which apply to the site area.

Landscape designations within 35km of the proposed site area are as follows:

- National Scenic Areas (NSAs) of North Arran, Jura and Knapdale;
- Areas of Panoramic Quality (as identified in the Argyll and Bute Local Plan), located in South Kintyre (southern tip of Kintyre and a section of western Kintyre coast opposite Gigha), Knapdale with east Islay coast and west Bute at the edges of the 35km study area; and
- There are three sites within the 35km study area which are listed within the Inventory of Gardens and Designed Landscapes, compiled by SNH and Historic Scotland. These are Brodick Castle, Garden and Country Park on Arran, Achamore House on Gigha and Stonefield Castle on the shores of Loch Fyne. The landscape effects to these gardens and designed landscapes will be considered further as part of the landscape assessment, however, cultural heritage effects such as effects on setting will be considered within the Cultural Heritage and Archaeology chapter. Other cultural heritage designations occurring within the study area such as Listed Buildings and Scheduled Ancient Monuments will also be reviewed and assessed as part of the assessment of Cultural Heritage and Archaeology EIA assessment.

SNH have published a policy document along with Phase I wildness mapping. They have recently completed Phases II & III of wildness mapping, which considers wild areas of particular importance and identifies core areas of wildness from a national perspective. Phases II & III are currently the subject of a consultation process in relation to National Planning Framework 3 and a revised Scottish Planning Policy.

¹ Refer to the Planning Policy chapter for full scope of assessment of development plans and planning policies.

The current policy document sets out criteria to assist in the identification of such areas of land, and identifies areas of Scotland known as ‘Search Areas for Wild Land’ (SAWLs) where wild land may occur. The Jura, Scarba Lunga and Garvellachs SAWL, and the North Arran SAWL fall within the 35km study area. Both of these areas are identified as core areas of wildness within the Phase II & III SNH mapping with some minor variations to the edges of the defined areas.

The assessment of wild land will consider scope for wildness and/or wild land assessment in reference to wildness mapping, cumulative Zones of Theoretical Visibility (ZTVs) and consultation with SNH. If an assessment of indirect impacts upon these areas of wild land character is required, it would be carried out for the proposed wind farm following SNH guidance.

Landscape and visual receptors will potentially include recreational routes and tourist locations within the study area, such as the Kintyre Way Long Distance Route, popular ferry routes and popular mountains and hilltops. Recreation and tourism assets will also be reviewed and assessed within the socio-economic chapter. Natural heritage designations occurring within 35km of the site such as Special Protection Areas (SPA), Ramsar sites and Sites of Special Scientific Interest (SSSI) will be reviewed as part of the ecology or ornithology assessments, as appropriate.

5.3.2 Visual

Viewpoint locations have been identified to represent the range of receptors within the study area that are likely to experience views of the proposed development. In addition to an assessment from viewpoint locations, the visual assessment will also consider other potential visual receptors such as settlements, routes (sequential visual assessment) and visitor attractions found throughout the study area.

The sequential visual assessment will consider effects to transport or recreational routes within the study area that are likely to experience significant effects. Assessment of the sequential effects takes into account the direction of travel, the proportion of the journey affected and the relative distance from the proposed development. Cumulative sequential effects could also occur when moving along a linear route, as the observer moves from one point to another and gains views of other wind developments.

Computer generated Zone of Theoretical Visibility (ZTV) maps will be used to identify areas with potential visibility of the proposals and to assist the design development and assessment process. ZTV's will be used to assist viewpoint selection and to illustrate the potential influence of the proposed development in the wider landscape.

A preliminary blade tip ZTV showing viewpoint locations has been included with this scoping report in Figure 4, based on a maximum layout of 53 turbines at 126.5m to tip. The layout used in this preliminary ZTV has been designed to limit the overall extent of potential visibility. The layout will, however, continue to evolve throughout the design process taking into account detailed technical and environmental constraints or landscape and visual issues.

Viewpoint photography will be undertaken according to current best practice guidance, and for each viewpoint location a wireframe will be prepared. Wireframes will also be used as a tool to establish an optimal landscape and visual 'fit' for the proposed turbines. All ES viewpoint photography and photomontage production will comply with SNH best practice guidance. Table 5.1 details the preliminary viewpoint locations, which are also mapped on Figure 4.

Table 5.1 – Preliminary Viewpoint Locations			
Vpt No	Name	Grid Reference	
1	Kintyre Way north of site	173311	643854
2	North Muasdale	168186	639792
3	Beinn an Tuirc	175207	636135
4	Glenbarr	167049	636656
5	Beinn Bhreac	179178	647764
6	Ardminish, Isle of Gigha	164895	648676

7	Sgreadan Hill	174119	629550
8	A841, Whitefarland	186629	642556
9	Kennacraig - Port Askaig Ferry	163008	656426
10	B8024 south of Kilberry	171451	661698
11	Lochranza - Clonaig Ferry	190653	652990
12	Drumadoon Point	188239	628862
13	Kennacraig - Port Ellen Ferry	150015	642002
14	Cnoc a' Bhaile Shios	186401	662837
15	Islay, Ardmore Point	147268	650767
16	A' Chruach	196990	633427
17	Kintyre Way south of Machrihanish	161469	617480
18	Goatfell	199143	641535
19	Islay, Ardbeg	141516	646117
20	Jura, A846 nr Cabroch	149282	663877

5.4 Potential Impacts

A wind farm development would introduce a number of new and large-scale elements into the landscape, creating the potential for construction or operational landscape or visual effects.

5.4.1 Construction Phase

This ES will assess:

- Potential physical effects arising from construction of the scheme on the landscape resource within the site area;
- Potential effects to landscape character or visual amenity within the wider study area as a result of visibility of construction activities or the development during construction; and
- Effects of temporary site infrastructure such as small quarry operations, site traffic, cable laying, construction compounds and temporary anemometer masts.

5.4.2 Operational Phase

This ES will assess:

- Potential effects of the development on landscape resources and landscape character, including the perceptual qualities of the landscape, and upon designated landscapes;
- Potential effects of the development on views and visual amenity;
- Potential effects of permanent ancillary site infrastructure such as an onsite substation, forest roads and anemometry masts; and
- Potential cumulative effects of the development in combination with other planned and proposed wind farms upon the landscape and visual resource of the study area.

Effects arising from the process and activities associated with decommissioning would be scoped out of the EIA since they are of a similar nature to construction issues, but of a smaller scale and shorter duration. However, an assessment of those elements of the development that may remain in the landscape after decommissioning will be assessed as appropriate.

5.5 Assessment of Effects

The objective of the assessment process is to identify and evaluate the potentially significant effects arising from the proposed development. Through an iterative process, the assessment will inform the layout in an effort to prevent, reduce or offset the effects. This process will take mitigation measures into account in the siting and design of the proposal.

The assessment will then identify the residual effects likely to arise from the finalised design. In order to provide a level of consistency and transparency to the assessment, and allow comparisons to be made between the various landscape and visual receptors subject to assessment, the assessment of significance will be based on pre-defined criteria.

5.5.1 Landscape Assessment

The sensitivity of a landscape to change varies according to the nature of the existing resource and the nature of the proposed change. The landscape resources within the study area that could be affected by the proposed development include:

- Physical resources such as landforms, trees, hedges, field boundaries, forest roads, water courses, etc;
- Landscape character areas;
- National, regional and local landscape designations;
- Sites listed within the Inventory of Gardens and Designed Landscapes, compiled by SNH and Historic Scotland; and
- Other cultural heritage interests that contribute to landscape character.

Landscape receptors are defined as those landscape resources within the study area from which the proposed development could be visible. ZTV analysis and field assessment will be used to check the potential visibility of the landscape resources within the study area.

Landscape effects arise from changes to the physical components of the landscape, its character and how this is experienced. This may, in turn, affect the perceived value attached to the landscape. The significance of landscape effects is assessed by considering the sensitivity of the landscape and the predicted magnitude of change in relation to the baseline conditions.

5.5.2 Visual Assessment

Visual effects result from the changes in the composition of available views, due to changes to the overall visual amenity. The degree to which people will be affected by changes as a result of the proposed development depends on a number of factors, including:

- Receptor activities, such as relaxing at home, taking part in leisure, recreational and sporting activities, travelling or working;
- Whether receptors are likely to be stationary or moving and how long they will be exposed to the change at any one time;
- The importance of the location, as reflected by designations, inclusion in guidebooks or the facilities provided for visitors;
- The extent of the route or area over which the changes would be visible;
- Whether receptors will be exposed to the change daily, frequently, occasionally or rarely; and
- Orientation of receptors in relation to the proposed development, whether views are oblique or direct.

The significance of the effect is determined by the sensitivity of the visual receptor (people experiencing the effect) and the magnitude of the visual effect. The magnitude of the visual effect resulting from the proposed development at any particular viewpoint is based on the interpretation of a combination of a range of factors and may include; distance, extent, proportion, duration, orientation, context and background.

5.5.3 Mitigation Measures

Primary mitigation measures will be incorporated into the design process. The use of computer generated mapping, wirelines and on-site assessment will inform the design process and final turbine layout. Given the size of the turbines, it is unlikely that secondary mitigation measures (such as screening) will be effective, but may be appropriate for other elements of the proposal, such as the substation or forest roads.

5.5.4 Cumulative Assessment

An important part of the LVIA concerns the potential cumulative impacts of the project. Cumulative landscape and visual effects may result from additional changes to the baseline landscape or visual resources, as a result of the proposed development, in conjunction with other wind farm developments. The magnitude of cumulative change will be based on interpretation of the following parameters:

- The number of existing and proposed wind farm developments visible;
- The distance to existing and proposed wind farm developments;
- The direction and distribution of existing and proposed wind farm developments; and
- The landscape setting, context, type of design and degree of visual coalescence of existing and proposed wind farm developments.

The scope of the cumulative assessment will consider existing wind farms, consented wind farms and wind farms that are the subject of undetermined applications. It is proposed that the cumulative assessment will be focused on the assessment from identified sensitive receptors within the 35km study area, however the cumulative assessment may also include wind farms that lie beyond 35km and within 60km of the proposed development (mapped to show the cumulative context) that could have significant cumulative effects on a particular area/aspect outside the 35km study area, for example a particular hill range.

ZTVs will be calculated for the confirmed list of wind farms to inform the identification of sensitive receptors. These will help identify areas where there are potential views of more than one wind farm. The cumulative assessment will consider the cumulative visibility of wind farms in terms of intervisibility and sequential visibility. Cumulative wind farm mapping, cumulative wireframes and cumulative ZTVs are essential in providing an up-to-date understanding of cumulative issues particular to the development. This is an inherently dynamic situation and the cumulative assessment will be based on the position prevailing at the time of assessment and agreed with Argyll and Bute Council and SNH. For the purposes of the scoping process however, a preliminary search has identified wind farms within the 35km study area as presented in Table 5.2 and shown in Figure 5.

Table 5.2 Cumulative Wind Farm Developments					
Windfarm	Developer	Number of turbines	Capacity (MW)	Approximate Distance to site (km)	Notes
Operational / Consented					
Tangy	SSE Generation Ltd	15	12.7	11.9	Operational
Tangy Extension	SSE Generation Ltd	7	5.9	11.9	Operational

Table 5.2 Cumulative Wind Farm Developments					
Windfarm	Developer	Number of turbines	Capacity (MW)	Approximate Distance to site (km)	Notes
Operational / Consented					
Beinn an Tuirc	CRE Energy Ltd	46	17.16	4.9	Operational
Beinn an Tuirc Extension	CRE Energy Ltd	19	38	6	Operational
Deucheran Hill	Powergen Renewables Ltd	9	4.8	1.4	Operational
Gigha	Isle of Gigha Heritage Trust	3	0.7	7.8	Operational
Leim Farm, Isle of Gigha	Isle of Gigha Heritage Trust	1	0.33	7.9	Consented
Cour	SSE Renewables	10	25	5.7	Consented
In Planning					
Freasdail Wind Farm	RES	11	22	16.9	Application
Auchadaduie	Fyne Futures Ltd	3	6.9	4.1	Application
Muasdale	Community Energy Scotland	1	0.9	0.1	Appeal
Pre Application					
Cnoc an Fheidh (Arran)	Arran Wind Power Ltd	8	12	31.7	Scoping
Machrihanish Offshore	Scottish and Southern Energy	126	378	22.9	Scoping
Creggan	Burcote Wind Ltd	26	78	1.6	Scoping
Blary	RES	14	42	3.5	Scoping
Stewartfield	Green Power	18	45	10.5	Scoping
Srondoire	Lomond Energy	8	24	33.5	Scoping

5.5.5 Determining Significance

The degree of significance of effects, adverse or positive, will be determined from a combined evaluation of the landscape and visual sensitivity and the magnitude of change.

5.6 LVIA Guidance Documents

The LVIA will be carried out in accordance with the following guidance and best practice documents:

1. Guidelines for Landscape and Visual Impact Assessment 3rd Edition (2013);
2. Landscape Character Assessment Guidance for England and Scotland, Countryside Agency in conjunction with Scottish Natural Heritage (2002);

3. Visual Assessment of Windfarms Best Practice University of Newcastle (2002). Scottish Natural Heritage Commissioned Report F01AA303A²;
4. Assessing the Cumulative Impact of Onshore Wind Energy Developments, Scottish Natural Heritage, March 2012;
5. Guidelines on Environmental Impacts of Wind farms and Small Scale Hydro Electric Schemes, Scottish Natural Heritage, 2001³;
6. Siting and Designing Windfarms in the Landscape, Version 1, Scottish Natural Heritage 2009;
7. Visual Representation of Windfarms Good Practice Guidance, Horner + MacLennan and Envision, prepared for Scottish Natural Heritage, Scottish Renewable energy Forum and Scottish Society of Directors of Planning, (2006 Report F03 AA 308/2);
8. The Landscape Institute (2011) Photography and photomontage in landscape and visual impact assessment. Advice note 01/11;
9. Wildness in Scotland's Countryside, Policy Statement No. 02/03, Scottish Natural Heritage;
10. Mapping Scotland's Wildness, Phase I – Identifying Relative Wildness, January 2012, Phase II & III - Mapping Areas Of Wild Land, March 2013;
11. Assessing The Impacts On Wild Land, Interim Guidance Note, February 2007;
12. The Argyll and Bute Council (2012). Argyll and Bute Landscape Wind Energy Capacity Study;
13. The special qualities of the National Scenic Areas. SNH Commissioned Report No.37, Scottish Natural Heritage (2010);
14. The Argyll and Bute Local Plan (Adopted 2009);
15. The Argyll and Bute Structure Plan (Approved 2002);
16. The Argyll and Bute Local Development Plan (LDP) Main Issues Report. (anticipated adoption date of subsequent LDP is mid 2013);
17. Argyll and Firth of Clyde Landscape Character Assessment (SNH Review No 78);
18. Ayrshire landscape assessment (SNH Review No 111);

5.7 References

Horner, MacLennan & Envision (2006) *Visual Representation of Windfarms Good Practice Guidance Report F03 AA 308/2*. Prepared for Scottish Natural Heritage, Scottish Renewable Energy Forum and Scottish Society of Directors of Planning.

Scottish Natural Heritage (2002) *Wildness in Scotland's Countryside, Policy Statement No. 02/03* [Online] Accessed at: <http://www.snh.org.uk/pdfs/polstat/pd-wsc.pdf>

Scottish Natural Heritage (January, 2012) *Mapping Scotland's Wildness, Phase 1 – Identifying Relative Wildness* [Online] Accessed at: <http://www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/landscape-policy-and-guidance/wild-land/mapping/>

Scottish Natural Heritage (February, 2007) *Assessing the Impacts on Wild Land, Interim Guidance Note* [Online] Accessed at: <http://www.snh.gov.uk/docs/B464997.pdf>

The Landscape Institute and the Institute of Environmental Assessment (2002), *Guidelines for Landscape and Visual Impact Assessment*.

The Argyll and Bute Council (May 2012) *Argyll and Bute Windfarm Developments*

² Note: some aspects of this guidance is superseded by references 6, 7 and 8

³ Note: some aspects of this guidance is superseded by reference 6

The Argyll and Bute Council (March 2012) *Argyll and Bute Landscape Wind Energy Capacity Study*