

APPENDIX 4

horner + maclellan
landscape architects



BEATRICE DEMONSTRATOR WIND TURBINES

LANDSCAPE AND VISUAL IMPACT ASSESSMENT

Final report by

horner + maclellan
1 Dochfour Business Centre
Dochgarroch
Inverness
IV3 8GY

inv@hornermaclellan.co.uk
Tel 01463 861 460
Fax 01463 861 452

For

Talisman Energy

22 December 2005

CONTENTS

1	INTRODUCTION	.350
2	ASSESSMENT METHODOLOGY	.350
2.1	Sources of information	.350
2.2	Consultation	.350
2.3	Definition of study area	.350
2.4	Methods used for LVIA	.352
2.5	Assessment process, criteria and definitions	.353
2.6	Assessing significance	.357
2.7	Sequential impacts	.358
2.8	Cumulative landscape and visual impacts	.358
3	BASELINE DESCRIPTION	.360
3.1	The proposal	.360
3.2	Policy context	.360
3.3	Regional context	.362
3.4	Landform	.362
3.5	Population distribution	.363
3.6	Communication pattern	.363
3.7	Land use and land cover	.363
3.8	Human-made features	.363
3.9	Recreation	.364
3.10	Landscape statutory designations and non-statutory designations	.364
3.11	Landscape and seascape resource	.364
3.12	Potential future change to landscape character	.366
3.13	Local landscape character areas	.367
3.14	Seascape assessment regional units	.369
3.15	Visual resource	.371
3.16	Viewpoints	.373
3.17	Sequential assessment	.382
3.18	Landscape and scenic value	.388

4	POTENTIAL LANDSCAPE AND VISUAL IMPACTS	390
5	MITIGATION	390
6	RESIDUAL IMPACTS	391
6.1	Landscape and seascape resource	391
6.2	Visual resource	396
6.3	Sequential landscape and visual impacts	406
6.4	Landscape and scenic value	413
7	CONCLUSIONS	416
7.1	The proposed Beatrice wind turbines	416
7.2	Landscape impacts of the Beatrice wind turbines	416
7.3	Visual impacts of the Beatrice wind turbines	416
7.4	Sequential impacts of the Beatrice wind turbines	417
7.5	Impacts of the Beatrice wind turbines on areas of landscape and scenic value	417
7.6	Cumulative landscape and visual impacts of the Beatrice wind turbines with other wind farms ..	417
7.7	Overall effect of the Beatrice wind turbines	418
7.8	Overall cumulative effect of Beatrice wind turbines	418

TABLES

1	Sources of information
2	Definition of landscape sensitivity
3	Definition of receptor sensitivity
4	Definition of magnitude of change
5	Wind farms considered by the cumulative assessment in addition to the Beatrice wind turbines
6	Key characteristics of landscape character types relevant to wind farm development
7	Local landscape areas
8	Summary of sensitivity of landscape resource
9	Summary of sensitivity of regional seascape units
10	List of viewpoints
11	Viewpoint sensitivity
12	Sensitivity of sequential landscape and visual resource
13	Inventory sites of Garden and Designed Landscapes
14	Summary of landscape impacts of the Beatrice wind turbines on local landscape areas
15	Summary of cumulative impacts of the Beatrice wind turbines on local landscape areas
16	Summary of impacts on the seascape characteristics of the proposed Beatrice wind turbines
17	Summary of visual impacts of the Beatrice wind turbines
18	Summary of cumulative visual impacts of the Beatrice wind turbines
19	Summary of sequential landscape and visual impacts of the Beatrice wind turbines
20	Summary of cumulative sequential landscape impacts of the Beatrice wind turbines
21	Summary of cumulative sequential visual impacts of the Beatrice wind turbines
22	Summary of landscape and visual impacts on landscape and scenic value
23	Original identification of viewpoints for the proposed Beatrice wind turbines LVIA

FIGURES

- Figure 1 Landscape and scenic designations
- Figure 2 Landscape character types and local landscape areas
- Figure 3 Zone of Theoretical Visibility (ZTV) to 60km – Strategic Overview
- Figure 4 Zone of Theoretical Visibility (ZTV) to blade tip – Overview with viewpoint locations
- Figure 5 Zone of Theoretical Visibility (ZTV) to hub height – Overview with viewpoint locations
- Figure 6a Zone of Theoretical Visibility (ZTV) to blade tip – detail 1 of 4
- Figure 6b Zone of Theoretical Visibility (ZTV) to blade tip – detail 2 of 4
- Figure 6c Zone of Theoretical Visibility (ZTV) to blade tip – detail 3 of 4
- Figure 6d Zone of Theoretical Visibility (ZTV) to blade tip – detail 4 of 4
- Figure 7a Zone of Theoretical Visibility (ZTV) to hub height – detail 1 of 4
- Figure 7b Zone of Theoretical Visibility (ZTV) to hub height – detail 2 of 4
- Figure 7c Zone of Theoretical Visibility (ZTV) to hub height – detail 3 of 4
- Figure 7d Zone of Theoretical Visibility (ZTV) to hub height – detail 4 of 4
- Figure 8 Cumulative Zone of Theoretical Visibility (ZTV) to blade tip
– Beatrice wind turbines with Causeymire and Buolfruch wind farms
- Figure 9 Cumulative Zone of Theoretical Visibility (ZTV) to blade tip
– Beatrice wind turbines with the proposed Dunbeath wind farm
- Figure 10 Cumulative Zone of Theoretical Visibility (ZTV) to blade tip
– Beatrice wind turbines with the proposed Gordonbush and Kilbraur wind farms
- Figure 11a Viewpoint 1 – Existing photograph and wireline
- Figure 11b Viewpoint 1 – Photomontage
- Figure 12 Viewpoint 2 – Existing photograph and wireline
- Figure 13a Viewpoint 3 – Existing photograph and wireline
- Figure 13b Viewpoint 3 – Photomontage
- Figure 14a Viewpoint 4 – Existing context photograph and existing photograph
- Figure 14b Viewpoint 4 – Wireline
- Figure 15a Viewpoint 5 – Existing photograph and wireline
- Figure 15b Viewpoint 5 – Photomontage
- Figure 16a Viewpoint 6 – Existing photograph and wireline
- Figure 16b Viewpoint 6 – Photomontage
- Figure 17 Viewpoint 7 – Existing photograph and wireline
- Figure 18 Viewpoint 8 – Existing photograph and wireline
- Figure 19 Viewpoint 9 – Existing photograph and wireline
- Figure 20 Viewpoint 10 – Existing photograph and wireline
- Figure 21 Viewpoint 11 – Existing photograph and wireline
- Figure 22 Routes for sequential assessment and theoretical visibility
- Figure 23 Cumulative wirelines
- Figure 24 Wirelines from Gardens and Designed Landscapes

1 INTRODUCTION

This part of the ES presents a Landscape and Visual Impact Assessment (LVIA) of the proposed Beatrice wind turbines. Given the proposed development is located offshore, this includes Seascape Assessment.

The LVIA and Seascape Assessment include assessment of the existing landscape, seascape and visual resource and the effects of the proposed development on this. This includes assessment of other onshore wind farm developments and sequential assessment along specific routes.

2 ASSESSMENT METHODOLOGY

2.1 SOURCES OF INFORMATION

A number of information sources were used within the course of the assessment as listed in Table 1.

2.2 CONSULTATION

The Highland Council and Scottish Natural Heritage were consulted on the key issues to be addressed by the Environmental Impact Assessment in addition to recommended viewpoints for the Visual Impact Assessment.

2.3 DEFINITION OF STUDY AREA

The study area on which the LVIA and seascape assessment focuses, extends to a radius of 35km from the proposed development. This radius has been chosen on the basis of Good Practice Guidelines and to include all viewpoints from which significant visual effects (as defined by EIA Regulations) are most likely to occur.

Nevertheless, for this particular proposal, it was acknowledged that there are certain conditions when the proposed WTGs may be clearly visible from beyond 35km. This is mainly because of the isolation of the WTGs in contrast to open surroundings and the high clarity of visibility that can occur when looking over the sea during exceptional weather conditions, especially in a northwards direction when the sun is at a low angle from behind. For these reasons, visibility of the proposed development was considered beyond this radius, extending to approximately 65km from the centre of the site. This is not because it is predicted that significant visual impacts are likely to occur from these far distances, but nevertheless to confirm this situation and enable an assessment of the likely visibility of the proposed development from far distances.

Table 1 Sources of information used for the LVIA and Seascape assessment

LEGISLATION AND POLICY
<ul style="list-style-type: none"> • The Highland Structure Plan, The Highland Council, 2001 • The Moray Structure Plan, 1999 • The Moray Local Plan, 2000 • The Caithness Local Plan, 2002 • The South and East Sutherland Local Plan, 2000 • 'National Planning Policy Guideline (NPPG 6): Renewable Energy', The Scottish Office Environment Department, Revised 2000 • 'National Planning Policy Guideline (NPPG 14): Natural Heritage', The Scottish Office Development Department, 1999 • SNH Policy Statement 04/01, Marine renewable energy and the natural heritage – an overview and policy statement.
GUIDANCE AND ADVICE
<ul style="list-style-type: none"> • 'Guidance for Landscape and Visual Impact Assessment', The Landscape Institute and the Institute of Environmental Assessment second edition 2002 • 'Guide to Best Practice in Seascape Assessment', The Countryside Council for Wales, Brady Shipman Martin and University College Dublin, 2001 • 'Landscape Character Assessment for England and Scotland', Scottish Natural Heritage (SNH) and The Countryside Agency, 2002 • 'Guidelines on the Environmental Impacts of Wind Farms and Small Scale Hydroelectric Schemes', SNH, 2001 • 'Policy Statement No 02/03 – Wilderness in Scotland's Countryside', SNH, 2002 • 'Planning Advice Note (PAN 45) Renewable Energy Technologies', Scottish Office Environment Department, Revised 2002 • 'A Handbook on Environmental Impact Assessment', SNH, 2002 • 'University of Newcastle (2002) Visual assessment of wind farms: Best Practice', SNH Commissioned report F01AA303A, 2002 • A review of possible marine renewable energy development projects and their natural heritage impacts from a Scottish perspective, SNH commissioned report F02AA414, 2003 • Visual and landscape effect of WTG units: The CCW Contract Science Report No. 631 'Studies to inform advice on offshore renewable energy developments: visual perception versus photomontage', Symonds Group Ltd.
BACKGROUND
<ul style="list-style-type: none"> • Caithness and Sutherland Landscape Character Assessment, SNH 1998 • Ross and Cromarty Landscape Character Assessment, SNH 1999 • Inverness District Landscape Character Assessment, SNH 1999 • Inner Moray Firth Landscape Character Assessment, SNH 1997 • OS 1: 50000 map sheets 11, 12, 17, 21, 26, 27 and 28 • 'Scotland's Scenic Heritage', Countryside Commission for Scotland, 1978 • 'Inventory of Gardens and Designed Landscapes – Volume 3': Highland, Orkney and Grampian Countryside Commission for Scotland and Historic Scotland, 1987 • 'An Inventory of Gardens and Designed Landscapes – Supplementary Volume 2': Highlands and Islands, SNH and Scotland and Historic Scotland, 1998.

2.4 METHODS USED FOR LVIA

The methodology employed is based on the 'Guidelines for Landscape and Visual Assessment' (Second Edition), produced by the Landscape Institute and Institute of Environmental Management and Assessment (2002). It has had to be modified, however, to incorporate elements of Seascape Assessment as recommended within the Guide to Best Practice in Seascape Assessment, produced by the Countryside Council for Wales, Brady Shipman Martin and University College Dublin (2001), in addition to other guidance as listed within Table 1.

Seascape assessment is concerned with the interaction of the sea, coast and land and how a proposed development relates to this combination. For some projects this includes an element of assessment from the sea to the land. However, this tends to be for schemes where the turbines will be close to the coast and/or commonly seen from the open sea looking towards the land; for example where there is a key ferry route passing by the outside of the turbines. Neither of these scenarios apply to the proposed Beatrice Demonstrator Project, and it was judged that there would be insufficient distinction of seascape units from distances offshore at which the proposed Beatrice WTGs would have significant seascape and visual impacts. The seascape assessment for the Demonstrator Project is therefore mainly concerned with how the WTGs will affect distinct character and views as experienced from land and coastal areas.

The initial stages of assessment defined the study area and identified landscape character, landscape designations and relevant government policy, to determine the general extent of visibility and to identify a representative range of potential viewpoints from which to carry out the Visual Impact Assessment (LVIA). These viewpoints are largely concentrated within publicly accessible areas along roads and public footpaths, in residential locations and in areas popular for outdoor recreation.

Maps showing Zones of Theoretical Visibility (ZTV) were generated to identify the potential extent of visibility of the WTGs over a 60km radius from the centre of the site. The ZTVs were modelled using a computer based visibility analysis package compiled using Ordnance Survey Digital Terrain Model data at 10m interval resolution. This ZTV represents a "bare ground" scenario, based on landform only, and takes no account of the screening effects of local hills, urban areas, buildings, structures or vegetation.

The ZTVs identified a number of potential viewpoints that would represent the potential range of views to the WTGs that could have significant visual impacts. These were visited, photographed and assessed by a number of Chartered Landscape Architects between June 2005 and November 2005 in order to confirm the value of the viewpoints to the assessment process (for example whether they were truly representative of views in the area and whether the proposed development would actually be screened by local features). Some of these viewpoints also represent potential cumulative visual impacts of other wind farms proposed within the study area.

The provisional list of viewpoints was sent to Scottish Natural Heritage (SNH) and The Highland Council (THC) (Table 23). SNH and The Highland Council responded with subsequent recommendations, all of which were subject to further assessment and, where appropriate, additional figures were included.

The assessment of potential visual impacts from viewpoints was aided by the use of computer generated wireline images, illustrating the likely scale and positioning of the proposed WTGs and the position of the existing oil platforms. Photographs of the existing baseline conditions were also taken, using a 35mm single lens reflex (SLR) camera with a 50mm and/or 70mm lens.

The panoramic photographs from each viewpoint were formed by splicing together single frames. They, together with the wirelines and photomontages, must be viewed at a specific viewing distance (indicated upon each sheet) and image size (as noted upon the sheets and as printed within the ES) in order to obtain an accurate representation of the scale of elements within the photograph. The turbine blades have been shown facing the same direction and, in some instances, colour balancing has occurred to make the image appear more realistic.

It should be noted that wireline images are not intended to represent the actual appearance of the proposed Demonstrator WTGs, but have been used as a tool to aid prediction of the likely scale, form and positioning of WTGs in comparison with the existing view seen on site.

Photomontages were produced for some of the viewpoints in addition to wireline images. The LVIA was based on a prediction of impacts based upon views on-site in combination with the wireline images only. In addition, however, photomontages are produced to inform the impression of others of the likely images of the proposed WTGs (as it would be seen within photographs). The choice of viewpoints to be illustrated using photomontages is determined by whether the proposed WTGs would be able to be clearly shown upon a photomontage and a prediction of likely significant visual effect. Conventionally this means that photomontages are not usually produced for viewpoints over 15km away, due to the technical difficulty of representing wind turbines in photos over this distance (either existing or montaged). For this project photomontages were required to cover a greater distance, because the proposed development is located approximately 22km from the shore.

2.5 ASSESSMENT PROCESS, CRITERIA AND DEFINITIONS

The aim of this assessment is to identify, predict and evaluate potential key impacts on particular elements of the environment, effects on the landscape, seascape and visual resource of the study area and the resulting overall significance of these effects arising from the proposed WTGs.

Throughout this Section, the term “landscape” is used to include elements of both the land and seascape – considering inland areas, the coastal edge, and marine areas and how these combine together.

Landscape resource is defined here as: “The combination and distribution of physical components that contribute to landscape context and character and how this is experienced and valued.”

Visual resource is defined here as: “The quality of a particular area or view in terms of its visual components that create a visual setting.”

Assessment of sensitivity of existing baseline conditions and prediction of magnitude of change leads to assessment of residual landscape and visual impacts on particular elements and the overall landscape and visual effects on the study area. The significance of these impacts and effects can be defined.

In order to provide a level of consistency to the assessment, these assessments have been based on pre-defined criteria.

2.5.1 Sensitivity to change

The sensitivity of the landscape resource to changes associated with the proposed development can be defined as high, medium or low based on professional judgement of a combination of parameters, as follows:

- *landscape character – scale, enclosure, openness, land cover, texture and form*
- *landscape value – local, regional or national landscape statutory designations and non-statutory designated areas*
- *distribution of receptors*
- *scope for mitigation.*

Usually an area would not fit every criterion within just one category; but, rather, it would be categorised based on best fitting more of the criteria, or the most important of the criteria, within one category.

Table 2 Definition of landscape sensitivity.

High	Key characteristics and features that are very sensitive to the location of a wind farm, such as simple or indistinct pattern, few existing foci, sense of intimacy and shelter, and sense of wildness or wild land, and these contribute significantly to the distinctiveness of the landscape character type.
	The distinctive characteristics of the landscape are widely experienced and contribute significantly to the value of the landscape at a local, regional and national level. Designated landscapes, e.g. National Scenic Area (NSA) and Area of Great Landscape Value (AGLV) and those identified as having landscape value, for example within Search Areas for Wild Land (SAWL).
Medium	Key characteristics and features that are sensitive to the location of a wind farm, but with which the wind farm may also integrate, such as a landscape with a distinct pattern, with occasional prominent foci, large scale structures, a sense of enclosure and a landform to which wind turbines could fit. A landscape where the wind farm would not affect the key characteristics that contribute to the distinctiveness and/or value of the landscape. The distinctive characteristics of the landscape are only locally experienced and/or only contribute to the value of the landscape at a regional level. Locally valued landscapes that are not designated. Landscapes in which it is possible to site and design a wind farm to have minimal impacts within the landscape
Low	A landscape where the wind farm would not affect the key characteristics that contribute to the distinctiveness and/or value of the landscape. Landscape characteristics and features that do not make a significant contribution to landscape character or distinctiveness locally, or which are untypical or uncharacteristic of the landscape type. Areas where a wind farm would fit the key characteristics of the existing landscape and/or where this can easily accommodate landscape change subject to careful design. The distinctive characteristics of the landscape are only experienced locally. Landscapes in which it is possible to site and design a wind farm to have minimal impacts within the landscape.

The sensitivity of the visual resource to changes associated with the proposed development is defined as high, medium or low based on professional interpretation of a combination of parameters, as follows:

- *location and nature of the view*
- *direction and extent of the view*
- *value/importance of the view*
- *scope for mitigation (including ability of the view to absorb development)*
- *activity of the receptor and expectations, frequency and duration of the view.*

Usually, a view would not fit every criterion within just one category; but, rather, it would be categorised based on fitting more of the criteria, or the most important criteria, within one allocation than another.

Table 3 Definition of receptor sensitivity.

High	<p>Focused view or panoramic view in which a wind farm would form the dominant focus, distracting from existing elements or features.</p> <p>Existing view includes important landscape features with physical, cultural or historic attributes. Principal view from prominent buildings, "beauty spots" or popular viewpoints.</p> <p>Area designated for scenic value, or en route or in a location valued for its visual amenity.</p> <p>Wind farm difficult to integrate within visual composition, for example very complex pattern of elements, or these are of very different prominence or scale to wind turbines.</p> <p>Users of outdoor recreational facilities including those on footpaths, cycle routes or rights of way and popular hill or mountain tops, and key vehicular access routes from which viewers' attention is directed to the landscape.</p>
Medium	<p>Open, but unfocussed view in which a wind farm would be seen as one of several foci.</p> <p>Existing view includes some important landscape features with physical, cultural or historic attributes. Forms marginal part of view from prominent buildings, "beauty spots" or popular viewpoints.</p> <p>View within area of some scenic value, although not designated. Or visible along route or in location that is valued as having scenic value.</p> <p>Wind farm able to be accommodated within visual composition, for example in relation to linear features or pattern of point features, although this would result in some change to the pattern and/or nature of this composition. Wind turbines would be of similar prominence to existing visual features.</p> <p>Users of outdoor recreational facilities including local footpaths, cycle routes or rights of way, en route to locally popular hill or mountain tops whose attention may be focused on the landscape. Local access routes.</p>
Low	<p>Unfocused and/or partially screened view in which a wind farm would be seen as a minor element of the view.</p> <p>Existing view does not include important landscape features with physical, cultural or historic attributes. Site not clearly visible from prominent buildings, "beauty spots" or popular viewpoints.</p> <p>View not within area of recognised scenic value and not designated. Not visible from routes, or in location, which are valued for their visual amenity.</p> <p>Wind farm able to be accommodated within visual composition, for example in relation to linear features or pattern of point features without significant change to the pattern and/or nature of this composition. Wind turbines would be of similar or lesser prominence to existing visual features.</p> <p>Local users whose attention is likely to be focused on work or activity rather than the wider landscape, for example using local access routes to travel to/from work or working within an industrial or commercial centre.</p>

2.5.2 Magnitude of change

The magnitude of change to the landscape resource arising from the proposed development at any particular point is described as high, medium, low, negligible or none based on the interpretation of a combination of largely quantifiable parameters as follows:

- *the scale of the change*
- *whether the change would affect key landscape characteristics on which the distinctive qualities of the landscape character type rely and/or for which it is valued, and thus result in a loss of landscape resource*
- *the nature of the change in relation to landscape characteristics and whether this is beneficial or adverse*
- *the duration of the change and whether this is temporary or permanent.*

The magnitude of change to the visual resource arising from the proposed development at any particular viewpoint is described as high, medium, low, negligible or none based on the interpretation of a combination of largely quantifiable parameters as follows:

- *scale of change in the view*
- *degree of contrast with the existing visual components, including extent of other built and vertical development visible*
- *distance of the viewpoint from the development*
- *duration and nature of effect*
- *angle of view in relation to main receptor activity*
- *proportion of the field of view occupied by the development*
- *background to the development*
- *extent over which changes would occur.*

Table 4 Definition of magnitude of change.

High	Fundamental change to the characteristics of the landscape or visual resource
Medium	Considerable change to the characteristics of the landscape or visual resource
Low	Noticeable change to the characteristics of the landscape or visual resource
Negligible	Discernable change, but only in exceptional conditions
No change	No change

2.5.3 Adverse and beneficial

When assessing impacts on the landscape and visual resource, the following categorisation has been used:

- *Adverse – the key characteristics of the landscape and visual resource are compromised*
- *No impact – the key characteristics of the landscape and visual resource are not affected*
- *Beneficial – key characteristics of the landscape and visual resource are reinforced.*

2.5.4 Impacts and effects

The following terms are used in this assessment as defined below:

Impact is used to refer to changes to an individual element or characteristic of the environment. The degree of change affecting an element by the proposed development can be described factually.

Effect is a broader-based view of the accumulation of one or more impacts that involves not only a degree of professional judgement, but also some extrapolation and generalisation, both of which also involve professional judgement.

2.6 ASSESSING SIGNIFICANCE

The significance of impacts and effects are based on two principal criteria – the magnitude of the change and the sensitivity of the location or person affected by the change (receptors). However, measures of significance require to be defined in relation to the specific circumstances of an individual development and landscape.

To determine the significance of the development on landscape resource, the following factors were considered (The Landscape Institute and Institute of Environmental Management and Assessment 2002):

- *the sensitivity of the landscape to the type of change proposed*
- *the nature of the effect (i.e. whether the key characteristics of the existing landscape resource of the study area, and their consistency throughout that area, are reinforced or weakened as a result of the changes in landscape character brought about by the introduction of the proposed development)*
- *the quality of the landscape characteristics affected and the potential for enhancement*
- *the value of landscape elements, feature or characteristics and the recognition of this by designation at various levels, such as local, regional, national and international and the affect of the change on the integrity of the designated area*
- *the magnitude of the effect and whether the change would be positive, adverse, temporary or permanent*
- *the type and rate of other changes that is likely to occur in the landscape resource of the study area in the future.*

To determine the significance of the development on the visual resource, the following factors are considered:

- *the nature of the effect (i.e. whether the scenic qualities of the view are strengthened or weakened as a result of the changes to visual amenity brought about by the introduction of the proposed development)*
- *the magnitude of the effect*
- *the sensitivity of the visual resource and receptors*
- *the number of people affected by the change (although, changes affecting large number of people are generally more significant, this is not necessarily the case in sensitive landscape, for example areas of wild land)*
- *the type and rate of other changes that are likely to occur on the visual amenity of the study area in the future.*

For individual impacts, significance is measured in a scale of none, negligible, slight, moderate, and substantial. For the overall landscape effect and visual effect of the proposed development within the study area, a determination is made to whether the likely affect would be significant or not significant.

Wherever possible, identified effects are quantified, but the nature of landscape and visual assessment requires interpretation informed by professional judgement.

2.7 SEQUENTIAL IMPACTS

Sequential impacts occur when the observer moves along a linear route, as a series or continuum of points. Views from these routes may include other developments.

2.8 CUMULATIVE LANDSCAPE AND VISUAL IMPACTS

An assessment of the cumulative landscape and visual impacts of other wind farms in addition to the proposed WTGs has been undertaken. This considers changes that result in conjunction with other existing or reasonably foreseeable proposals. The scope of this assessment was discussed with SNH and The Highland Council.

All existing planning or Section 36 applications and consents for wind farms and single wind turbines within the study area that were identified before October 2005 as having potential significant cumulative impacts have been included in the Cumulative Landscape and Visual Impact Assessment (Table 5).

Table 5 *Wind farms considered by the cumulative assessment in addition to the Demonstrator Project.*

Wind farm	No of wind turbines	Distance from Beatrice (centre to centre) (km)	Status
Causeymire	24 (21 current)	30	Existing
Buolfreich	16	23	In Construction
Dunbeath	23	30	Submitted
Gordonbush	35	50	Submitted
Kilbraur	19	58	Submitted

As Causeymire and Buolfrulich wind farms already exist, seven cumulative scenarios were considered by this study as follows:

- 1 The proposed Dunbeath wind farm plus the Beatrice Demonstrator Project (including the existing Causeymire and Buolfrulich wind farms);
- 2 The proposed Kilbraur wind farm plus the Beatrice Demonstrator Project (including the existing Causeymire and Buolfrulich wind farms);
- 3 The proposed Gordonbush wind farm plus the Beatrice Demonstrator Project (including the existing Causeymire and Buolfrulich wind farms);
- 4 The proposed Dunbeath and Kilbraur wind farms plus the Beatrice Demonstrator Project (including the existing Causeymire and Buolfrulich wind farms);
- 5 The proposed Dunbeath and Gordonbush wind farms the Beatrice Demonstrator Project (including the existing Causeymire and Buolfrulich wind farms);
- 6 The proposed Dunbeath, Gordonbush and Kilbraur wind farms plus the Beatrice Demonstrator Project (including the existing Causeymire and Buolfrulich wind farms); and
- 7 The proposed Gordonbush and Kilbraur wind farms plus the Beatrice Demonstrator Project (including the existing Causeymire and Buolfrulich wind farms).

3 BASELINE DESCRIPTION

3.1 THE PROPOSAL

The proposed development is described in detail within Section 3 of the ES. However, to summarise, it would comprise two wind turbine generators (WTG) located 1.6km and 2.3km from the existing AP Beatrice oil platform, approximately 22km offshore. Each WTG would comprise a substructure fixed to the seabed, a support tower with a transition piece and a turbine. It is predicted that the turbine tower would be 88 metres high above mean sea level (MSL) and the blades would be 63m long. The blades would operate between wind speeds of 3.5 m/s to 25 m/s, at a rotational speed of seven to 12 revolutions per minute. The two WTGs and the existing Beatrice AP platform would be linked by a subsea umbilical.

Two red flashing aeronautical obstruction lights would be mounted upon the nacelle of each turbine. The visibility of these would depend on environmental conditions, such as the level of light and the position of the observer. However, assuming an observer is at the same elevation as the lights and is looking at them at night and in good visibility, they should be visible to a distance from the turbines of 10.8 nautical miles (20km) (taking into account a dirt factor of 0.74 in Europe). Two yellow flashing lanterns would also be positioned on the main deck at opposite corners, visible to a distance of 6.7 nautical miles (12.4km) and thus not be visible from onshore areas. In addition, five flood lights would light the stair access way and five fluorescent lights would illuminate the lay-down area. These would be inward facing and only visible within the immediate locality.

There would be no new onshore development associated with the proposed wind turbines.

The proposed wind turbines have been sited according to two major factors as follows:

- *the location of shipping routes*
- *the topography and depth of the seabed.*

3.2 POLICY CONTEXT

3.2.1 Policies

The Beatrice Wind Farm Demonstrator Project will be consented under the Petroleum Act (1987). However the Environmental Statement will be submitted under the Offshore Petroleum Production and Pipelines (Assessment of Environmental Effects) Regulations 1999. Most of the policy and guidance documents relevant to the landscape and visual resource and wind farm impacts are listed within Table 1. However, it is useful to highlight a number of planning policies of direct relevance to landscape and visual impacts below:

Highland Council Structure Plan, adopted in 2001

Policy E2

“Wind energy proposals would be supported provided that impacts are not shown to be significantly detrimental. In addition to the General Strategic Policies, wind energy would be assessed in respect of ... visual impact.”

Policy L2

“The Council recommends to the Government the implementation of the advice from Scottish Natural Heritage contained within the review of National Scenic Areas so that it will ... set out clear support for National Scenic Areas and establish a new basis in statute.”

Policy L3

“Local Plans will identify Areas of Great Landscape Value in general accordance with the areas indicatively identified in Figure 12. Existing Areas of Great Landscape Value and other designations will be reviewed by the Council and brought forward for inclusion in the Structure Plan.”

Policy L4

“The Council will have regard to the desirability of maintaining and enhancing present landscape character in the consideration of development proposals, including offshore developments.”

Policy BC4

“The Council will seek to preserve historic gardens and designed landscapes identified in the published inventory and in any additions to it. Local Plans will contain policies for their protection.”

Policy T6

“The Highland Council will protect important scenic views enjoyed from tourist routes and viewpoints, particularly those specifically identified in Local Plans.”

Wild Land

“The qualities of wild land are a material consideration in evaluating development proposals on or affecting it. NPPG 14 Natural Heritage defines wild land as ‘uninhabited and often relatively inaccessible countryside where the influence of human activity on the character and quality of the environment has been minimal’.”

3.2.2 National Planning Policy Guidelines**NPPG14: Natural Heritage, issued in 1999 3.2**

The following is stated at paragraph 23:

Development, which would affect a designated area of national importance, should only be permitted where:

- *the objectives of the designation and the overall integrity of the area will not be compromised*
- *any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by social or economic benefits of national importance.*

NPPG6: Renewable Energy Developments, revised in 2000

The following is stated at paragraph 36:

“Visual Impact – the size and scale of the development and its relationship to the characteristics of the locality and landform in which it is to be built would be a relevant consideration. The visibility of a wind farm may in some circumstances raise concerns, although distance as well as landscape and topography would affect its prominence. Additionally the cumulative impact of neighbouring wind developments may in some circumstances be relevant.”

“Landscape – the character of the landscape and its ability to accept this type of development, including the associated infrastructure, would be an important consideration. SNH has prepared a comprehensive programme of landscape character assessments and where appropriate local authorities should provide a local interpretation. A cautious approach should be adopted in relation to particular landscapes that are valued, such as National Scenic Areas or National Parks or sites in the inventory of designed landscapes. Such concerns may also extend to regionally important landscapes such as regional parks, and parts of approved green belts may be valued for their contribution to the landscape setting or nearby towns.”

3.2.3 Caithness Local Plan

Policy PP3

“The Council will seek to identify and safeguard scenic views from unsympathetic development. Views from public roads to open water are particularly important for amenity and tourism. To aid appreciation of scenic views the Council will favour improved lay-by parking, visitor interpretation and view point features, notably on the A9, A99 and A836.”

3.2.4 South and East Sutherland Local Plan

Local Plans General Policies Annex

“Development which would affect a designated area of international, national, or local importance, referred to in policies ENV-ENV4, will be assessed under the following criteria:

- *Sites of national importance – development must not compromise the objectives of designation and the overall integrity of sites of the area. Exceptions to this will only be made if any significant adverse effects in respect of the above are clearly outweighed by economic or social benefits of national importance*
- *Sites of local importance – developments will be assessed for effects on the interests of sites of local heritage importance and will be resisted where these are judged to be unreasonably detrimental.*

Generally, development proposals must:

- *be of an appropriate design in relation to:*
 - *Site placement*
 - *Size and form*
 - *Density, layout and orientation*
 - *Use of materials and colours*
- *meet appropriate standards of access and servicing*
- *ensure established building lines and significant trees are maintained*
- *ensure no adverse effects on amenity or heritage features*
- *provide appropriate landscaping.”*

3.3 REGIONAL CONTEXT

The proposed WTGs will be located approximately 22km south-east of the coast of east Sutherland and Caithness.

3.4 LANDFORM

Within the study area, the landform divides into three separate areas: rounded hills in the south; leading to flat peatland within the central area; and gently undulating slopes in the north. The entire area is edged by the coast.

The high rounded hills in the south have smooth convex slopes that descend to the sea. The scale and shape of these hills seems massive and their form is influenced by glens and watercourses. The northern edge of these hills is marked by the distinctive peak of Scaraben, which is one of a cluster of lone mountains that extend into the peatland interior, including Morven and Maiden Pap.

The central area encompasses the south-eastern part of peatland known as the Flow Country. Overall, this area is almost flat and thus contains mainly lochans and boggy areas. It also offers extensive and panoramic views.

The northern part of the study area is predominantly gently undulating with an overall horizontal emphasis, although there are some low distinctive hills such as Ben-a-chielt. There is also a small local area of intimately and deeply undulating land around Hill of Yarrows. Within this area views are limited by the landform.

3.5 POPULATION DISTRIBUTION

The population in and around the study area is predominantly located along the coast, traditionally taking advantage of the preferable access and agricultural conditions. Wick is the largest town servicing the northern part of the study area (although located just outside the boundary), while Helmsdale is the largest settlement servicing the southern part. However there is a fairly even frequency of small villages along the entire coast in between. Most of these settlements are concentrated around bridging points or harbours and tend to be oriented perpendicular to the coast. They also tend to be strongly linked to the main A9 and A99 roads.

3.6 COMMUNICATION PATTERN

Serving the population distribution described above, the main roads through the study area, the A9 and A99, run close and parallel to the coast. From this, branch roads tend to pass into the interior via straths and glens that are less restricted within the northern part of the study area due to a gentler landform.

There are numerous tracks that extend into the interior moorland areas, mainly providing access for forestry or shooting estates. The routes of these tend to be restricted by ground conditions that largely comprise peatland and bog within the interior. Many of these tracks are used as footpaths as well as for 4x4 vehicular access. Within coastal areas, there are, however, several dedicated footpaths enabling access up and along the coastal hills as well as to the sea edge.

The main Inverness to Thurso railway line passes through the south-western edge of the study area, travelling through Helmsdale and along Strath Ullie. Outside the study area, this route passes through the distinct peatland area known as the Flow Country between Forsinard and Georgemas Junction, travelling through a distinctive area not publicly accessible by vehicle.

3.7 LAND USE AND LAND COVER

Land use within the study area varies considerably between coastal and interior areas. Along the coast, land use is predominantly small-scale farming and crofting combined with settlement and infrastructure. Within the interior areas, land is generally only extensively managed – mainly for deer and forestry. Within the study area as a whole, the nature of land use is significantly affected by two key factors: northern climatic conditions and exposure, and the peripheral location of the area from the large population centres to the south.

3.8 HUMAN-MADE FEATURES

The proposed wind turbines would be located near to existing Beatrice oil platforms located off the coast of east Caithness and Sutherland. These platforms currently form key focal features within offshore views, indicating human activity that is complemented by also seeing boats out to sea.

Within the study area on land, human activity is very obvious within coastal areas, particularly within settlements and crofting/farming areas, with roads, powerlines, telecom masts and forest plantations all creating obvious human-made features. However, within the interior areas, particularly within the peatland and bog areas where access is very restricted, there is a sense of wildness.

3.9 RECREATION

Footpaths upon local hills, within woodland near to residences and along the coast tend to be very popular with the resident population of the study area. However, although used by some for active recreation, such as walking and climbing, the study area does not tend to attract the high numbers of visitors that target the western Highlands. This may be partly because of the absence of very high mountains, the Munros, less publicity for the north-east within tourist literature, and also because of the far distance to the population centres further south. Instead, more people seem to tour the area by vehicle, stopping off at attractions for short durations en route. The coast and beaches, in addition to historical and archaeological features, tend to attract people in this way.

3.10 LANDSCAPE STATUTORY DESIGNATIONS AND NON-STATUTORY DESIGNATIONS

Figure 1 shows the location of statutory and non-statutory designations within the study area.

The study area includes one proposed Area of Great Landscape Value (pAGLV). This area extends from Berriedale on the coast into the peatland interior containing the Flow Country and the distinctive hills of Morven and Scaraben. A 'Search Area for Wild Land', identified by SNH, also extends near to the study area boundary. This covers the interior peatland area of the Flow Country, similar in extents to the pAGLV.

Two Gardens and Designed Landscapes are included within the study area – Dunbeath Castle and Langwell Lodge.

3.11 LANDSCAPE AND SEASCAPE RESOURCE

Landscape character types

The Caithness and Sutherland Landscape Character Assessment (SNH 1997) describes the landscape character within the study area and provides guidance on accommodating change within these landscapes. The distribution of these landscape character types is shown in Figure 2.

Within the study area, 14 landscape character types have been identified. Through the LVIA, it was judged that the proposed development would have most effect on six of these landscape character types (LCTs) and that the key characteristics of these would be most significantly affected by the proposed WTGs, in both adverse and beneficial ways. The key characteristics of these LCTs most relevant to wind farm development and design are as follows:

Table 6 Key characteristics of landscape character types relevant to wind farm development.

Landscape character type	Key characteristics sensitive to wind farm development
1. Moorland slopes and hills	<ul style="list-style-type: none"> • sloping open moorland • convex character of slopes tend to limit distant visibility and views of hill tops from their base • variable slope of landform • landscape remains overwhelmingly open • rocky crags and outcrops occur in some places, especially on hill tops and glen sides • similar height of hilltops create numerous minor foci • from the high points, aerial views reveal the interlocking arrangement of the moorland landform • the hills are of massive proportions • the interior of the landscape remains largely uninhabited • fragments of broadleaf woodland exist • coniferous plantations form a key landscape characteristic within some areas of moorland slopes.
2. Coastal shelf	<ul style="list-style-type: none"> • distinct linear space, semi-enclosed with seaward views on one side • an elevated platform • the pattern of land-use largely relates to the linear space of this landscape • some of the glens which intersect this landscape are very narrow and steep, and these tend to carve very deep crevices through to the sea and are often lined with woodland. Others are broader and sometimes open out to form a wide, fan shaped plain • settlements within this landscape tend to be located within the broader glens • the main land-use is agriculture • this landscape encompasses both land and sea environments. Its experience is dominated by the character of both, and the balance between these.

Table 6 (cont) Key characteristics of landscape character types relevant to wind farm development.

Landscape character type	Key characteristics sensitive to wind farm development
3. Small farms and crofts	<ul style="list-style-type: none"> • occupation and activity of people dominate the character of this landscape • a complex variety of different land-use characteristics • extent of visibility tends to be limited • scale of spaces are fairly small and views are directed towards foreground details • a complex visual composition of different spaces • land-use is mainly agricultural • some areas contain small fragments of broadleaf woodland, mainly located within the steep glens along the coast
3a Dispersed small farms	<ul style="list-style-type: none"> • very dispersed layout of buildings • the land adopts a more unified character as it tends to be managed on a larger scale • landscape appears more open.
3b Fringe crofting and historic features	<ul style="list-style-type: none"> • sparse habitation • a proliferation of croft ruins and ancient structures, often occupying prominent and slightly raised sites • ancient and ruined structures are highlighted by the open space and dominance of sky.
6. Sweeping moorland	<ul style="list-style-type: none"> • wide open space which affords extensive visibility • fairly flat or gently sloping or undulating landform • a largely uninhabited landscape that, in addition to the visual simplicity, tends to direct attention towards foreground details as well as the non-visual experiential characteristics • ribbons of broadleaf woodland occasionally run along the water courses and loch edges within the landscape • service elements pass through some parts of the landscape. These tend to be highly visible due to the visual simplicity and openness of the surroundings • coniferous plantations form a dominant characteristic within some areas of this landscape type • the landscape sometimes forms a raised shelf or plateau near to the sea. In such locations, the coastline is not visible from inland areas.

3.12 POTENTIAL FUTURE CHANGE TO LANDSCAPE CHARACTER

The study area generally seems to be at low pressure for change, its main land uses being infrastructure, rough grazing for sheep and deer and some areas of coniferous plantation. Recent and current developments include the up-grading of the A9 road north of Helmsdale, forest restructuring, individual house developments and numerous telecommunication masts near the main roads.

It is possible that a number of wind farms proposed within and just outside the study area will be built as part of increasing renewable energy development in the north of Scotland, and national grid connections may be upgraded to accommodate this production.

3.13 LOCAL LANDSCAPE CHARACTER AREAS

The sensitivity of the landscape character types described above depends on their key landscape characteristics, whether a proposed development would be seen or not, and how the landscape character types combine and are typically experienced together. Given that these characteristics will also vary at the local level, that their sensitivity will depend on the type of development being proposed, and landscape character types are rarely experienced in isolation, a number of distinct local landscape areas containing different landscape character types have been identified as listed in Table 7 and shown on Figure 2.

Table 7 Wind farms considered by the cumulative assessment in addition to the Demonstrator Project.

Local landscape area no	Description of area	Main landscape character type(s)	Reference to viewpoint number
1	Navidale Coastal Shelf	<ul style="list-style-type: none"> • coastal shelf • high cliffs and sheltered bays • coniferous woodland • moorland slopes and hills • strath • broadleaf or mixed woodland • dispersed small farms and crofts 	6
2	Interior hills	<ul style="list-style-type: none"> • moorland slopes and hills • strath • broadleaf or mixed woodland • lone mountains • sweeping moorland 	4
3	Interior moorland and marginal crofting	<ul style="list-style-type: none"> • moorland slopes and hills • broadleaf or mixed woodland • lone mountains • sweeping moorland • small farms and crofts • coniferous woodland • flat peatland • dispersed small farms and crofts • fringe crofting and historic features 	
4	South east Caithness coastal edge	<ul style="list-style-type: none"> • moorland slopes and hills • broadleaf or mixed woodland • sweeping moorland • small farms and crofts • small farms and crofts with local facilities • small farms and crofts with new housing • dispersed small farms and crofts • fringe crofting and historic features • mixed agriculture and settlement • open intensive farmland 	5, 3, 1, 11
5	Yarrows cnocs	<ul style="list-style-type: none"> • dispersed small farms and crofts • fringe crofting and historic features 	

The following section describes the typical key landscape characteristics within these areas that either relate to, or would be sensitive to, wind farm development.

3.13.1 Landscape area 1 – Navidale coastal shelf

The landscape composition tends to be simple within these areas, mainly comprising the coastal edge, smooth convex hills and simple vegetation. The shape and elevation of the landform creates an alternating sense of exposure and open views upon the high points and a strong sense of shelter, enclosure and focused views within the glens, with very steep slopes marking the distinction in between. As roads wind around the landform, views are thrown back and forth between the hill interior and the coast. However, the predominant emphasis of the area is the coast to the east. Settlement tends to be limited to the gentler slopes upon elevated shelves or at bridging points.

3.13.2 Landscape area 2 – Interior hills

This area comprises moorland and hills that are simple in pattern and largely rolling in form with an overriding horizontal emphasis, apart from the distinct isolated peak of Scaraben that rises sharply from its surroundings. The area is intersected by the glens of the Langwell Water and Berriedale Water, which provide local shelter and harbour patches of woodland and residences. Otherwise the area is large in scale and predominantly open with a sense of exposure and wildness. The landform limits views of the sea to the highest slopes, so that the area largely seems isolated and strongly linked to the interior areas of peatland to the north and west.

3.13.3 Landscape area 3 – Interior moorland and marginal crofting

This area seems transitional in character, lying between the coast and interior peatland and containing a mixed composition of features characteristic of both environments – marginal croft land, moorland, infrastructure and dispersed settlement. As such, its pattern of elements often seems complex and unclear, with no obvious focus or hierarchy. This is exacerbated by the fairly gentle landform that does not limit development to distinct areas. The presence of many abandoned and ruined buildings, in addition to prominent utilitarian built features, also conveys a sense of negative value for the underlying landscape qualities within this area.

3.13.4 Landscape area 4 – South east Caithness coastal edge

Within this area, landscape pattern and land use tend to appear as the key characteristics of the landscape, arranged in direct relation to the coast. The majority of the area is occupied by dispersed settlement and unintensive agriculture/crofting, with concentrated villages occurring at fairly regular intervals along the coast, often coinciding with bridging points of straths. Otherwise there is a mixed and complex composition of landscape elements against which the sea appears as a simple backcloth. In this way, the existing oil platforms appear as key foci within the area, indicating direction and position in a landscape in which it is otherwise often difficult to orient. Throughout the area, coastal views dominate the experience of the landscape in addition to the overriding horizontal emphasis of the landform and consequent “wide skies” and sense of exposure.

3.13.5 Landscape area 5 Yarrow cnochs

The landscape character of this small area contrasts greatly to its surroundings by possessing an intricate and irregular undulating landform. This forms small scale cnochs and creates a local sense of enclosure and inward focus. In addition, the area contains a high number of historic and archaeological features that convey a sense of history within the landscape. The lower ground tends to be extensively managed for grazing, while the higher and steeper slopes largely comprise moorland.

The key landscape characteristics of each landscape area described above determines the sensitivity of the landscape resource to the proposed development, as listed in Table 8.

Table 8 Summary of sensitivity of landscape resource.

Landscape assessment area number	Description of area	Sensitivity of landscape resource to proposed wind turbine development
1	Navidale coastal shelf	Low
2	Interior hills	Medium
3	Interior moorland and marginal crafting	Low
4	South east Caithness coastal edge	Low
5	Yarrows cnochs	Low

3.14 SEASCAPE ASSESSMENT REGIONAL UNITS

The Guide to Best Practice in Seascape Assessment (2001) recommends the assessment of seascape for wind farms at a regional scale. Because this assessment needs to be combined with the Landscape and Visual Impact Assessment, the two coastal local landscape areas within the study area – the Navidale coastal shelf and south east Caithness coastal shelf – have been split into separate regional seascape units.

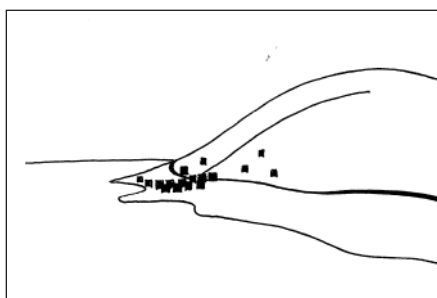
These regional units have three distinct components; the coastal dimension, the marine component and the hinterland component. As recommended within The Guide to Best Practice in Seascape Assessment, these units are distinguished by the following factors:

- *physical/natural factors*
- *human activity*
- *visual characteristics.*

The characteristics of these regional seascape units are described below.

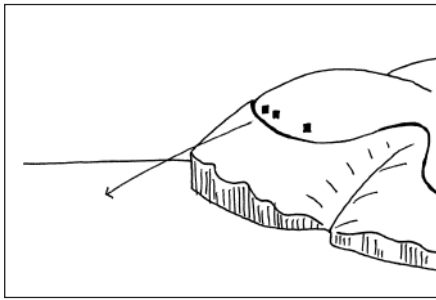
3.14.1 Navidale Coastal Shelf

A Helmsdale



This unit included the village of Helmsdale that forms a small concentrated settlement at the intersection of the glen of the River Helmsdale and the coast. It has a marine emphasis that is highlighted by its distinct architecture, including old merchant premises and fisherman cottages, although the fishing industry is now a shadow of its former self. The existing harbour still creates a focus within the village and is the home to a few local boats. The hills to the north-west and north of the settlement create a simple backdrop to the settlement and emphasise its concentrated form and simple pattern. Apart from the inner harbour area, the coastline is fairly open and unindented in character.

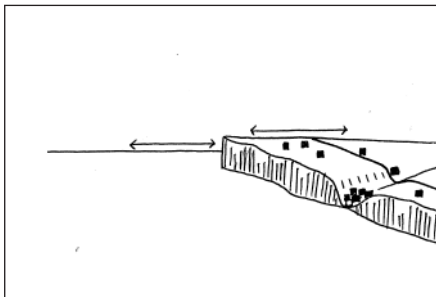
B Navidale – Berriedale



This section of the coast is largely uninhabited, apart from some developments along the lower beach shelves at the edge of Helmsdale, Navidale and Berriedale, and a few upland crofts. Historically, there were also additional coastal settlements, for example at Badbea. Most of the coast is characterised by steep cliffs that rise up from a rocky coast, before extending into very steep hill slopes that ascend to gradually curve over an elevated hill plateau. The landscape is simple in composition, while views vary considerably but discretely with the subtle changes in slope. Commonly, most people experience this coastal area via views from the A9 and Navidale settlements; these reveal the simple hill foreground against a simple sea and sky background.

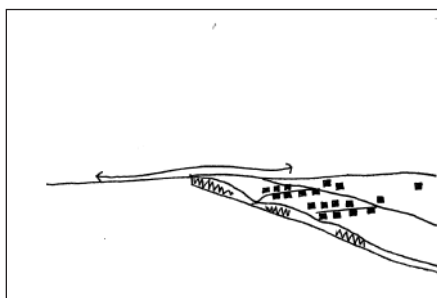
3.14.2 South east Caithness coastal edge

A Berriedale - Latheronwheel



This section of the coast is characterised by a rocky coastline and steep cliffs, up to 100m high in places, which form a clear vertical edge to the elevated but almost flat open land above. The steepness and height of these cliffs mean that access to the coast from inland areas is mainly limited to those locations where there is an intersection of burns or rivers, for example at Dunbeath Bay. Otherwise, there is a sharp division of the coastal and inland environment, marked spectacularly by the focal landmark of Dunbeath Castle. This feature is very prominent from the harbour at Dunbeath, where a small facility is all that remains of the once historic focus of the settlement. The character and experience of this area is, however, now dominated by the scale of the large-scale road overpass that crosses the river, and by the noise and activity of traffic upon this structure.

B Latheronwheel – Helman Head



This section of the coast mainly possesses a rocky coastline with cliffs between 25m and 50m high, breached by intersecting rivers and burns. As such, there is a marked coastal edge dividing terrestrial and marine areas, but it is easily penetrated and the horizontal emphasis and openness of the land and seascape evident within local views seems to extend smoothly between the two areas. This linkage is reinforced further by the fact that many of the roads and lines of houses run perpendicular to the coast, rather than parallel to it which would emphasise its line and edge. Generally this coast is fairly continuous in line, with only local and small scale indentations and inlets. As such, offshore views tend to pass directly and distantly outwards from the coast rather than being focused locally within bays.

Table 9 Summary of sensitivity of regional seascape units.

Landscape character area	Unit number	Unit name/ description	Sensitivity to type of proposed development
Navidale	A	Helmsdale	Low
Coastal Shelf	B	Navidale – Berriedale	Low
South east Caithness coastal edge	A	Berriedale – Latheronwheel	Low
	B	Latheronwheel – Sarclet Head	Low

3.15 VISUAL RESOURCE

3.15.1 Visibility

The Zone of Theoretical Visibility (ZTV) for the proposed Beatrice wind turbines is illustrated within the following Figures:

- Figure 3 Zone of Theoretical Visibility (ZTV) to 60km – Strategic Overview
- Figure 4 Zone of Theoretical Visibility (ZTV) to blade tip – Overview with viewpoint locations
- Figure 5 Zone of Theoretical Visibility (ZTV) to hub height – Overview with viewpoint locations
- Figure 6a Zone of Theoretical Visibility (ZTV) to blade tip – detail 1 of 4
- Figure 6b Zone of Theoretical Visibility (ZTV) to blade tip – detail 2 of 4
- Figure 6c Zone of Theoretical Visibility (ZTV) to blade tip – detail 3 of 4
- Figure 6d Zone of Theoretical Visibility (ZTV) to blade tip – detail 4 of 4

Figure 7a Zone of Theoretical Visibility (ZTV) to hub height – detail 1 of 4

Figure 7b Zone of Theoretical Visibility (ZTV) to hub height – detail 2 of 4

Figure 7c Zone of Theoretical Visibility (ZTV) to hub height – detail 3 of 4

Figure 7d Zone of Theoretical Visibility (ZTV) to hub height – detail 4 of 4

The LVIA has largely been based on blade tip ZTVs which means that they indicate all parts of the study area where some part of one or more WTG may be visible. ZTVs to hub height have also been produced, however, as listed above, and a comparison between these and the blade tip ZTVs enables assessment of where only wind turbine blades will be visible. Visibility has been separated into bands of numbers of WTGs visible, 1 or 2.

The potential extent of cumulative visibility of the proposed Demonstrator WTGs together with Causeymire wind farm (existing) and Buolfruch (under construction) is illustrated in Figure 8; cumulative visibility with the proposed Dunbeath wind farm is shown in Figure 9, and with Gordonbush and Kilbraur wind farms in Figure 10.

ZTV maps give a good indication of the broad areas from which the wind farms and wind turbines may be seen and are useful as a tool for assessment. It should be noted, however, that they do have a number of limitations, as listed below:

- *a ZTV can only indicate potential theoretical visibility*
- *a ZTV's accuracy is limited by the data available and used to create it. Most importantly, the accuracy of the ZTV is limited by Digital Terrain Model (DTM) data, which cannot distinguish below a certain level of detail, and by the need for software to "interpolate" between the heights at survey points*
- *a ZTV cannot indicate potential visual impacts, or their significance.*

3.15.2 Distribution of visibility

Although the WTGs will be located within open sea and thus clearly visible from the nearest coast, their visibility from other areas of the mainland is limited – mainly by the coastal hills and the convex nature of their slopes in addition to local screening by buildings and woodland. The WTGs would thus be mainly visible along the coast, from sea-facing slopes and from distant high hills.

The proposed WTGs would not be visible from the centres of most of the major villages in the study area as these tend to be tucked into low sheltered harbour areas. The WTGs at the Demonstrator site would not be visible from any towns or cities.

The ZTV maps clearly show that in most locations where the Demonstrator site would be visible, two wind turbines would be seen. In only a few very small areas, would foreground features screen one or other of the two proposed WTGs.

The different distribution of visibility of the proposed wind turbines up to their blade tips and hubs can be seen by directly comparing the ZTVs shown in Figures 4 and 5. This clearly shows that, where the wind turbines would be visible, the top of the towers, in addition to all of their rotor blades, would usually be seen.

3.15.3 Cumulative visibility

Figure 8 shows the areas from where the proposed WTGs would be seen within the study area together with the existing Causeymire and Buolfruch wind farms, both individually and collectively.

The ZTV indicates that the main areas from where the Beatrice wind turbines and Buolfruch wind farm could theoretically be seen together are short sections of the A9 around Newport, Dunbeath, Latheronwheel, Burringill and Clyth. They would also be seen together along the road between Dunbeath and Braemore, although they would be seen when looking in different directions.

Within the study area, Figure 8 indicates that there are only a few small areas from where the proposed development would theoretically be seen with just the Causeymire wind farm. This includes the top of the low ridge that runs from Cnoc Vigas to Cnoc an Earrannaiche to the Hill of Yarrows, running roughly parallel to the coast 4-7km inland.

Figure 8 reveals that combined visibility of the Causeymire and Buolfruch wind farms in combination with the proposed Demonstrator WTGs would be mainly restricted to the highest interior hills within the Beatrice study area, including Scaraben, Meall na Caorach, Cnoc na Feadaige, Wag Hill and Bouilag Hill, in addition to the elevated moorland around Buoltach and Den Moss.

Figure 9 shows the areas from where the WTGs would theoretically be seen together with the proposed Dunbeath wind farm. This indicates that the main areas from where these wind farms would be seen together include short sections along the A9 around Ramscaigs, north-eastern Dunbeath and Knockinnon, east Latheron, Burringill, Swiney, Lybster, Clyth and Braehungie. In addition, they would also be seen together in sections along the minor road between Dunbeath and Braemore. Otherwise, combined visibility would mainly occur within areas of elevated peatland to the north-west of Dunbeath.

Figure 10 reveals that within the study area there would not be any cumulative visibility with the proposed Kilbraur wind farm, and there would only be a small area of potential cumulative visibility with the proposed Gordonbush wind farm upon the southern slopes of Scaraben and upon Creag Thoraraidh to the south.

3.16 VIEWPOINTS

Ten viewpoints were originally identified to represent those locations from where there would be potential for significant visual impacts, as listed within Appendix I and recommended to SNH and THC. This list was then amended to incorporate recommendations by THC. All of these viewpoints were assessed as part of the LVIA process, but some were later dismissed due to a lack of site visibility or because of similarity of impacts with another viewpoint. Finally ten viewpoints were chosen to represent likely significant visual impacts; these are listed in Table 10 and are shown in Figures 11-21.

It should be highlighted that viewpoint assessment is not the only source of data that informs the LVIA of the proposed development within the study area.

Table 10 List of viewpoints.

Viewpoint nr.	Location	Main users (receptors)	Grid Ref	Approx Altitude (m)	Approx distance from edge of wind farm (km)	Direction to centre of wind farm	Other wind farms theoretically visible
1	Lybster	Local residents and visitors (also similar to views from A9)	324884, 935060	51	26	SSE	B D K > 35km G > 35km
2	Latheron	Motorists and local residents	319809 933137	72	28	NE	K > 35km G > 35km
3	Dunbeath Heritage Centre	Local residents, visitors and motorists	315943, 929538	55	26	SE	B D K > 35km
4	Scaraben	Hill walkers and stalkers	308074, 927326	626	32	SE	C B G D
5	A9/Berriedale Borgue area	Motorists and local residents	313171, 924717	135	26	SE	D K > 35km
6	A9 Navidale	Motorists and local residents	303767, 916153	79	33	ESE	B > 35km C > 35km
7	Creag Riasgain	Local walkers	295746, 912661	415	41	E	B > 35km C > 35km K G
8	Brora Golf Course/Car Park	Golfers, local residents, visitors	291004, 903966	10	46	ENE	B > 35km C > 35km D > 35km K
9	Tarbat Ness	Local residents and tourists	294821, 887641	10	49	SSE	B > 35km C > 35km D > 35km K
10	Lossiemouth	Local residents	323321, 871291 or 323317, 871285	3	44	NNE	C > 35km B > 35km G > 35km K > 35km D > 35km
11	Durn Hill	Local residents and visitors	357100, 863842	195	53	NNW	C > 35km B > 35km G > 35km K > 35km D > 35km

C=Causeymire, B=Buolfruch, D=Dunbeath, K=Kilbraur, G=Gordonbush >35km=outside the study area of the wind farm and thus visibility data not provided

Photographs taken from these viewpoints, recording the baseline visual resource, are presented in Figures 11-21.

3.16.1 Viewpoint 1 – Lybster

This viewpoint is located at the southern end of the village of Lybster, at the end of the main road that runs through the village and is oriented roughly perpendicular to the coast. It represents views from the coastal settlements to the north-west of the proposed development, around 26km away. The viewpoint would be mainly experienced by local residents and local motorists.

The viewpoint does not lie within any designated landscapes.

From this viewpoint, views are directed over the simple foreground slopes towards the sea, lined up to focus towards the existing oil platforms. Within the foreground, there is a simple pattern of agricultural fields marked by fences. The line of the slope runs parallel to the coast so that there is a horizontal emphasis of components. Due to the slight convexity of the coastal slopes, it is not possible to see the coastal edge from this viewpoint. Although, at the time of this assessment, construction machinery and earthworks are visible within the foreground due to the construction of a new waste water treatment works, these are temporary features and thus not a permanent part of the visual baseline conditions.

Despite the pattern of the landscape within the foreground, there is an overwhelming sense of openness and the visual composition is dominated by the visible vast expanse of the sea together with “wide skies” that often reveal a dynamic quality to the landscape in terms of revealing changing weather conditions.

Within the surrounding area, there is a mixed composition of elements, including houses, patches of trees, field boundaries and telecommunication masts. Apart from the formal arrangement of the main settlements themselves, which tend to form linear patterns, elements seem to be fairly scattered within the landscape, largely unrestricted by the landform and ground conditions.

From this viewpoint, four platforms are clearly visible (including the two existing Beatrice platforms) in combination with the built setting of the foreground; these tend to convey a fairly urban/industrial character to the landscape.

Views from this location towards the proposed development tend to be highlighted during the evening hours in summer, when the sun is directed from behind the viewer from the north-west. At other times, visibility is often limited due to offshore cloud, fog or haze or because of looking towards the sun.

3.16.2 Viewpoint 2 – Latheron

This viewpoint is located at Latheron, on the coast between Latheronwheel and Lybster. It represents views from the north-west of the proposed development, approximately 28km away. The viewpoint lies at the entrance to a field, next to a lay-by on the A9, as you enter Latheron, and is mainly experienced by motorists and local residents.

The viewpoint does not lie within any designated landscapes.

From this location there is a panoramic view of the sea that dominates the vista. This is seen beyond a foreground pattern of fields and drystone walls. The existing oil platforms are visible and form key foci on the horizon.

Views from this location towards the proposed development tend to be highlighted during the evening hours in summer, when the sun is directed from behind the viewer from the north-west. At other times, visibility is often limited due to offshore cloud, fog or haze or because of looking towards the sun.

3.16.3 Viewpoint 3 – Dunbeath Heritage Centre

This viewpoint is located upon the southern edge of Dunbeath, at the edge of the car park serving the Dunbeath Heritage Centre. It represents views to the proposed development from the north-east, approximately 26km away.

The viewpoint does not lie within any designated sites, although it is located approximately 750 metres north-east of the edge of the Dunbeath Castle Garden and Designed Landscape.

The viewpoint lies on the southern side of the river and deep glen that runs through Dunbeath and is crossed by the main road overpass. Key views tend to be across this glen and along it, out to sea. The flattish elevated ground surrounding Dunbeath seems to be at a similar height as the sea horizon from this viewpoint, so there is an overriding horizontal emphasis to the landscape.

Within the landscape extending inland from Dunbeath, there is a complex pattern of elements – pylons, houses, fields, patches of woodland and the main road, many of which stand out on account of their vertical form in contrast to their surroundings. These elements seem to cumulatively dominate the underlying natural characteristics of the landscape, compounded by the activity and noise of traffic travelling along the main road. Although views to the sea are distracted by the complexity and confusion of these elements within the visual composition, it also provides a valued simple backdrop to these.

Buolfruiich wind farm, currently being constructed, is not visible from this viewpoint, although it can be seen from higher locations around Dunbeath. The existing oil platforms are clearly visible out to sea and seem similar in form to point foci onshore.

Views from this location towards the proposed development tend to be highlighted during the evening hours in summer, when the sun is directed from behind the viewer from the north-west. At other times, visibility is often limited due to offshore cloud, fog or haze or because of looking towards the sun.

3.16.4 Viewpoint 4 – Scaraben

This viewpoint is located on the summit of East Scaraben, which is one part of a range of isolated hills that rise up sharply from the peatlands within southern Caithness that also include Morven and Maiden Pap. It represents views from these hills and the interior peatland area, to the north-west of the proposed development, about 32km away. The viewpoint is mainly visited by hillwalkers, that often visit it as part of a loop that includes Morven. The area is also used by local stalkers.

The viewpoint lies within a proposed AGLV that extends from Berriedale on the coast into the interior that includes the peatlands known as the Flow Country. It also lies just outside a Search Area for Wild Land that has similar extents to the proposed AGLV within the interior peatlands and hills.

From this area, the experience of the visual resource is dominated by panoramic views that include both the interior moorland and hills and the sea. There is an overwhelming sense of openness and simplicity of visual composition. Because of the great width and horizontal emphasis of the view, the eye tends to keep moving around the view, intermittently focusing on isolated features, rather than just resting in one direction and/or on one feature.

The visual composition to the west mainly comprises the wide expanse of moorland, with occasional lochs and tracks under a wide expanse of sky. The existing Causeymire wind farm can be seen in this direction, its position highlighted by the movement of turbine blades and the pattern and colour of turbines that contrast to the simple and dark coloured moorland backcloth. Buolfruiich wind farm also appears incongruous in the same way, but is more prominent due to its closer proximity. Both developments seem marginal to the open moorland surrounding

Scaraben, in addition to other features such as the telecommunication masts upon Ben-a-Chielt; however, they create prominent features that contrast to the simple surroundings and distract from coastal views.

To the east of the proposed development, views tend to focus either to the north-east or south-east. To the north-east, the coastline leads the eye past Dunbeath and along the cliffs and upon the agricultural pattern of distant crofting areas. To the south-east, views are led along the incised gorge of Berriedale Water and towards the sea horizon. To the south, the hills appear more curvaceous. These create an image of overlapping hill horizons, fairly simple in form and texture, apart from occasional masts, tracks, moorland drains and forest plantations. The sun tends to be shining from this direction, however, so views tend to be directed away from this area.

Because of the strong contrast of height and steepness of Scaraben with the surrounding moorland, there is a confusing effect of visual foreshortening whereby the flat landform below often seems sloped towards the viewer.

The view looking towards the proposed development site tends to be most clearly emphasised when the sun is behind the viewer in the afternoon. However, visibility offshore is often impeded by either offshore haar, cloud or haziness over the sea.

3.16.5 Viewpoint 5 – A9 Berriedale/Borgue area

This viewpoint is located between Berriedale and Borgue, near the small settlement of Newport. It is positioned adjacent to the A9 main road, backed by a dispersed pattern of houses and overlooking open agricultural land towards the sea. It represents views from the coastal crofting area to the north-east of the proposed development, about 26km away. The viewpoint adjoins the main A9 road and, as such, would be mainly experienced by motorists along the road in addition to local residents.

The viewpoint does not lie within any designated landscapes, although it is positioned just outside a proposed AGLV that extends from Berriedale into the moorland interior that includes the peatlands known as the Flow Country and the distinctive hills of Scaraben and Morven.

From this viewpoint, views are directed over the foreground slopes towards the sea. Within the foreground, there is a simple pattern of fields, marked by fences. The line of the slope runs parallel to the coast so that there is a horizontal emphasis of components, with views spread within a wide arc from the north to the east. Due to the convex nature of the coastal slopes, it is not possible to see the coastal edge from this viewpoint.

Within the surrounding area, there is a mixed composition of elements – houses, patches of trees, pylons and telecommunication masts. The pattern of these elements becomes less strongly influenced by the coast and hill slopes to the west and north so that the visual composition appears more mixed and scattered. For this reason, views often seem to be directed towards the sea when searching for simple qualities.

Within this composition, the existing oil platforms are clearly visible, seen as two separate and distinct features. They appear as point elements that contrast to the overriding horizontal and linear emphasis of the coastal view; however, their small size means that they do not appear as dominant foci. Generally they are very difficult to scale without any other features of known size close by and they seem dwarfed by the vast expanse of sea surrounding them.

Views from this location towards the proposed development tend to be highlighted during the evening hours in summer, when the sun is directed from behind the viewer from the north-west. At other times, visibility is often limited due to offshore cloud, fog or haze or because of looking towards the direction of the sun during morning hours.

3.16.6 Viewpoint 6 – A9 Navidale

This viewpoint is located between East Helmsdale and the Navidale braes, near to the entrance to the western track to Navidale Farm. To the south-east is the Navidale House Hotel which, in combination with its surrounding trees, forms a focus within the local landscape. This viewpoint represents views from the coastal shelf that runs along the east coast of Sutherland, to the west of the proposed development, around 33km away. The viewpoint adjoins the main A9 road and, as such, would be mainly experienced by motorists along the road in addition to a number of local residences.

The viewpoint does not lie within any designated landscapes, although it is located approximately 3km and 4.5km from two proposed AGLVs to the south and north-west respectively, that encompass the coastal hills.

From this area, the visual composition appears simple – dominated by the smoothness of the vegetation that overlies the rounded and convex slopes of the coastal hills that offer elevated views to the sea and create simple midground horizons that conceal the coastline below. Within this composition, the interior hills provide a simple backcloth to views that, in addition to the horizontal emphasis of the visual composition, tend to be thrown out to sea. Within the foreground, however, the main road and the associated movement of cars, form a dominant feature. In addition, telecommunication masts upon Creag Thoraraidh, powerlines and forest plantations all appear as incongruous human elements within the landscape.

The experience of views within the area is strongly influenced by the aspect of slopes and particularly the bends in the roads around the braes, as these currently slow down movement through the landscape, focusing views within the area and emphasising the distinctive character of the place. This experience is expected to change significantly in the future however, with the planned re-routing of the A9 within this area, whereby earthworks would screen many of the existing views from the A9 to the sea, in addition to reducing the distinctiveness of the braes area.

The existing Beatrice oil platforms can currently be seen as very distant minor elements upon the sea horizon. Their form, seen as point features, contrasts to the overriding horizontal and linear emphasis of the coastal view; however, they are seen as so very small as to only register as very minor features.

The view looking towards the proposed development site tends to be most clearly emphasised when the sun is behind the viewer in the afternoon. However, even then, visibility is often impeded by offshore cloud, haar or haziness seen over the sea.

3.16.7 Viewpoint 7 – Creag Riasgain

This viewpoint is located upon the hills at the coastal edge north of Lothbeg Point. It represents views from the hills to the west of the site around 41km away. The viewpoint lies at the summit of Creag Riasgain. This is not served by any formal pathway; however, it is understood that this hill top is popular with local residents for recreation.

The viewpoint lies within a proposed AGLV (numbered 1 on Figure 1), extending from the coast around Berriedale into the moorland interior which includes the peatlands known as the Flow Country and the distinctive hills of Scaraben and Morven.

From the top of the hill, views are panoramic. Looking towards the sea to the east and south, the visual composition is simple, comprising a smooth texture of grass, heather and pools of water in the foreground moulded over a curvaceous convex landform, and the sea meeting the horizon in the distance. To the south-east and south, the outline of Moray forms a silhouette beyond the sea.

Looking north-east and south-west along the coast, the composition becomes more complex with the changing shapes of the landform rising from the sea and different shapes and features formed by human influence such as fields, housing, powerlines and coniferous plantations.

The view looking to the west and inland consists of simple visual layers – a subtle mosaic of grasses, heathers and pools of water within the foreground, leading beyond to a composition of undulating and smooth rounded hills flowing into sharper, higher peaks. Within this view a road, some fencing and a small mast is visible; however, otherwise there is a sense of remoteness.

Although the focus of views tends to be towards the sea, visibility in this direction is often poor due to coastal cloud, fog or haze. As a consequence, views are often redirected along the coastal edge. Within this area, the movement of weather systems often seems to create a dynamic image due to the intermittent “spotlighting” and obscuring of the curvaceous hill forms.

3.16.8 Viewpoint 8 – Brora golf course car park

This viewpoint is located at the north eastern edge of Brora, next to the sand dunes, links and beach that run along the coast. It represents views along the east coast of Sutherland, to the south-west of the proposed development, around 46km away. The viewpoint lies at the edge of the car park that serves those using the golf course and accessing the beach, and thus is frequently visited by both residents and visitors.

The viewpoint does not lie within any designated landscapes, although it possesses views to a proposed AGLV to the north, encompassing the coastal hills beyond Brora and above Loth.

From this area, the experience of the visual resource is dominated by views along the coast and out to sea, within an arc extending broadly north-east to south-east. The visual composition is simple, dominated by the horizontal expanse of the sea and the distant horizon, framed between the distant coastal hills to the north-east, the foreground undulations and vegetation of the links together with the settlement edge of Brora, and the very distant landform silhouette of Moray in the far distance. The horizontal emphasis of the view tends to encourage one to constantly move their attention around the panorama or, alternatively, to focus on foreground details as there are no dominant foci within the distant view. Although the visual composition is predominantly simple, some of the curves created by the links landform create dynamic lines and shapes within the foreground. No major vertical features tend to feature within this composition.

The view looking towards the proposed development site tends to be most clearly emphasised when the sun is behind the viewer in the afternoon. However, visibility offshore is sometimes impeded by offshore haar or, even in clear weather, a haze seen over the sea.

3.16.9 Viewpoint 9 – Tarbat Ness

This viewpoint is located at the far north eastern tip of the peninsular of land between the Dornoch and Cromarty firths, protruding into the Moray Firth. The viewpoint is located upon the footpath that travels from the lighthouse down to the sea edge. It represents views from coastal areas to the south-west of the proposed development, around 49km away. The site is serviced by a small car park and viewpoint that would be mainly experienced by those walking to the sea edge for recreation, likely to be both local people and visitors to the area.

The viewpoint does not lie within any designated landscapes.

The experience of this viewpoint is dominated by the wide panorama of views and openness resulting from the exposed position upon a promontory in the sea. The visual composition is simple, dominated by the wide expanse of sea and sky, and the horizon separating them, but also consisting of a simple moorland foreground and the distant shapes of the east Sutherland hills. Views tend to follow the shape of the landform, leading towards the point.

On account of the openness, exposure and coastal position of the viewpoint, its experience is strongly affected by weather conditions. The wide expanse of the sea and sky tends to contribute a dynamic quality to views in terms of revealing changing weather conditions.

Within the surrounding area, there is a mixed composition of elements, including houses, patches of trees and field boundaries. Generally, the pattern seems fairly ordered and active land management results in a simple smooth vegetation texture that contrasts strongly to vertical features such as stone walls. Within this composition, the lighthouse creates a very prominent landmark within both the local and regional landscape.

From this viewpoint, the existing platforms are theoretically visible; however, even on a clear day it is often not possible to see these due to their distance and the effects of either offshore cloud or haze. Views from this location towards the proposed development tend to be highlighted during the afternoon hours, when the sun is directed from behind the viewer from the south-west.

3.16.10 Viewpoint 10 – Lossiemouth

This viewpoint lies on the coastal edge of Lossiemouth, on the point to the west of Spey Bay. It is a small area of unmanaged land used by local dog-walkers, located in front of a residential area and to the west of an industrial area. This viewpoint represents views of the proposed development from Moray to the south, approximately 44km away.

The viewpoint does not lie within any designated landscape.

From this location, there is a panoramic sea view and it is extremely open and exposed. The overall visual composition is simple, comprising of mostly horizontal lines dividing the textured vegetation and rubble in the foreground from the sea in the distance, loosely contained by distant headlands at either side of the visible horizon. Tarbat Ness Point is a prominent landform to the north-west. In addition, the Sutherland hills are just about visible beyond this, seen in silhouette on the distant horizon. Lighthouses form a vertical element within this composition.

Looking away from the sea, the land behind accommodates housing, gently rising in elevation. To the west, between the houses and the sea are industrial buildings and piles of rubble. The middle ground of this composition is made complex by the different levels, orientation, shapes and fabric of the houses, interspersed with street lighting, signs, walls, fences and vegetation. The street lights form very prominent vertical elements.

Visibility out to sea varies depending upon the weather conditions, often impeded by coastal haze or cloud.

3.16.11 Viewpoint 11 – Durn Hill

This viewpoint occurs upon the top of Durn Hill that is located to the south-west of the coastal settlement of Portsoy. It represents views from the very distant south-east of the proposed development, around 57km away. The viewpoint lies at the summit of the hill. It is not served by any formal pathway, but attracts some local walkers, mainly for its provision of views over the surrounding landscape and coast, which is otherwise difficult to view at lower elevations; it is also marked by evidence of a hill-top fort and a cross erected to the north of the summit.

The viewpoint does not lie within a designated landscape.

From the top of the hill, views are panoramic; however, they focus towards the north and the sea and coastal area, specifically the concentrated coastal settlements of Cullen and Portsoy and the distinctive steep isolated hills such as Bin of Cullen. These foci sit within a fairly simple landscape pattern marked by field boundaries and contrasting vegetation in addition to woodland plantations. The convex form of the hill tends to result in foreground screening and a horizontal emphasis of the visual composition – foreground vegetation, the coastal strip, the sea and the sky.

The landscape appears actively managed and human elements form key features within the visual composition, including industrial structures, coniferous tree plantations, intensive agriculture and traffic along the surrounding roads. Boats, too, can be seen out to sea. Hills such as Durn Hill, provide a key vantage point from which this pattern of features and activity can be seen while separated from it within an isolated and tranquil environment.

Although views from this location tend to be directed towards the sea, especially when highlighted by a southerly sun from behind, visibility in this direction is often poor due to coastal cloud, fog or haze. This has the effect of redirecting attention towards the intricate features of the coast, the composition of which are highlighted against the contrasting plain sea backcloth.

Given the visual resource of the viewpoints described above, their sensitivity to the proposed development is judged as the following:

Table 11 Viewpoint sensitivity.

Viewpoint number	Viewpoint location	Sensitivity to type of proposed development
1	Lybster	Low
2	Latheron	Low
3	Dunbeath Heritage Centre	Low
4	Scaraben	Medium
5	A9 Berriedale/Borgue area	Low
6	A9 Navidale	Medium
7	Creag Riasgain	Low
8	Brora golf course car park	Low
9	Tarbat Ness	Low
10	Lossiemouth	Low
11	Durn Hill	Low

3.17 SEQUENTIAL ASSESSMENT

The experience of the landscape as one moves through an area, detected visually and via other senses, is an important element of the landscape and visual resource. For most people, this change is experienced whilst moving either along roads, footpaths or a railway. After considering the visibility of the proposed Beatrice wind turbines as discussed previously, it was considered that there were two main access routes that represented typical sequential changes in landscape experience as listed below and shown in Figure 22.

1 *A9 The Mound – Thurso*

2 *A99 Latheronwheel – John o' Groats*

Each of these routes was assessed for their landscape and visual characteristics, while considering that visibility is strongly affected by the following:

- *angle of the view to the site in relation to the direction of travel*
- *roadside vegetation*
- *local landform*
- *frequency of use*
- *nature of user.*

3.17.1 Route 1 A9 The Mound – Thurso

A The Mound – Brora

From The Mound, views are at first contained by woodland along the coast. They are, nevertheless directed eastwards by the interior hills and the attraction of the bright coastal light. Generally the coastal shelf, sandwiched between the sea and the interior hills, creates a linear landscape with a sense of being upon an edge. The road runs along the interior edge of this landscape, providing views over the simple pattern of the shelf, mainly comprising smooth slopes and a pattern of fields and stone walls.

As the A9 approaches Golspie, the road is more elevated, providing more open views to the sea and revealing the land mass to the south-east and the landmark of Tarbat Ness. Key views are directed towards the north-east.

Through Golspie, views are restricted by buildings. However, from Dunrobin, the road becomes more elevated again and views are directed towards the sea, attracted by coastal features such as historical structures, e.g. Carn Liath. The main road acts as a prominent linear feature within the landscape; however, this form is also reinforced by the railway that seems to impede views to the coast along some stretches.

Near to Doll, the landform becomes more variable which, in combination with the random pattern of houses, intermittently screens views. There is a short stretch of open ground south of Brora, where views are directed towards the sea, before village buildings again screen views from the A9.

B Brora – Navidale

Leaving Brora, views tend to be focused towards the coastal hills rather than offshore; however, as the hills become closer to the coast again and the A9 becomes more elevated, views are again directed towards the sea. Linear groups of houses occur at fairly regular intervals along this section of the coast, creating a rhythmic pattern and reinforcing the linearity of the landscape.

Around Crakaig, the existing oil platforms become more noticeable. These appear as isolated distant features, related to other isolated foci along the coastal shelf such as occasional large houses or churches. They do not compromise the simplicity and overriding horizontality of the coastal views.

Proceeding further north towards Helmsdale, the existing oil platforms are seen more to the side of the main views so that they appear less noticeable. Then the road descends closer to sea level and views are focused upon the settlement of Helmsdale itself, while coastal views are distracted by the railway line that runs between the main road and the coast.

Rising out of Helmsdale, there are a multitude of features near to the road before, at Navidale, views open out over the coastal shelf to the sea, directed outwards by the coastal hills. Here, the landscape pattern is simpler and less distracting.

Between Achrimsdale and Gartymore, the A9 passes through a proposed AGLV.

C Navidale – Dunbeath

From Navidale, the A9 bends around the braes towards the north-west so that views are directed towards the inland slopes, before it curves back out towards the east. Along this latter stretch, views are directed towards the existing platforms before the route passes onto a recently upgraded stretch of road. This is edged on the coastal side by gently rising verges which limit views to the sea until the A9 reaches the Ord of Caithness. As you pass this point, views open up and there is an increasing prominence of the adjacent large scale rounded hill forms. Within this area, the simplicity of landform and heather vegetation cover generally creates a simple visual composition, although this is compromised by the incongruous features of coniferous plantations and powerlines. Along this stretch of the A9, the existing platforms are visible, but they tend to be seen as just one part of a very wide horizon, so they do not appear prominent.

At Berriedale, views tend to be focused upon the road and in front on account of the road terrain. Within this field of view, Langwell House and its wind turbine, in addition to Berriedale Water and neighbouring houses, tend to be seen as foci. However, above Berriedale braes to the north, there is a marked change in experience as the landscape and views open up to reveal a broad and mixed composition of houses. These tend to form an informal linear pattern, but seem loosely related to the coastline and thus direct views towards the sea.

Proceeding further north towards Dunbeath, the views open up even further and are led along the coast northwards. There is an overriding horizontal emphasis whereby the land and sea horizon seem to be at a similar level and views pass smoothly between them. Looking to the north, there is a mixed patchwork of vegetation colours and texture in addition to a scattering of houses and lines of pylons. Within this composition, the hill form and masts of Ben-a-chielt appear as a distinctive landmark.

Between Ousdale and Berriedale, the A9 passes through a proposed AGLV.

D Dunbeath – Latheron

Entering Dunbeath, mature trees near to the road, that form part of the Dunbeath Castle Garden and Designed Landscape, act as a gateway feature. Then, as the road curves and descends towards the village, views are briefly directed towards the Buolfruich wind farm, whose vertical form, movement and formality of pattern attracts attention by its incongruity before views focus upon the main road overpass. The scale of this structure seems to dominate and overshadow the underlying character of the village below. It also forms a dominant linear feature within views, despite a multitude of other elements within the surrounding landscape such as houses, field boundaries and powerlines.

Rising above Dunbeath, the horizontal emphasis of views is regained, with a scattering of built features within the foreground, leading down towards the coast. The pattern of the landscape is difficult to discern within this area, as the coast acts as the only obvious feature to which elements relate. Regular foci do occur however, mainly at bridging points that are emphasised by a descent and curve of the A9 to pass over the watercourse and usually a focus of buildings and/or road intersection.

North of Dunbeath, the existing oil platforms are less prominent within coastal views as they appear to the side of the key views towards the north-east, rather than within the driver's cone of vision.

E Latheron – Thurso

From Latheron, the A9 ascends up through an area that seems transitional in character, away from the settled landscape along the coast, but not yet within the open moorland area to the north. This is characterised by marginal land uses such as infrastructure developments and marked by the telecommunication masts upon Ben-a-chielt.

Passing the crofts of Ben-a-chielt, views are directed over the wide expanse of peatland to the north-west. Within these views, the existing wind farm of Causeymire acts a dominant focus, prominent mainly on account of its vertical form, movement of blades, contrast of colour with the vegetation backdrop and contrasting pattern with the otherwise simple open peatland. As the A9 passes the wind farm, views alternatively focus upon other human elements in the view, such as the plantations, powerlines, and quarries. Within this composition, the distinctive form of Spittal Hill is seen as a local focus.

As the A9 passes Spittal, views intermittently pass to other small hills within the surrounding landscape, such as Sordale and Sour, in addition to gently defined river straths. However, generally, there is a mixed composition of elements, for which a pattern is difficult to distinguish, that results in a difficulty to orient.

Approaching Thurso, the landscape becomes more actively managed and simple in pattern, often emphasised by Caithness Flag boundary walls. In this direction, the northern coastal light also becomes an increasingly dominant characteristic in addition to distant sea views.

3.17.2 Route 1a Thurso – The Mound

A Thurso – Latheron

From Thurso, the A9 rises up to the south, passing through a landscape that is largely agricultural in character, although views down to the River Thurso and surrounding hill tops, reveal local areas of less intensive land management. Generally, views are limited through this area by foreground features, such as field boundaries and buildings. The Georgemas road junction is also marked by a railway loading yard. From here, views are directed over the undulating open ground to the south-west and away from the rising slopes of Spittal Hill. These views reveal an open landscape and mixed composition of woodland, fields and houses, in addition to power lines.

At Mybster, views suddenly open up to the south-west across the open peatlands that form the eastern edge of the Flow Country. These views are dominated by the Causeymire wind farm, which is seen from this area as accommodating a marginal area of plantations, marginal croftland, powerlines and quarrying.

Once past the Causeymire wind farm, views are directed over the simple peatlands towards the distant and prominent hill range that includes Scaraben, Morven and Maiden Pap. These views are undistracted by the powerlines which, south of El Sub Station, run along the eastern side of the A9. To the south-west, the visual composition appears very simple – comprising a foreground and midground of simple peatland vegetation that extends far into the distance under wide open skies.

Travelling further south, Buolfriuch wind farm becomes increasingly prominent to the south-west, compromising views to Scaraben and Morven. It appears to contrast to the horizontal emphasis and simplicity of the surrounding landscape with its vertical lines and formality of pattern. In addition, the hill form of Ben-a-chielt and its telecom masts become an increasingly prominent feature that marks the approach to Latheron.

B Latheron – Dunbeath

At Latheron, the junction of the A9 and A99 marks a changing emphasis of views to the coastline from the open moorland to the north. From this area, views are directed down the coastal slopes out to sea and towards the existing oil platforms. Along this stretch of road, the buildings and bridging point of Latheronwheel mark a distinctive focus; otherwise elements seem informally arranged along the coastal landscape.

C Dunbeath – Navidale

Dunbeath is notable for the road overpass of the river and village, which sweeps around in a curve, directing the eye outwards and to the scattering of crofts to the north and west of the settlement. From Dunbeath, the road ascends towards the Mains, during which views tend to be directed along the road and limited by the landform either side. From Ramscaigs, views are once again more open and elevated and directed towards the sea. Within this area, there is a distribution of residences that broadly relates to the linear form of the coast; however their variation of spacing, detailed orientation and style conveys a lack of clear pattern or cohesion. Exacerbated by mixed land use that includes powerlines, tracks and telecommunication masts, this creates a fairly confusing composition of elements.

As the road descends towards Berriedale, views become more contained by the landform and focused upon the route in front and the cluster of buildings around the river bridging point. This focus of views towards foreground details is complemented by a marked sense of enclosure and shelter that continues up towards Croc na Croiche. From here, the landscape seems markedly simple in composition, mainly comprising the forest plantations, the main road, pylons and simple moorland slopes. Views to the sea are largely screened by the convex nature of the coastal landform. This character of landscape largely continues as far as Navidale although, further to the west, the landscape opens up as the road winds around and over a series of ridges and glens, and views intermittently directed between the interior hill moorland and out to sea over elevated slopes.

D Navidale – Brora

From Navidale, the main road descends into the concentrated settlement of Helmsdale that is focused around a harbour and bridging point and where the historic importance of the sea is clearly evident in the distinct architecture of old merchant and fisherman residences. South of Helmsdale, the road seems pinned along the coastal edge, edged by interior hill slopes on one side and the railway and coast upon the other. However, beyond Portgower, the road runs along the interior edge of a distinct coastal shelf. This area comprises a marked composition of simple, interior moorland hills above a linear raised platform with a formal field pattern and occasional built foci, running down to the railway and coastal edge. Through this area, views from the road tend to be directed either to the south or east over the platform, with the sea forming a simple backcloth to the foreground and midground pattern of elements. Approaching Brora, the coastal hills retreat to reveal a coastal plain fanning out either side of the river. This area accommodates a mixed pattern of residences and agriculture, with an interior emphasis of views.

E Brora – The Mound

South of Brora, the A9 runs along a brief section of coastal shelf again, although the contrast of landform profile is less distinct along this stretch and greater enclosure is created by adjacent woodland. Along this section, Dunrobin Castle forms the most prominent focal point, seen as a distinct point feature rising above the woodland and overlooking the sea to the east.

From Dunrobin, views to the sea become largely screened by woodland or built features, instead focusing within the settlement itself and the overshadowing presence of Beinn a' Bhraigaidh behind with its distinct profile, simple texture, dark vegetation colour and landmark feature – the Duke of Sutherland monument. South of Golspie, there is again a section of coastal shelf, with views being directed south by interior steep slopes and passing across a formal landscape pattern of agricultural fields. This pattern is emphasised along this stretch of the A9 by distinctive stone walls and hedgerow trees. Approaching The Mound, views are directed over the Balblair plantations before being screened by road cuttings and adjacent trees before focusing upon Loch Fleet.

3.17.3 Route 2 Latheron – John o' Groats

A Latheron – Wick

From Latheron, the A99 broadly runs parallel to the coast over a fairly open and gently sloping landscape. Views within the foreground tend to be intermittently screened by buildings and roadside features so that views to the sea are only fleeting. Generally there is an informal scattering of houses throughout the landscape, with no obvious landscape pattern or limiting physical features; however, some concentrated settlements occur such as Lybster. There is an overriding horizontal emphasis of visual composition within this area, so that the sea horizon seems to extend fairly seamlessly from the onshore skyline.

North-east of Clyth, the landform changes markedly, becoming intricately undulating. This results in a containment of views within the area, focused towards the tops of small scale knolls such as the Hill of Yarrows and Warehouse Hill – the vertical form of which is emphasised by a number of small lochs and lochans. Within this area, there is a high number of archaeological features which create a distinct sense of history. Views to the sea tend to be limited to the hill tops.

The landform is again simple and gently sloping between Thrumster and Wick. Along this stretch of the A99, views mainly focus within the immediate setting, including on the masts at Thrumster and Loch Hempriggs. Views only tend to be directed towards the sea in the distance, as the sloping landform screens direct views towards the coast within the foreground.

B Wick – John o' Groats

North of Wick, the landscape is overwhelmingly open and horizontal in emphasis, with wide open views passing over a largely agricultural landscape. It is often difficult to discern the landscape pattern within this area, despite formal lines of fields and roads, due to it being overlain over almost flat ground. This means it is also often difficult to orient within the landscape. As such, distinct features such as the Reiss Lodge or Ackergill beach create valuable landmarks within the area.

North of Reiss, views pass across Sinclair's Bay. The A99 then follows a route closer to the sea, running roughly parallel to the coast. Along this stretch, there is a fairly informal scattering of residences; however, the pattern of these generally cannot be clearly discerned unless seen directly against a land backdrop such as at Skirza. Within this area, the emphasis of the landscape and visual composition remains horizontal, with a dominant sense of exposure beneath wide skies and an intense clarity of light. In this landscape, any vertical element stands out, e.g. Auckengill Tower, particularly at times when the sun is at a low angle in the sky.

Further north, the moorland surrounding Warth Hill creates a simple buffer to complex patterned crofting settlements to the north and south, and links the area back into the interior. However, at John o' Groats, the emphasis is back towards the sea and specifically the northern coastal edge, marked in places by high and dramatic sea cliffs. From this area, there is an overwhelming dominance of the sea – from the sense of exposure, sound of waves, coastal light and experience of changing weather conditions, to views along the coast to offshore islands and boats out to sea, and a distinct flora and fauna.

3.17.4 Route 2a John o' Groats – Latheron

A John o' Groats – Wick

Travelling south from John o' Groats, there is a mixed pattern of buildings, fences and fields visible within an overwhelmingly open and horizontal landscape. The presence of the coast nearby is evident by the distinctive light, habitat and vegetation conditions; however views to the coastal edge tend to be screened by the slope of the landform; views along the road are often unclear also, because of looking towards the prevalent direction of the sun.

The open moorland surrounding Warth Hill marks a change in emphasis, from the north to the east coast, and the main A99 starts to follow parallel to the coastline. Glimpse views are directed towards the interior moorland to one side, and the sea to the other; however these are interrupted by the presence of crofting settlements and residences that occur at fairly regular intervals along this route.

Proceeding towards Keiss, views are directed across Sinclair's Bay and the prominent linear feature of the Ackengill beach and links and the point foci of Castle Sinclair and Noss Head. The main road pivots around parallel to the bay, passing through an open and very exposed landscape. Within this composition, large industrial pipes are often seen around the Keiss coastal works, creating prominent human-made features.

From Reiss, views pass over the agricultural land around Aukergill towards the runway areas of Wick Airport and the east coast. The landscape pattern is formal and large scale in pattern so that point features stand out. The northern edge of Wick is fairly abrupt in contrast to this openness, with a mixture of commercial, industrial and residential buildings forming the entrance to the town.

B Wick – Latheron

Exiting Wick, the main A99 road is very straight and views tend to be directed straight along it towards the prominent masts at Thrumster, with coastal views screened by landform slopes. The landscape is overriding horizontal in emphasis. It is also very open and is agricultural in character with dispersed residences and farm building clusters. Travelling past Whiterow, views temporarily focus upon Hempriggs and the small hills beyond, before ascending to the focus of Thrumster. Further south, the road enters an area of small scale undulating hills and lochs and lochans around Yarrows. It is upon some of these local undulations that views are again directed out to sea, albeit intermittently screened by foreground features and slopes. Along some stretches, the line of these views focus directly upon the existing Beatrice oil platforms in the distance which act as a key focal feature within the open sea.

From Clyth, views alternate further depending on the elevation of the road, steepness of slopes either side and foreground features and landscape pattern. However along elevated and open stretches, views tend to be directed towards the sea to the south west and the distant silhouette of the Scaraben and Morven mountain range towards the west. Both these areas provide a valuable simple backdrop to the complex pattern of the landscape within the foreground.

Given the nature of the landscape and visual resource described above, the following table lists the sensitivity of separate sections of the sequential routes.

Table 12 Sensitivity of sequential landscape and visual resource to the proposed development type.

Route number	Route location	Section number	Section location	Landscape sensitivity	Visual sensitivity
1	The Mound – Thurso	A	The Mound – Brora	Low	Low
		B	Brora – Navidale	Low	Low
		C	Navidale – Dunbeath	Low	Medium
		D	Dunbeath – Latheron	Low	Low
		E	Latheron – Thurso	Medium	Medium
1a	Thurso – The Mound	A	Thurso –Latheron	Medium	Medium
		B	Latheron – Dunbeath	Low	Low
		C	Dunbeath – Navidale	Medium	Medium
		D	Navidale – Brora	Medium	Low
		E	Brora – The Mound	Low	Low
2	Latheron – John o’ Groats	A	Latheron – Wick	Low	Low
		B	Wick – John o’ Groats	Low	Medium
2a	John o’ Groats – Latheron	A	John o’ Groats – Wick	Low	Medium
		B	Wick – Latheron	Low	Medium

3.18 LANDSCAPE AND SCENIC VALUE

Landscape and scenic designations within the study area are shown in Figure 1. References to these designations, as they affect the sensitivity of the landscape and visual resource, are included within the descriptions of baseline conditions for these aspects. However a description of these designations is included below.

3.18.1 National Scenic Areas (NSAs)

NSAs are areas that are nationally important for their scenic quality, established by Order of the Secretary of State in 1981. Their sensitivity to change would usually be high. There are no NSAs within the study area.

3.18.2 Proposed Areas of Great Landscape Value (AGLVs)

Within the Highlands, AGLVs were selected mainly in the past to protect small local areas of scenic and recreational value. However, within the Highland Council Structure Plan (2001), a number of large proposed AGLVs were identified. These are generally areas that are seen as complementing the existing suite of NSAs. Confirmation of these proposed AGLVs will occur through the process of updating and replacing Local Plans within the Highlands. Given the regional or local importance of proposed AGLVs, these will usually be judged as having at least medium sensitivity to change.

There is one proposed AGLV lying within the study area as listed below and shown within Figure 1:

AGLV 1 – East Caithness hills and the Flow Country, extending to the Berriedale coast

However, an additional AGLV 2 lies just outside the eastern edge of the study area, extending from the Lothmore coast west across the coastal hills to Loch Fleet.

3.18.3 Inventory of gardens and designed landscapes

Sites listed in the Inventory of Gardens and Designed Landscapes are not statutory designations, but are protected through policies within the Structure Plan and are thus considered to usually have at least medium sensitivity to change. Gardens and Designed Landscapes included in the Inventory which lie within the study area are listed below.

Table 13 *Inventory sites of garden and designed landscapes.*

Entry	Grid reference	Assessment of Visual Significance
1 Langwell Lodge	ND 114 228	Scenic: Outstanding
2 Dunbeath Castle	ND 158 282	Scenic: Outstanding

3.18.4 Wild land and wildness

Wild land can be described as extensive areas where wildness (the quality) is best expressed. Within NPPG 14 wild land is defined as “uninhabited and often relatively inaccessible countryside where the influence of human activity on the character and quality of the environment has been minimal”. SNH states¹ that its policy aim is that “there are parts of Scotland where the wild character of the landscape, its related recreational value and potential for nature are such that these areas should be safeguarded against inappropriate development or land-use change.” The policy identifies a “preliminary search map for areas of wild land”. It states that the purpose of this is not to “delimit wild land, but to act as a starting point for review of where the main resource of wild land is most likely to be found”.

Search Areas for Wild Land (SAWL) are not a designation. However, planning authorities are required to take great care to safeguard areas of wild land character including assessment of development outwith these areas that might adversely affect them (NPPG14). Wild land, by its nature of openness and lack of development, tends to have a high sensitivity to change.

No SAWLs occur within the study area. However one SAWL is located upon the boundary of the north western edge of the study area. This area encompasses a wide area of interior peatland, known commonly as the Flow Country, in addition to the distinctive hills of Morven, Scaraben and Ben Alisky.

¹ SNH policy statement *Wildness in Scotland's Countryside 2002*.

4 POTENTIAL LANDSCAPE AND VISUAL IMPACTS

The proposed development would potentially have the following key impacts:

Landscape impacts:

- *introduction of a human-made element which forms a feature within the land and seascape and may reinforce the industrial character of existing features within the local area*
- *introduction of moving elements that would relate to the sense of exposure within the landscape, although movement of the WTG blades would rarely be discernible from the shore due to their far distance*
- *introduction of a feature that relates in its function to existing energy features within the landscape*
- *introduction of a feature that will act as a size indicator within the seascape whose scale and distance is otherwise difficult to discern*
- *the reinforcement of an existing landmark within the area.*

Visual impacts:

- *the introduction of a focal point within the land and seascape*
- *introduction of large scale vertical elements (wind turbines) within the landscape*
- *the creation of pattern in the relative arrangement of the wind turbines to each other and the existing platforms, changing the sense of simplicity of the visual composition*
- *introduction of a feature that will contrast in colour and texture to the surrounding seascape*
- *the introduction of lights within the seascape, although these will not be visible from the mainland.*

During construction, these impacts will, in the short term, be supplemented by additional impacts as listed below:

- *movement and presence of construction vessels to and on site*
- *erection of the wind turbines.*

5 MITIGATION

The proposed wind turbines have been sited according to two major factors as follows:

- *the presence of existing oil and gas infrastructure on the seabed around Beatrice*
- *the topography and depth of the seabed.*

No adjustments were recommended on landscape and visual grounds to the proposed siting. This was for two reasons: firstly it was provisionally assessed that the proposed wind turbines were sited in an arrangement that related well to the local landscape, seascape and visual resource; and, secondly, no scope for amendment was considered feasible on account of technical and practical limitations. The proposed wind turbine design was selected for its technical specification and energy output. Once again, no adjustments to this were recommended on landscape and visual grounds for the same reasons as described above with regards to turbine siting.

6 RESIDUAL IMPACTS

This section describes the residual landscape, seascape and visual impacts arising from the proposed wind farm development.

6.1 LANDSCAPE AND SEASCAPE RESOURCE

6.1.1 Local landscape character areas

This section describes the predicted landscape impacts upon distinct areas of combined landscape character types as listed in Table 6.

Landscape area 1 – Navidale Coastal Shelf

The proposed wind farm would be visible from most east facing slopes within this area, apart from around Ousdale and Borgue Langwell. However, as the hill landform is convex and curvaceous, views would be intermittently obscured and revealed as one moves through the landscape. Where visible, the wind turbines would be seen as two very distant elements located quite close to the existing platforms. They would appear as very small and minor features and not directly associated with the character of landscape onshore. As such they would not appear to greatly affect the existing sense of remoteness or rural character. Collectively the wind turbines would also appear as a single feature from this area that relates to the simplicity of land cover.

The movement of the wind turbine blades would be unlikely to be discernible from this area due to their far distance away. The red flashing lights upon the proposed turbines would not be visible from this area (visibility up to 20km from the turbines).

These impacts would not vary greatly during the proposed construction phase, although there may be increased activity in the form of boat movements, and a greater complexity of image due to construction machinery.

The existing Causeymire and the proposed Kilbraur wind farms would not be visible from within this area. However the existing Buolfruch and proposed Dunbeath and Gordonbush wind farms would be visible from the top of some of the coastal hills such as Creag Thoraraidh and Cnoc Bad Asgaraidh. These would appear as very minor and distant elements within the landscape, isolated with large areas of open landscape in between. They would obviously relate to each other and the proposed Beatrice wind turbines in function. However they would seem as separate and isolated foci and the proposed Beatrice wind turbines would appear more closely related to the existing oil platforms out to sea than the other onshore wind developments.

Landscape area 2 – Interior Hills

The proposed wind turbines would be visible from just the highest east facing slopes within this area. As such, they would only be visible when there is a wide panorama of view in many different directions and containing many different elements. Where and when visible, the wind turbines would be seen as two very distant elements located quite close to the existing oil platforms, but quite distant from the coast and thus would not seem to impinge upon the hill area itself. They would be seen beyond a midground coastal landscape that contains many human features, and thus not appear incongruous in character, nor seem to affect the existing sense of remoteness evident within the hill area. Collectively the wind turbines would appear as a single feature from this area and would not seem to compromise the simplicity of the pattern within this landscape.

The movement of the wind turbine blades would be unlikely to be discernible from this area due to their far distance away. In addition, the red flashing lights upon the proposed turbines would not be visible from this area (visibility up to 20km from the turbines).

These impacts would not vary greatly during the proposed construction phase, although there may be increased activity in the form of boat movements and a greater complexity of image due to construction machinery.

All of the existing and proposed wind farms considered by this assessment would be visible from some of the tops of the high hills within this area, apart from Kilbraur. Cumulative visibility would be particularly significant, however, from the area around the Scaraben ridge. Visibility of different wind farms from Scaraben are described within the viewpoint assessment for this location, viewpoint 4 and cumulative visibility is shown within the cumulative wireline, Figure 23. Although the proposed Beatrice wind turbines would seem to reinforce a line of developments that would appear to form a loose arc around this area, from the north to the east to the south-east, it would appear as only a tentative link between the other developments by comprising of only two turbines and being separated from the other developments by wide areas of open space.

Landscape area 3 – Interior Moorland and Marginal Crofting

The proposed wind turbines would theoretically be visible from most east facing slopes within this area. However, within many of these locations, views would be screened by foreground features such as forest plantations and buildings. In addition, where visible, the prominence of the turbines would often be diminished by the distracting influence of elements within the landscape pattern such as buildings, fencelines and telecom masts.

From this area, the proposed turbines would appear as very small and minor features within the open sea, most obviously associated with the adjacent platforms rather than onshore elements. Collectively with the platforms, the proposed turbines would seem to form a simple, concentrated and isolated feature that does not further exacerbate the confused pattern of elements on shore. As such, they would have a positive effect.

The movement of the wind turbine blades would be unlikely to be discernible from this area due to their far distance away. In addition, the red flashing lights upon the proposed turbines would not be visible from this area (visibility up to 20km from the turbines).

These impacts would not vary greatly during the proposed construction phase, although there may be increased activity in the form of boat movements and a greater complexity of image due to construction machinery.

The Buolfruich, Dunbeath and/or Causeymire wind farms are visible from much of the interior moorland and hills within this area, with more visibility of Buolfruich and Dunbeath in the south-west and more of Causeymire in the north-east, with small areas of overlap in between. In contrast, the proposed Kilbraur and Gordonbush wind farms would either be over 35km away or not visible. From within this area, dominant landscape characteristics relate to the interior moorland character and, as such, the proposed Beatrice wind turbines would seem removed from this, more closely associated with the existing offshore oil platforms rather than onshore developments. However, there would be some association of function by which the proposed Beatrice wind turbines may seem to extend the effect of the interior wind farms further to the south-east.

Landscape area 4 – South East Caithness Coastal Shelf

The proposed wind turbines theoretically would be visible from most coastal parts of this area, although visibility would often be limited a small way inland by the coastal landform. As the emphasis of views within this area is towards the sea, the wind turbines would appear as a key feature within offshore views. They would appear as very small and minor elements within the distance, forming part of an existing cluster that includes the existing platforms, rather than being directly associated with onshore features. As such, they would not exacerbate the existing complexity of pattern within the landscape and, rather, would distract attention from this by emphasising the focus offshore.

Although, by reinforcing the existing point feature of the platforms, the proposed turbines would contrast to the characteristic horizontal emphasis of the land and seascape, their small size within views would mean that they would not appear to compromise this quality, nor the overwhelming sense of openness and simplicity, of coastal views.

The movement of the wind turbine blades would be unlikely to be discernible from this area due to their far distance away. In addition, the red flashing lights upon the proposed turbines would not be visible from this area (visibility up to 20km from the turbines).

These impacts would not vary greatly during the proposed construction phase, although there may be increased activity in the form of boat movements and a greater complexity of image due to construction machinery.

The existing Causeymire wind farm and proposed Kilbraur and Gordonbush wind farms would not be visible from this area. The existing Buolfruch and proposed Dunbeath wind farms would potentially be visible from some elevated parts near to the coast as shown on Figures 8 and 9, although local screening may occur by foreground features. From this landscape area, characteristics tend to directly relate to the coast. This means that, if the separate wind energy developments would be seen in the directions of both coastal and inland areas, this balance would change, with the focus of attention split. This would have the effect of seeming to reduce the distinction between these areas.

Landscape area 5 – Yarrow Cnochs

The proposed wind turbines would theoretically be visible mainly from the southern part of this landscape area. However, even from here, visibility would be patchy on account of local screening by the undulating landform and foreground features. As views from this area do not particularly focus towards the sea, apart from the highest hill tops, the proposed wind turbines would not typically appear prominent from within this area.

From this area, where visible, the proposed turbines would appear as very small and minor features within the open sea, most obviously associated with the adjacent oil platforms, to create a collective minor focus. As such, they would not seem to impinge upon the remote and semi-enclosed character of this area and would, rather, reinforce the foreground landscape pattern that also comprises a patchy composition of point features.

The movement of the wind turbine blades would be unlikely to be discernible from this area due to their far distance away. In addition, the red flashing lights upon the proposed turbines would not be visible from this area (visibility up to 20km from the turbines).

These impacts would not vary greatly during the proposed construction phase, although there may be increased activity in the form of boat movements and a greater complexity of image due to construction machinery.

The existing Causeymire and Buolfruch wind farms are not visible within this area and the proposed Kilbraur and Gordonbush wind farms lie over 35km away and thus would not likely result in significant impacts. However the proposed Dunbeath wind farm would be visible from one small part of this landscape area, near to Warehouse Hill. From here the two developments would be seen in different directions and of very different character; Dunbeath seen in the distance within a mixed composition of hills and built elements, and Beatrice seen within the open sea as an isolated feature. As such, the proposed Beatrice wind turbines would not appear closely associated to the Dunbeath development.

A summary of the predicted landscape impacts of the proposed development on the local landscape character areas as described above is provided below:

Table 14 Summary of landscape impacts of Beatrice wind turbines on local landscape character areas.

Number	Description/name	Construction*			Operation*	
		Sensitivity	Magnitude	Significance	Magnitude	Significance
1	Navidale Coastal Shelf	Low	Low	Slight	Low	Slight
2	Interior Hills	Medium	Low	Moderate	Low	Moderate
3	Interior Moorland and Marginal Crofting	Low	Low +ve and -ve	Slight +ve and -ve	Low	Slight
4	South East Caithness Coastal Edge	Low	Low +ve and -ve	Slight +ve and -ve	Low	Slight
5	Yarrows Cnocs	Low	Low +ve and -ve	Slight +ve and -ve	Low	Slight

Table 15 Summary of cumulative landscape impacts of the Beatrice wind turbines on local landscape character areas.

Landscape area	Sensitivity	Dunbeath & Beatrice		Kilbraur & Beatrice		Gordonbush & Beatrice		Dunbeath, Kilbraur & Beatrice		Dunbeath, Gordonbush & Beatrice		Dunbeath, Gordonbush, Kilbraur & Beatrice	
		Magnitude*	Significance*	Magnitude*	Significance*	Magnitude*	Significance*	Magnitude*	Significance*	Magnitude*	Significance*	Magnitude*	Significance*
1	L	Ne	Ne	No	No	Ne	Ne	L	S	Ne	Ne	L	S
2	M	Ne	Ne	No	No	Ne	Ne	Ne	Ne	L	S	L	S
3	L	L	S	No	No	No	No	L	S	L	S	L	S
4	L	L	S	No	No	No	No	L	S	L	S	L	S
5	L	Ne	Ne	No	No	No	No	Ne	Ne	Ne	Ne	Ne	Ne

+ve = beneficial, -ve = adverse

* All impacts are adverse unless noted or outwith the study area, over 35km away

Sensitivity and Magnitude: No=None, Ne=Negligible, L=Low, M=Medium, H=High

Significance: No=None, Ne=Negligible, S=Slight, Mo=Moderate, Sub=Substantial

6.1.2 Regional seascape units

Navidale Coastal Shelf

A Helmsdale

The proposed development would be visible from some parts of this seascape unit; however, it would not be prominent as views tend to focus in an alternative direction to the south-east. The proposed turbines would seem closely associated with the existing oil platforms and thus also seem to relate to the historic emphasis of the village on the marine environment. However, it would appear as a very distant, isolated feature from this distance and thus would not notably change the existing composition of elements within the land/seascape.

B Navidale – Berriedale

The proposed wind turbines would be visible from most coast facing slopes within this seascape unit, apart from around Ouscale and Borgue Langwell. From these areas, framing by hill slopes and a contrast of shape, positioning and colour to the simple fore and midground visual composition would result in the turbines being seen as a prominent feature that would increase the focus of views upon the sea environment from within this unit. These views, however, tend to occur only intermittently as one moves through the landscape and already focus on the proposed development site on account of the existing oil platforms.

South East Caithness Coastal Edge

A Berriedale – Latheronwheel

The proposed development would be visible along the coastal area of much of this unit. From these areas, the proposed turbines would be seen as a single isolated feature within an overriding horizontal visual composition of land, sea and sky. In this way, they would reinforce the focal qualities and character of the existing oil platforms. They would, however, not be highly prominent on account of the fact that the coastal landscape already contains numerous point foci which distract from these offshore features. In addition, they would also not significantly change the balance of attention between the land and seascape because of the very small proportion of offshore view that they would occupy.

B Latheronwheel – Helman Head

Within this unit, the similar horizontal emphasis of the on and offshore landscape means that the proposed development is unlikely to appear highly prominent as an isolated point feature out to sea, relating as it would to similar point features upon land. The existing focus of views towards the oil platforms would, however, be amplified, increasing the link between the on and offshore environments and reducing the contrasts of texture and pattern between them. This effect would mainly occur from the main A99 road when travelling south and from the ends of settlement access roads at the coast as most buildings are arranged perpendicular to the shoreline.

Table 16 Summary of impacts on the seascape characteristics of the proposed Beatrice wind turbines.

Landscape character area	Unit number	Unit name/description	Sensitivity of receptors	Magnitude of impact*	Significance of impact*
Navidale Coastal Shelf	A	Helmsdale	Low	Negligible	Negligible
	B	Navidale – Berriedale	Low	Medium +ve and -ve	Moderate +ve and -ve
South east Caithness coastal edge	A	Berriedale – Latheronwheel	Low	Negligible	Negligible
	B	Latheronwheel – Sarclet Head	Low	Low +ve and -ve	Slight

+ve=beneficial, -ve=adverse

* All impacts are adverse unless noted

6.2 VISUAL RESOURCE

6.2.1 Viewpoint 1 – Lybster

Predicted view during operation

The two proposed wind turbines would be clearly seen from this viewpoint in good visibility conditions, appearing in the main line of views from the end of the public road; however they would be seen as only minor elements due to the small proportion of the visible expanse of sea that they would occupy. These turbines would be seen closely associated with the existing oil platforms, that are clearly visible, and would collectively appear as a simple and isolated focal feature within the far distance, so that they do not compromise the simplicity of the foreground composition. The existing oil platforms and turbines would be seen to collectively form two, slightly separate, couples.

The proposed wind turbines would appear as a distinctly offshore feature, clearly separated from the nearest land mass by a large visible extent of sea. Nevertheless, they would relate to the local landscape character which includes many prominent built features along this part of the coast.

The complete turbine tower and blades would be visible from this viewpoint, appearing upon the sea horizon. However the movement of the blades would not be clearly discernible at this distance. In addition, the red flashing lights upon the proposed turbines would not be visible from this viewpoint (visible up to 20km from the turbines).

Predicted view during construction

During construction, the main operations that would be clearly visible would be the erection of the wind turbines using cranes in addition to the movement of boats accessing the site. Although visibility of cranes and boats at their base would confuse the distinctive image of the wind turbines' form, it is unlikely that this would have significant impacts given the short timescale of construction and the distance of the viewpoint from the proposed development (26km).

Cumulative impact

The ZTVs te that the existing Buolfruich wind farm and proposed Dunbeath wind farm could theoretically be visible from this location. However, the existing Buolfruich wind farm could not be seen while on site due to screening from adjacent buildings and it is predicted that the proposed Dunbeath wind farm would also not be visible for the same reason. Consequently the proposed Beatrice wind turbines would have no cumulative impact on the visual resource from this viewpoint.

6.2.2 Viewpoint 2 – Latheron

Predicted view during operation

The two proposed wind turbines would be clearly seen from this viewpoint in good visibility conditions, appearing prominent in offshore views. The proposed turbines would be seen in close association with the existing oil platforms and appear in a similar arrangement to them, as a closely spaced couple, as shown in detail within Appendix II. The prominence of these features results mainly from their isolation within a wide expanse of open sea, the direction of views towards them by the sloping landform and a lack of competing foci. Nevertheless the proposed wind turbines would appear as only small elements within the view and would collectively appear as a simple and isolated focal feature in the far distance, sufficiently separated from the coast that they do not seem to confuse the simplicity of the foreground visual composition.

Movement of the proposed wind turbine blades would not be clearly discernible at this distance (28km). In addition, the red flashing lights upon the proposed turbines would not be visible from this viewpoint (visible up to 20km from the turbines).

Predicted view during construction

During construction, the main operations that would be clearly visible would be the erection of the wind turbines using cranes in addition to the movement of boats accessing the site. Although visibility of cranes and boats at their base would confuse the distinctive image of the wind turbines' form, it is unlikely that this would have significant impacts given the short timescale of construction and the distance of the viewpoint from the proposed development.

Cumulative impact

The ZTVs in Figures 8-9 indicated that neither the existing Buolfruch and Causeymire wind farms, nor the proposed Dunbeath wind farm, would be visible from this viewpoint. The proposed Kilbraur and Gordonbush wind farms are located over 35km from this location and thus are unlikely to result in significant impacts. Consequently the proposed Beatrice wind turbines would have no or negligible cumulative impact on the visual resource from this viewpoint.

6.2.3 Viewpoint 3 – Dunbeath Heritage Centre

Predicted view during operation

The two proposed wind turbines would be visible from this viewpoint in good visibility conditions. When visible, these would appear as two very minor elements upon the sea horizon – as a couple of turbines slightly separated from a couple of platforms. As such, the turbines would appear closely associated with the platforms, rather than with the nearest land mass, although they would loosely relate to a number of vertical features within the foreground landscape such as pylons and telecommunication masts and the Buolfruch wind turbines which, although not visible from this viewpoint, can be seen from higher vantage points nearby.

When visible, the turbines would not appear within the centre of the view, but would rather be seen within the southern part of the expanse of sea visible. All of the turbines' tower and blades would be visible, although movement is unlikely to be discernible at this far distance from the viewpoint and the turbines would appear as only isolated minor features due to the small proportion of the visible expanse of sea that they would occupy.

The red flashing lights upon the proposed turbines would not be visible from this viewpoint (visible up to 20km from the turbines).

Predicted view during construction

During construction, it is likely that the only operations that would be clearly visible would be the erection of the wind turbines using cranes as well as additional boat movements. Although visibility of these would confuse the distinctive image of the wind turbines' form, it is unlikely that this would have significant impacts given the short timescale of construction and distance of the viewpoint from the proposed development (26km).

Cumulative impact

Neither the existing Buolfruch nor Causeymire wind farms are visible from this location, although Buolfruch is visible higher up the hill to the south-west. The cumulative ZTVs in Figures 9-10 indicate that the proposed Dunbeath wind farm would be visible from this location while the proposed Gordonbush wind farm would not. The proposed Kilbraur wind farm is located over 35km from the viewpoint and thus is unlikely to result in significant impacts.

From this location, the proposed Dunbeath wind farm would appear upon the skyline to the west. This would appear as a prominent feature, adding to the complex mixed composition of elements within the view. The proposed Beatrice wind turbines would be seen as contrasting to this feature in appearance and setting – seen looking in the opposite direction and as a very distant, isolated and simple feature within the open sea. As such, the Beatrice wind turbines would appear more closely linked in character to the existing oil platforms than the Dunbeath development, although there would be an obvious similarity in their function.

6.2.4 Viewpoint 4 – Scaraben

Predicted view during operation

The two proposed wind turbines would be visible from this viewpoint in good visibility conditions. When visible, these would appear as two very small elements of the view seen near to the existing oil platforms, occupying only a very small proportion of the visible expanse of sea. As such, they would be seen as a minor feature within the panorama that contains many other foci such as the existing Causeymire and Buolfruch wind farms, Ben-a-chielt, the ridge of Scaraben and peaks of Maiden Pap and Morven, and rivers, woodland patches and buildings. Consequently they would appear relatively insignificant as these other features appear more prominent, mainly on account of their shape, pattern, scale or proximity.

All of the wind turbine towers and blades would be seen from this viewpoint, lying below the skyline. They would appear as a couple, similar to the platforms nearby. Due to their isolated position upon the sea, it would require concentrated effort to focus upon these elements from this viewpoint.

The movement of the blades would not be clearly discernible at this distance. In addition, the red flashing lights upon the proposed turbines would not be visible from this viewpoint (visible up to 20km from the turbines).

Predicted view during construction

During construction, it is likely that the only operations that would be clearly visible would be the erection of the wind turbines using cranes. Although visibility of these would confuse the distinctive image of the wind turbines' form, it is unlikely that this would have significant impacts given the short timescale of construction and distance of the viewpoint from the proposed development (32km).

Cumulative impact

The existing Buolfruch and Causeymire wind farms are clearly visible from this viewpoint. The proposed Dunbeath wind farm would also be clearly visible from this viewpoint. It would be seen within part of the view that lies between the foreground horizon of the top of Scaraben and the existing Buolfruch wind farm (as shown in Figures 16j and 17d of the Dunbeath Wind Farm ES) and would appear as a very prominent feature that would dominate the view due to its proximity; this would also result in the wind farm seeming to impinge upon the character and experience of the area despite its obvious separation from the peak itself by its lower elevation. As an addition to this effect, the Beatrice wind turbines would appear as a very minor feature outside the main focus of views towards the proposed Dunbeath wind farm. Given its incomparable positioning, size and pattern within the view, it would seem more closely associated with the existing offshore oil platforms rather than the onshore wind farms, resulting in negligible cumulative impacts in addition to Dunbeath.

The cumulative ZTV presented in Figure 10 indicates that the proposed Kilbraur wind farm would not be visible from this viewpoint. However the proposed Gordonbush wind farm could be seen. Given the distance that this would be from the viewpoint (34km) and the fact that it lies in the direction most commonly facing the sun, it would not be prominent. Rather, it would appear as a very distant isolated element within a broad and mixed composition of hills. In addition to this, the proposed Beatrice wind turbines would appear as a similarly minor and isolated feature, although located within a very different setting and thus appearing to contrast in visual effect.

The key cumulative impact of the Beatrice wind turbines in addition to Buolfrulich, Causeymire, Gordonbush and Dunbeath wind farms would be in appearing as a single element to the south-east that links a loose chain of wind farm developments from the south-west–north-west–north-east as shown in the cumulative wireline in Figure 23. However this would appear as a very tentative link due to the very contrasting visual character visible in these different directions and their apparent wide spacing apart.

6.2.5 Viewpoint 5 – A9 Berriedale/Borgue area

Predicted view during operation

The two proposed wind turbines would be seen from this viewpoint in good visibility conditions. When visible, these would appear as two very small elements of the view on account of their far distance, so that they do not diminish the simple composition of the foreground of coastal views. They would be seen near to the existing platforms, collectively the turbines and platforms forming two, slightly separated, couples. They would appear as a distinctly offshore feature, clearly separated from the nearest land mass.

When visible, the wind turbines would be seen to the east, within the main arc of views, although not in the dominant line of views when travelling along the A9 which is to the north-east or south-east.

All of the turbines' towers and blades would be visible from this viewpoint, appearing to extend below the visible sea horizon. However the movement of the blades would not be clearly discernible at this distance and the wind turbines would appear as isolated minor features due to the small proportion of the visible expanse of sea that they would occupy.

The red flashing lights upon the proposed turbines would not be visible from this viewpoint (visible up to 20km from the turbines).

Predicted view during construction

During construction, the main operations that would be clearly visible would be the erection of the wind turbines using cranes in addition to the movement of boats accessing the site. Although visibility of cranes and boats at their base would confuse the distinctive image of the wind turbines' form, it is unlikely that this would have significant impacts given the short timescale of construction and the distance of the viewpoint from the proposed development (26km).

Cumulative impact

The existing Buolfrulich and Causeymire wind farms are not visible from this viewpoint. In addition, the ZTVs presented in Figures 9-10 indicate that the proposed Gordonbush wind farm would not be visible from this viewpoint, while the proposed Kilbraur wind farm lies over 35km from this viewpoint and thus would be unlikely to result in significant impacts. The ZTV reveals that only the proposed Dunbeath wind farm could be visible from this location.

From here, the proposed Dunbeath wind farm would be seen behind the viewpoint and, if visible, would be seen skylining above the existing complex pattern of built elements on the western side of the A9. As such, it would not appear closely associated with the proposed Beatrice wind turbines that would be seen when looking out to sea to the south-east of the viewpoint. As a consequence, the proposed Beatrice wind turbines would have only negligible cumulative visual impacts in combination with Dunbeath wind farm – contrasting greatly in its appearance on account of its greater distance from the viewpoint, its offshore setting and its clear visibility as a single feature within an open setting.

6.2.6 Viewpoint 6 – A9 Navidale

Predicted view during operation

The two proposed wind turbines would be visible from this viewpoint in good visibility conditions. When seen, these would appear as two very small elements of the view on account of their far distance. They would be seen near to the existing platforms, and thus associated with these rather than the nearest land mass. When visible, they would be seen within the main arc of views to the east. However, due to their isolated position upon the sea horizon on which there are no other features nearby, it would require concentrated effort to focus upon these elements, and they would seem as isolated minor features due to the small proportion of the visible expanse of sea that they would occupy.

All of the turbines' towers and blades would be visible from this viewpoint, skylining upon the horizon. However the movement of the blades would not be clearly discernible at this distance. In addition, the red flashing lights upon the proposed turbines would not be visible from this viewpoint (visible up to 20km from the turbines).

Predicted view during construction

During construction, it is likely that the only operations that would be clearly visible would be the erection of the wind turbines using cranes. Although visibility of these would confuse the distinctive image of the wind turbines' form, it is unlikely that this would have significant impacts given the short timescale of construction and distance of the viewpoint from the proposed development (33km).

Cumulative impact

Neither the existing Buolfrulich or Causeymire wind farms are visible from this location, nor would be the proposed Dunbeath wind farm. Both the proposed Kilbraur and Gordonbush wind farms lie over 35km from this viewpoint and thus would be unlikely to result in significant impacts. Consequently the proposed Beatrice wind turbines would have no or negligible cumulative impact on the visual resource from this viewpoint.

6.2.7 Viewpoint 7 – Creag Riasgain

Predicted view during operation

The two proposed wind turbines would be visible from this viewpoint in good visibility conditions. When visible, these would appear as two very small elements of the view seen near to the existing oil platforms. These would appear below the sea horizon, close to where the hill landform to the north-east screens views to the sea. As such, the proposed turbines would not appear as prominent elements within the main focus of views towards the surrounding hill peaks or directly out to sea to the east.

Although the proposed turbines would appear as single point features when visible, and thus contrast to the characteristic simplicity of pattern and visual composition within this landscape, they would appear as only a very minor feature, occupying only a tiny proportion of the visible expanse of sea. They would also seem most closely associated with the existing offshore platforms rather than onshore characteristics, and would appear relatively insignificant in contrast to the more prominent foci within the landscape such as the peaks of Beinn Mhealaich, Ben uarie, Beinn Dhorain and Druim Deag.

All of the proposed wind turbines' towers and blades would be seen from this viewpoint, lying below the skyline. They would appear as a couple, similar to the platforms nearby.

The movement of the blades would not be clearly discernible at this distance. In addition, the red flashing lights upon the proposed turbines would not be visible from this viewpoint (visible up to 20km from the turbines).

Predicted view during construction

During construction, it is likely that the only operations that would be clearly visible would be the erection of the wind turbines using cranes in addition to additional boat movements. Although visibility of these activities would confuse the distinctive image of the wind turbines' form, it is unlikely that this would have significant impacts given the short timescale of construction and distance of the viewpoint from the proposed development (41km).

Cumulative impact

The existing Buolfrulich and Causeymire wind farms are located over 35km from this viewpoint and thus would be unlikely to result in significant impacts. ZTVs also indicate that the proposed Dunbeath wind farm would not be visible from this viewpoint. However the proposed Kilbraur and Gordonbush wind farms would be visible to the south-east. The proposed Gordonbush wind farm would be approximately 16km away and the proposed Kilbraur wind farm would be approximately 31km away, so that they would appear as only small features upon the skyline beyond the foreground hills. In this way, the proposed Beatrice wind turbines would relate to these as a minor, distant isolated feature. However it would be seen in an alternative direction and within a very different setting of the open sea, more closely related to the existing oil platforms than the interior mixed hill composition in which Gordonbush and Kilbraur would be seen.

6.2.8 Viewpoint 8 – Brora golf course car park***Predicted view during operation***

The proposed wind turbines would be visible from this viewpoint in only very good visibility conditions. When visible, these would appear as two very small elements of the view on account of their far distance and would occupy only a very small proportion of the panorama visible from this viewpoint. When visible, they would be seen within the main arc of views, to the east. However, due to their isolated position upon the sea horizon on which there are no other features nearby, it would require concentrated effort to focus upon these elements.

Only the blades and tower tops of the proposed turbines would be visible, skylining upon the horizon; however the distinction of these separate elements would not be clearly discernible at this distance and the turbines may actually be mistaken as different elements from this distance, such as boats.

The red flashing lights upon the proposed turbines would not be visible from this viewpoint (visible up to 20km from the turbines).

Predicted view during construction

During construction, it is likely that the only operations that would be clearly visible would be the erection of the wind turbine blades using cranes. Given the distance of the viewpoint from the proposed development (46km), it is unlikely that this would have any significant difference from views of the wind farm when operational as described above.

Cumulative impact

From this viewpoint the existing Buolfrulich and Causeymire wind farms and the proposed Dunbeath wind farms are located over 35km and thus would be unlikely to result in significant impacts, while ZTVs indicate that the proposed Gordonbush wind farm would not be visible. ZTVs also reveal that the proposed Kilbraur wind farm would potentially be visible from this location; however site assessment has shown that the proposed development would not be seen within this area due to foreground screening by buildings. As a consequence, the proposed Beatrice wind turbines would not have any cumulative visual impacts from this viewpoint.

6.2.9 Viewpoint 9 – Tarbat Ness

Predicted view during operation

The two proposed wind turbines would be visible from this viewpoint in exceptionally good visibility conditions, appearing in the main line of views along the path towards the coast. However they would be seen as only very small minor elements due to their far distance away (49km) and the small proportion of sea expanse that they would occupy. In addition, only the proposed wind turbine blades would be visible upon the skyline – the proposed towers would be screened (as illustrated in detail within Appendix II). The existing oil platforms are not visible from this location.

The proposed turbines would be seen in the vicinity of the hill backdrop of east Sutherland that appears to protrude above the distant skyline. Given their clear separation from the viewpoint by a wide expanse of sea, this would result in them appearing most closely related to the distant visual composition, as a distinct offshore feature that does not compromise the simplicity of the visual composition within the foreground.

The red flashing lights upon the proposed turbines would not be visible from this viewpoint (visible up to 20km from the turbines).

Predicted view during construction

On account of the far distance of the proposed development and thus its small image size within views from this viewpoint, there would not be any discernible variation of the impacts described above during the construction phase.

Cumulative impact

The existing Buolfruch and Causeymire wind farms and the proposed Dunbeath wind farm are located over 35km from this viewpoint and thus would be unlikely to result in significant cumulative impacts. ZTVs reveal that the proposed Gordonbush wind farm would not be visible from this viewpoint, although the proposed Kilbraur wind farm could. This would be located approximately 24km away and would appear as a very minor element upon the distant hills. The proposed Beatrice wind turbines would not seem closely associated with this wind farm due to their further distance (49km) and location within a very different visual setting within the open sea. As such, they would only result in negligible cumulative visual impacts.

6.2.10 Viewpoint 10 – Lossiemouth

Predicted view during operation

The two proposed wind turbines would only be seen from this viewpoint during exceptionally good visibility conditions, appearing within the open sea. When visible, they would be seen as very small elements within the view due to their distance (44km) and isolated position within a wide expanse of sea.

Only the proposed turbine blades and hubs would be visible above the skyline; the towers would be screened. The existing oil platforms are also not visible from this viewpoint. The turbines would collectively appear as a simple and isolated feature within the far distance, clearly separated from the nearest land mass by a wide extent of sea and thus not compromising the simplicity of the foreground composition. In this way, they would appear as a distinctly offshore feature, most closely associated with boats seen on the sea, and may even be mistaken as being one of these. Movement of the wind turbine blades would not be discernible at this distance.

The proposed turbines would not appear incongruous to the character of the landscape in which this viewpoint occurs, as this includes many other built developments, including those associated with marine activities.

The red flashing lights upon the proposed turbines would not be visible from this viewpoint (visible up to 20km from the turbines).

Predicted view during construction

On account of the far distance of the proposed development and thus its small image size within views from this viewpoint, there would not be any discernible variation of the impacts described above during the construction phase.

Cumulative impact

All the other existing, approved or proposed wind farms assessed by this study occur over 35km from this viewpoint. Consequently it is judged that the proposed wind turbines would have none/negligible cumulative impact on the visual resource from this viewpoint.

6.2.11 Viewpoint 11 – Durn Hill

Predicted view during operation

The two proposed wind turbines would only be visible from this viewpoint during exceptionally good visibility conditions. When visible, these would be seen against the very distant landform backdrop of east Caithness and Sutherland (as shown in Appendix II). The two turbines would appear as two very small elements of the view on account of their far distance (53km), with one platform lining up to be seen between the two turbines and one seen to the east. The movement of the wind turbine blades would not be discernible at this distance.

When visible, the proposed wind turbines would be seen beyond views towards Sandend and Garron Point, rather than in the main focus of view to the north. Given the visible separation of the turbines from the Moray coast, they would seem more closely associated with the sea and distant Caithness and Sutherland coast than the immediate area surrounding the viewpoint. As such, they would not seem to affect the visual composition of this area.

The red flashing lights upon the proposed turbines would not be visible from this viewpoint (visible up to 20km from the turbines).

Predicted view during construction

On account of the far distance of the proposed development and thus its small image size within views from this viewpoint, there would not be any discernible variation of the impacts described above during the construction phase.

Cumulative impact

All of the other existing, approved or proposed wind farms assessed by this study occur over 35km from this viewpoint. Consequently it is judged that the proposed wind turbines would have none/negligible cumulative impact on the visual resource from this viewpoint.

Table 17 Summary of visual impacts of the Beatrice wind turbines.

View-point number	Location	Sensitivity to proposed development	Construction*		Operation*	
			Magnitude	Significance	Magnitude	Significance
1	Lybster	Low	Low	Slight	Low	Slight
2	Latheron	Low	Low	Slight	Low	Slight
3	Dunbeath Heritage Centre	Low	Low	Slight	Low	Slight
4	Scaraben	Medium	Low	Moderate	Low	Moderate
5	A9 Berriedale/ Borgue area	Low	Low	Slight	Low	Slight
6	A9 Navidale	Medium	Low	Moderate	Low	Moderate
7	Creag Riasgain	Low	Low	Slight	Low	Slight
8	Brora golf course car park	Low	Negligible	Negligible	Negligible	Negligible
9	Tarbat Ness	Low	Negligible	Negligible	Negligible	Negligible
10	Lossiemouth	Low	Negligible	Negligible	Negligible	Negligible
11	Durn Hill	Low	Negligible	Negligible	Negligible	Negligible

+ve = beneficial, -ve = adverse

* All impacts are adverse unless noted

Table 18 Summary of cumulative visual impacts of the Beatrice wind turbines.

Viewpoint no.	Sensitivity	Dunbeath & Beatrice		Kilbraur & Beatrice		Gordonbush & Beatrice		Dunbeath, Kilbraur & Beatrice		Dunbeath, Gordonbush & Beatrice		Dunbeath, Gordonbush, Kilbraur & Beatrice	
		Magnitude	Significance	Magnitude	Significance	Magnitude	Significance	Magnitude	Significance	Magnitude	Significance	Magnitude	Significance
1	L	No	No	No/Ne	No/Ne	No/Ne	No/Ne	No	No	No	No	No	No
2	L	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne
3	L	Ne	Ne	No/Ne	No/Ne	No	No	Ne	Ne	Ne	Ne	Ne	Ne
4	M	Ne	Ne	No	No	Ne	Ne	Ne	Ne	L	Mo	L	Mo
5	L	Ne	Ne	No/Ne	No/Ne	No/Ne	No/Ne	Ne	Ne	Ne	Ne	Ne	Ne
6	M	No	No	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne
7	L	No/Ne	No/Ne	No	No	No	No	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne
8	L	No/Ne	No/Ne	Ne	Ne	No	No	Ne	Ne	No/Ne	No/Ne	Ne	Ne
9	L	Ne/No	Ne/No	Ne	Ne	No	No	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne
10	L	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne
11	L	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne

+ve = beneficial, -ve = adverse

* All impacts are adverse unless noted

Sensitivity and Magnitude: No=None, Ne=Negligible, L=Low, M=Medium, H=High

Significance: No=None, Ne=Negligible, S=Slight, Mo=Moderate, Sub=Substantial

6.3 SEQUENTIAL LANDSCAPE AND VISUAL IMPACTS

Figure 22 shows the sections of the A9 and A99 that would have visibility to the proposed Beatrice wind turbines between The Mound to Thurso and to John o' Groats. Figures 8-10 show from where there would also be visibility to either the existing Causeymire and Buolfrulich wind farms or the proposed Kilbraur, Gordonbush and Dunbeath wind farms. These maps have been used as a tool to assess the sequential impacts of the Beatrice wind turbines in combination with the other wind farms being addressed by this assessment. These impacts are described within the following section.

6.3.1 Route 1 A9 The Mound – Thurso

A The Mound – Brora

From The Mound, the proposed development could theoretically be visible to the north-east, with the two turbines appearing upon the skyline. However this would only be possible where at raised elevations, as visibility of the proposed development within this area at sea level would be prevented by the curvature of the earth. Where visible, only the turbine blades would be seen and the existing oil platforms are out of sight; this visibility however would not occur in the dominant direction of views to the south-east.

Potential visibility shown upon Figure 3, north of Golspie, would be prevented by surrounding woodland and so the proposed wind turbines would not again be potentially visible until the stretch of road between Doll and Brora. Within this area, however, as described within the baseline conditions, the variable nature of the local landform intermittently screens coastal views as well as these being deflected by the route of the railway (and its associated fencing). Where visible, potential views are represented by viewpoint 8, Brora golf course car park, where only the blades of the proposed turbines would be visible.

From the Mound to Brora, the existing Causeymire and Buolfrulich wind farms and the proposed Dunbeath wind farm are located over 35km distant and thus are/would be unlikely to result in significant impacts, while ZTVs reveal that the proposed Gordonbush wind farm would not be visible. Although ZTVs also indicate that the proposed Kilbraur wind farm would theoretically be visible around the Golspie Burn and on the approach to Brora, views from the former area are screened by trees within the foreground and views from the latter would be behind the viewer, to the west.

B Brora – Navidale

North of Brora, although the proposed wind turbines would theoretically be visible, these would not occur within the main focus of views towards the coastal hills as described within the baseline conditions. However, from Crakaig, views are directed towards the existing oil platforms and would too focus upon the proposed wind turbines. Along this stretch the proposed development would appear closely associated with the existing platforms, reinforcing the presence of these as an offshore feature that seems isolated by its location out to sea, but would otherwise relate to other minor foci within the foreground landscape. As such, although the proposed development would be visible, it would not appear to change the intrinsic character of the coastal shelf.

Proceeding further north towards Helmsdale, the proposed development, like the existing oil platforms, would appear less prominent as they are seen to the side of the main views before becoming focused upon the settlement of Helmsdale itself.

Between Brora and Navidale, the existing Buolfrulich wind farm and the proposed Dunbeath, Kilbraur and Gordonbush wind farms would not be visible. The Causeymire wind farm is located over 35km away and thus would be unlikely to result in significant impacts.

C Navidale – Dunbeath

North of Helmsdale, travelling around the Navidale Braes, views would again be directed towards the proposed wind turbines – from here creating a simpler and fairly prominent feature against a simple foreground land and seascape composition. However, along this stretch, the development would only be visible intermittently as the road winds back and forth around the landform and only occasionally is in line to face the proposed wind turbines. Views within this area are represented by viewpoint 6. As can be seen in Figures 16a and 16b, the proposed wind turbines would be seen as two separate elements closely associated with the couple of oil platforms close by. They would collectively appear as a very small isolated feature within the sea.

Over the Ord, the proposed wind turbines would be visible near to the existing oil platforms. However, within these views, they would tend to be seen as just a very small part of the very wide horizon visible and thus would not appear prominent. From here, views would then be screened by the landform, apart from a short stretch north of Ousdale (although, even here, views may be screened by foreground features).

At Berriedale, views to the proposed development would, in the main, be screened by the landform; and, even where theoretically visible, they would not tend to focus on the proposed development as views within this area tend to be directed towards the road and foreground landscape. However, above Berriedale braes, travelling north, the proposed wind turbines would theoretically become visible along most of the A9 as the landscape and coastal views open up. Within this area, the proposed wind turbines would be clearly visible, as represented by viewpoint 5 and shown in Figures 15a and 15b. However, importantly, they would appear to the side of the main focus of views when travelling along the road. As such, they would be seen within brief glimpses away from the road, rather than as a sustained view focused in their direction. Where visible, the turbines would appear partially below the visible horizon and as two distinct elements, closely associated with the existing oil platforms by their proximity and similar pair arrangement.

The study areas of the proposed Kilbraur and Gordonbush wind farms extend only as far as Berriedale and Latheronwheel respectively, so visibility beyond these points is unlikely to result in significant impacts and would thus not be discussed further for this route.

Between Navidale and Dunbeath, the Causeymire wind farm would not be visible. The proposed Dunbeath wind farm would be visible along the A9 south of Berriedale and around Borgue. It would also be visible on the approach to Dunbeath, as too is the existing Buolfuich wind farm. Along this stretch, where the proposed Beatrice wind turbines would also be visible, the Dunbeath and Buolfuich wind farms would appear upon the hills above Dunbeath, their pattern increasing the complexity of the visual composition. In contrast, the proposed Beatrice wind turbines would appear as a simple, single isolated focus within the open sea, more closely associated with the existing offshore oil platforms than the onshore developments.

D Dunbeath – Latheron

Entering Dunbeath, views towards the proposed development would mainly be screened or distracted by existing prominent features within the fore and midground landscape composition. However glimpse views to the proposed wind turbines, as represented by viewpoint 3, may be seen. From here, the proposed wind turbines would appear closely associated with the existing platforms and collectively form an isolated feature that relates to other vertical structures within the foreground landscape, including the Buolfuich wind farm and telecommunication masts upon Ben-a-chielt.

North of Dunbeath, the proposed wind turbines, similar to the existing oil platforms, would become less obvious within coastal views as these would appear to the side of the key direction of view towards the north-east and thus outside the motorist's main cone of vision. Views to the proposed development would also be distracted by the confusing pattern of elements that often occurs within the foreground of this area. However, where visible, as represented by viewpoint 2, the proposed turbines would be seen to form two closely spaced vertical features.

The arrangement of these would appear to relate closely to the existing oil platforms and they would collectively appear as isolated pairs within the open sea.

Between Dunbeath and Latheron, the ZTV in Figure 8 reveals that there would be no visibility of the Causeymire wind farm. However there would be potential visibility of the existing Buolfruch wind farm along this stretch of the road around Latheronwheel, although this is likely to be partially screened by structures and vegetation in the foreground and would be in a direction slightly behind the viewer. There would also be potential visibility of the proposed Dunbeath wind farm around Knockinnon, although this too would require viewing slightly behind the viewer. As a consequence, the proposed Beatrice wind turbines would not result in significant cumulative impacts along this stretch of the A9.

E Latheron – Thurso

From Latheron, the proposed wind turbines would not be visible in views travelling north. Although they could still potentially affect the experience of the landscape as a sequential feature, and specifically the cumulative effect of the Dunbeath, Buolfruch and Causeymire wind farms, it is predicted that this would not occur on account of the fact that previous views to the proposed Beatrice wind turbines along this route would have been seen from a very different character of land and seascape. As such, this would not seem associated or linked to the landscape experience between Latheron and Thurso.

6.3.2 Route 1a Thurso – The Mound

A Thurso – Latheron

The proposed wind turbines would not be visible between Thurso and upper Latheron. When seen near to Latheron however, their form would be more clearly recognisable on account of the fact that the Causeymire and Buolfruch wind farms would have just been passed along this route. Although descending towards Latheron, the proposed wind turbines would be visible, as represented by viewpoint 2, coastal views are not focused straight in this direction and are also distracted by a multitude of foreground elements of the landscape and visual resource.

The proposed Dunbeath wind farm would also be visible along the route between Spittal and Latheron. This development would be seen in the same direction as the Causeymire and Buolfruch wind farms. Cumulatively it would be likely to change the character of this area as a landscape dominated by wind energy. As such, when the Beatrice wind turbines would be visible, approaching Latheron, they could appear to tentatively extend this character area further southwards offshore, almost as a remote outlier.

B Latheron – Dunbeath

From Latheron, travelling south, the proposed wind turbines would be clearly visible from most stretches of the road and attention would be directed towards them by the slope of the land down to sea. However, the proposed turbines, alike the existing oil platforms, would be seen to the side of the main focus of views which is towards the south-west and, as a consequence, would be most likely experienced within brief glimpses as one moves through the landscape. Where visible, as represented by viewpoint 2, the proposed wind turbines would be seen as a distinct pair of vertical elements, closely associated with the existing platforms, but otherwise seen as a small isolated feature upon the horizon.

The proposed Dunbeath wind farm would be visible approaching Latheronwheel and Dunbeath as represented by viewpoint 15 within the Dunbeath ES. From this stretch of road, it can be seen that the proposed Dunbeath wind farm would have significant visual impacts. This means that, if the proposed Dunbeath wind farm was built, it would become the dominant focus of views in this area and thus would distract views away from the proposed Beatrice wind turbines.

C Dunbeath – Navidale

From Dunbeath, travelling south, the proposed wind turbines would be seen out of the main line of view. However they would be visible to the side as represented by viewpoint 5 from the Berriedale/Borgue area; indeed, views may be particularly steered in this direction at times when trying to avoid looking directly into the sun when it is shining from the south-west. When visible, the proposed development would appear as a distinct isolated pair of elements within the open sea, directly associated with the existing oil platforms nearby.

Between Dunbeath and Navidale the existing Causeymire and Buolfruch wind farms and the proposed Dunbeath wind farm are located behind the viewer travelling south. As such, the proposed Beatrice wind turbines would not result in significant cumulative impacts with them. As a consequence, these wind farms are not considered further within this assessment travelling south.

D Navidale – Brora

E Brora – The Mound

From Navidale to The Mound, the proposed Beatrice wind turbines would be seen behind the main direction of views. Although previous visibility can affect the experience of a landscape and visual resource further along a route, it is predicted that this would not be the case along the A9 for the proposed development. This is mainly on account of the fact that, where previously visible, the proposed development would have appeared as a single isolated feature within the open sea that did not change the character of the landscape from which it was viewed. Consequently, it would not seem to change the wider occurrence of that landscape character type if encountered further along the route.

Between Navidale and Brora, ZTVs reveal that neither the proposed Kilbraur nor Gordonbush wind farms would be visible. In addition the Gordonbush wind farm would also not be visible between Brora and The Mound. However the Kilbraur wind farm would potentially be visible when travelling out from Brora and through Doll, seen to the west. Although sequential cumulative impacts can extend along a route even with intermittent visibility, the proposed Beatrice wind turbines would have been last seen approximately 11 miles earlier. Given this distance and the change in landscape character that occurs south of Brora, it is considered that the previous visibility of the Beatrice wind turbines would not result in significant cumulative impacts when Kilbraur is seen within this area.

6.3.3 Route 2 Latheron – John o’ Groats

A Latheron – Wick

Around Latheron, as discussed for route 1 above, the proposed wind turbines would be seen outside the main direction of views towards the north-east. However, where visible to the side of the key views, the proposed wind turbines, as represented by viewpoint 2, would be seen as two small isolated elements upon the skyline, directly associated with the existing oil platforms. Given their visual separation from land, they would not appear to confuse the pattern of landscape elements within the foreground, but would rather relate to other vertical features onshore such as telecommunication masts and pylons (their disparity of scale unimportant due to their distance apart and lack of key scale indicators upon the sea).

Travelling north, Figure 22 indicates that the proposed development would not be visible along the A99 between Thrumster and Wick.

Between Latheron and Wick, the existing Causeymire and Buolfruch wind farms and proposed Dunbeath wind farm would be behind the viewer and thus not be notable within views.

B Wick – John o’ Groats

North of Wick, Figure 22 indicates that the proposed development would not be visible from most areas between Wick and John o’ Groats. There are, however, a few locations from where it would theoretically be visible around Nybster, Hill of Harley and Warth Hill, although, even in these locations, the proposed development would be behind the main line of views towards the north. As such the proposed turbines would not be prominent, exacerbated also by the fact that they would be located over 50km away.

Even when behind the viewer, previous visibility of a feature can affect the experience of the landscape and visual resource further along a route. However it is predicted that this would not be the case along the A99, travelling towards John o’ Groats. This is mainly because, where previously visible, this would have been part of an experience of the landscape that would have been distinctly different in character, with more emphasis to the east than the north; consequently the impacts of the development associated would be restricted to an area to south. In addition, the proposed development would have seemed to relate to the existing character of the onshore landscape and visual resource by appearing as a single isolated feature, for example comparable to other point features such as the tower at Reiss. As such they would not have seemed to change it in any way that would alter the experience of that resource further on.

Between Wick and John o’ Groats, the existing Causeymire and Buolfruch wind farms and proposed Dunbeath wind farm would be behind the viewer and thus not be notable within views.

6.3.4 Route 2a John o’ Groats – Latheron

A John o’ Groats – Wick

Travelling south from John o’ Groats to Wick, Figure 22 indicates that the proposed development would theoretically only be visible within three short stretches at Nybster, Hill of Harley and Warth Hill. All of these locations however are over 50km from the proposed development and thus visibility of the proposed turbines would be limited due to partial screening by earth curvature. Consequently the proposed turbines would only be visible in exceptional visibility and weather conditions and, when visible, would appear as two very distant elements within the open sea expanse.

Between John o’ Groats and Wick, the proposed Dunbeath wind farm would be visible within the Keiss area, as too would be the existing Buolfruch and Causeymire wind farms. Within this area, these would be seen broadly within the same cone of vision when travelling south. They would however appear very different from the proposed Beatrice wind turbines that would have been seen previously as described above. In contrast they would appear as part of a complex and overlapping pattern of elements within the distant interior view, rather than as an isolated and concentrated feature within the open sea.

B Wick – Latheron

Figure 22 indicates that the proposed wind turbines would not be visible between Wick and Thrumster. Between Thrumster and Latheron, travelling south, there would be repeated glimpse views to the proposed wind turbines and existing oil platforms, intermittently screened in between by foreground structures and the coastal landform. Views from within this area are represented by viewpoint 2, Latheron. Views would focus upon the existing platforms and wind turbines when in line with them. From here, they would collectively appear as quite a prominent feature within the open sea, although still appearing small within the visual composition at over 25km away.

Between Wick and Latheron, the existing and proposed onshore wind farms assessed as part of this cumulative study would largely not be visible. However, between Clyth and Latheron, Buolfruch wind farm is visible in patches, while the proposed Dunbeath wind farm would be visible along much of this stretch of the A9, apart from where screened by foreground elements. In combination with these, the Beatrice wind turbines would be seen in the opposite direction to the south-east and would appear very different in character, as a single isolated and distant feature within the open sea. However they would appear similar in function and, in this way, the proposed Beatrice turbines could seem to weakly extend the impact of the onshore wind farms across the area into the offshore environment.

Measures for the potential sequential landscape and visual impacts described above are summarised within the following table.

Table 19 Summary of sequential landscape and visual impacts of the Beatrice wind turbines.

Route	Section	landscape resource			visual resource		
		Sensitivity	Magnitude*	Significance*	Sensitivity	Magnitude*	Significance*
1	A	Low	Negligible	Negligible	Low	Negligible	Negligible
	B	Low	Negligible	Negligible	Low	Low	Slight
	C	Low	Low	Slight	Medium	Low	Moderate
	D	Low	Negligible	Negligible	Low	Negligible	Negligible
	E	Medium	None	None	Medium	None	None
1a	A	Medium	Negligible	Negligible	Medium	Negligible	Negligible
	B	Low	Low	Slight	Low	Low	Slight
	C	Medium	Negligible	Negligible	Medium	Negligible	Negligible
	D	Medium	None	None	Low	None	None
	E	Low	None	None	Low	None	None
2	A	Low	Negligible	Negligible	Low	Negligible	Negligible
	B	Low	Negligible	Negligible	Medium	Negligible	Negligible
2a	A	Low	Negligible	Negligible	Medium	Negligible	Negligible
	B	Low	Low	Slight	Medium	Low	Moderate

* All impacts are adverse unless noted

Table 20 Summary of cumulative sequential landscape impacts of the Beatrice wind turbines.

Section	Sensitivity	Dunbeath & Beatrice		Kilbraur & Beatrice		Gordonbush & Beatrice		Dunbeath, Kilbraur & Beatrice		Dunbeath, Gordonbush & Beatrice		Dunbeath, Gordonbush, Kilbraur & Beatrice	
		Magnitude	Significance	Magnitude	Significance	Magnitude	Significance	Magnitude	Significance	Magnitude	Significance	Magnitude	Significance
1a	L	No/Ne	No/Ne	Ne	Ne	No	No	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne	No/Ne
1b	L	No	No	No	No	No	No	No	No	No	No	No	No
1c	L	L	S	No	No	No	No	L	S	L	S	L	S
1d	L	Ne	Ne	No	No	No	No	Ne	Ne	Ne	Ne	Ne	Ne
1e	M	Ne	Ne	No	No	No	No	Ne	Ne	Ne	Ne	Ne	Ne
1aa	M	L	Mo	No	No	No	No	L	Mo	L	Mo	L	Mo
1ab	L	Ne	Ne	No	No	No	No	Ne	Ne	Ne	Ne	Ne	Ne
1ac	M	Ne	Ne	No	No	No	No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No
1ad	M	Ne/No	Ne/No	Ne	Ne	No	No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No
1ae	L	Ne/No	Ne/No	Ne	Ne	No	No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No
2a	L	Ne	Ne	Ne/No	Ne/No	Ne/No	Ne/No	Ne	Ne	Ne	Ne	Ne	Ne
2b	L	Ne	Ne	Ne/No	Ne/No	Ne/No	Ne/No	Ne	Ne	Ne	Ne	Ne	Ne
2aa	L	Ne	Ne	Ne/No	Ne/No	Ne/No	Ne/No	Ne	Ne	Ne	Ne	Ne	Ne
2ab	L	L	S	Ne/No	Ne/No	Ne/No	Ne/No	L	S	L	S	L	S

Table 21 Summary of cumulative sequential visual impacts of the Beatrice wind turbines.

Route and section	Sensitivity	Dunbeath & Beatrice		Kilbraur & Beatrice		Gordonbush & Beatrice		Dunbeath, Kilbraur & Beatrice		Dunbeath, Gordonbush & Beatrice		Dunbeath, Gordonbush, Kilbraur & Beatrice	
		Magnitude	Significance	Magnitude	Significance	Magnitude	Significance	Magnitude	Significance	Magnitude	Significance	Magnitude	Significance
1a	L	Ne/No	Ne/No	Ne	Ne	No	No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No
1b	L	No	No	No	No	No	No	No	No	No	No	No	No
1c	M	L	M	No	No	No	No	L	M	L	M	L	M
1d	L	Ne	Ne	No	No	No	No	Ne	Ne	Ne	Ne	Ne	Ne
1e	M	Ne	Ne	No	No	No	No	Ne	Ne	Ne	Ne	Ne	Ne
1aa	M	Ne	Ne	No	No	No	No	Ne	Ne	Ne	Ne	Ne	Ne
1ab	L	L	S	No	No	No	No	L	S	L	S	L	S
1ac	M	Ne	Ne	No	No	No	No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No
1ad	L	Ne/No	Ne/No	Ne	Ne	No	No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No
1ae	L	Ne/No	Ne/No	Ne	Ne	No	No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No	Ne/No
2a	L	Ne	Ne	Ne/No	Ne/No	Ne/No	Ne/No	Ne	Ne	Ne	Ne	Ne	Ne
2b	M	Ne	Ne	Ne/No	Ne/No	Ne/No	Ne/No	Ne	Ne	Ne	Ne	Ne	Ne
2aa	M	L	Ne	Ne	Ne/No	Ne/No	Ne/No	Ne/No	Ne	Ne	Ne	Ne	Ne
2ab	M	Ne	Ne	Ne/No	Ne/No	Ne/No	Ne/No	Ne	Ne	Ne	Ne	Ne	Ne

+ve=beneficial, -ve=adverse

* All impacts are adverse unless noted

Sensitivity and Magnitude: No=None, Ne=Negligible, L=Low, M=Medium, H=High

Significance: No=None, Ne=Negligible, S=Slight, Mo=Moderate, Sub=Substantial

6.4 LANDSCAPE AND SCENIC VALUE

The proposed development is not located within any designated landscapes and, as such, would result in no direct impacts upon these. However it would indirectly impact upon a number of designated areas as described below.

6.4.1 Proposed Areas of Great Landscape Value (pAGLV)

The proposed development would be visible from parts of one pAGLV (labelled 1 on Figure 1) within the study area that extends across the east Caithness hills and Flow Country to the Berriedale coast. This area extends along the coastal edge of the pAGLV, along the ridge behind Langwell House and along the eastern side of the Scaraben ridge. This forms just a small part of the entire pAGLV and the proposed development would only be visible along short stretches of the A9 – the access route from which most people experience the area, as shown in Figure 6a. It would however be visible from some parts of the coastal footpaths to Badbea and Croc na Croiche.

Where visible from within the pAGLV, the proposed wind turbines would mainly be seen as a very distant isolated feature, as represented by viewpoints 4 and 5 described above. As such, the proposed development would appear as a distinct offshore element, associated with the existing oil platforms, rather than seeming to impinge upon the qualities of the pAGLV onshore. In addition, the proposed turbines would relate to existing vertical features within the coastal parts of the pAGLV such as the existing electricity pylons and a wind turbine at Langwell.

The proposed development would also be visible from the far north eastern part of a pAGLV that extends from the Lothmore coast west across the coastal hills to Loch Fleet. This lies just outside the study area; however visual impacts are represented by viewpoint 7, Creag Riasgain.

6.4.2 Garden and Designed Landscapes (G&DL)

Within the study area, the proposed development would be visible from only two Garden and Designed Landscapes, Langwell Lodge and Dunbeath Castle, as shown in Figure 1. The characteristics and qualities of these landscapes are described within 'An Inventory of Gardens and Designed Landscapes in Scotland, Volume 3: Highland, Orkney and Grampian' (1987) and 'An Inventory of Gardens and Designed Landscapes, Supplementary Volume 2, Highlands and Islands'.

Dunbeath Castle

The Inventory shows that this G&DL is very small and forms a narrow strip running from the A9 to the coast. The ZTV (Figure 6b) demonstrates that, theoretically, the proposed development would be visible across the entire site. However, views to the development would be limited mainly to the coastal edge and the castle itself due to the screening of views by trees and built features.

Viewpoint 3 represents the nature of views to the proposed development from the area (Figure 13a), while Figure 24 shows a wireline from the G&DL itself. This reveals that the proposed wind turbines would be visible upon the skyline within the centre of the view. They would be seen as very small elements, closely associated with the existing oil platforms, and forming a similar couple arrangement. As such, they would appear as an extension to the existing offshore feature, reinforcing the existing focus of views to the south-east, rather than distracting from the existing direction of attention. The movement of the turbine blades would not be clearly discernible at this distance (approximately 27km).

During construction, it is likely that the only operations that would be clearly visible would be the erection of the wind turbines using cranes as well as additional boat movements. It is unlikely that this would have significant impacts different from the operational impacts described above given the short timescale of construction and distance of the viewpoint from the proposed development.

Langwell Lodge

The Inventory indicates that this G&DL extends from Berriedale along the slopes of the Langwell water. The ZTV (Figure 6a) shows that the proposed development would only be visible from the open parts of the site immediately around the house. From here, views are represented by viewpoint 5 (Figures 15a and 15b), while Figure 24 shows a wireline diagram from the G&DL itself.

The proposed development would appear within the central focus of views that are framed by the glen slopes through which the Berriedale and Langwell waters pass out to the sea. The turbines would be seen closely associated with the existing oil platforms, and seen to take a similar arrangement as a distinct couple. They would appear as two very small elements upon the skyline on account of their far distance (approximately 28km) and the movement of the turbine blades would not be clearly discernible.

During construction, it is likely that the only operations that would be clearly visible would be the erection of the wind turbines using cranes as well as additional boat movements. It is unlikely that this would have significant impacts different from the operational impacts described above given the short timescale of construction and distance of the viewpoint from the proposed development.

6.4.3 Search Area for Wild Land (SAWL)

A proposed SAWL lies near the boundary of the study area for the proposed Beatrice wind turbines. This area encompasses a wide area of interior peatland, known commonly as the Flow Country, in addition to the distinctive hills of Morven, Scaraben and Ben Alisky. Impacts from this area are represented by viewpoint 4 (Scaraben) and local landscape areas 2 and 3, Interior Hills and Interior Moorland and Marginal Crofting respectively.

From the edge of this SAWL, the proposed wind turbines would be visible upon the east facing slopes. However, as represented by viewpoint 4, they would be visible as only very small minor elements within offshore views and seen as only one minor feature within a wide panorama that includes much more prominent foci. In addition, the proposed wind turbines would be seen closely linked to the existing oil platforms, and thus appear as an extension to existing structures, rather than as a new feature.

Given the reasons described above, in addition to the distance of the proposed wind turbines from the SAWL (approximately 36km), the distinct separation of them from this area by a wide open expanse of sea, and the fact that other human elements are obvious within the area in between, the proposed wind turbines would not seem to impinge upon the wildness characteristics and qualities of the SAWL.

As a consequence of the impacts described above, it is judged that the following impacts would occur on areas of landscape and scenic value:

Table 22 Summary of landscape and visual impacts on landscape and scenic value.

		Landscape and visual resource		
Designated Area	Individual area	Sensitivity	Magnitude*	Significance
Proposed Area of Great Landscape Value (pAGLV)	pAGLV 1	Medium	Low	Moderate
Garden and Designed Landscape (G&DL)	Langwell Lodge	Medium	Low	Moderate
	Dunbeath Castle	Medium	Low	Moderate
SAWL (SAWL)	Flow Country and Caithness hills	High	Negligible	Negligible

* All impacts are adverse unless noted

Given the strategic scale of these designations, it is judged that these impacts would not vary to any significant degree between construction and operation phases of the proposed development.

7 CONCLUSIONS

7.1 THE PROPOSED BEATRICE WIND TURBINES

The proposed wind turbines have been sited according to two major factors as follows:

- *the presence of existing oil and gas infrastructure on the seabed around Beatrice*
- *the topography and depth of the seabed.*

No adjustments were recommended on landscape and visual grounds to the proposed siting. This was for two reasons: firstly it was provisionally assessed that the proposed wind turbines were sited in an arrangement that related well to the surrounding land and seascape resource; and, secondly, no scope for amendment was considered feasible on account of technical and practical factors.

The proposed wind turbine design was selected for its technical specification and energy output. Once again, no adjustments to this were recommended on landscape and visual grounds for the same reasons as described above with regards to siting.

7.2 LANDSCAPE IMPACTS OF THE BEATRICE WIND TURBINES

Various combinations of landscape character types as identified within the Caithness and Sutherland Landscape Character Assessment (SNH 1998) were divided into five separate local landscape character areas. Generally the proposed wind turbines would relate strongly to many of the key characteristics of these landscape areas, specifically their large scale, sense of exposure, existing patchy composition of features and existing presence of human-made elements. Most importantly, it would seem closely associated with the existing oil platforms – appearing to complement the energy generation function and focal qualities of these features.

For all local landscape areas, landscape impacts are judged to be of low magnitude. On account of the mainly low sensitivity of these areas, most of the impacts identified are judged as being of slight significance, with moderate significance only occurring within the Interior hills area, reflecting its medium sensitivity. No substantial adverse impacts are identified.

7.3 VISUAL IMPACTS OF THE BEATRICE WIND TURBINES

The proposed development, from most viewpoints, would be seen as a single cohesive feature within the landscape, of similar prominence to existing foci within the onshore landscape such as telecom masts and distinctive low hills, as well as the existing oil platforms seen offshore. Given its distance from the coast, it would appear clearly separated from the onshore landscape and, alternatively, part of the open sea, and the movement of wind turbine blades would rarely be discernible from the mainland. In addition, although the vertical line of the turbines would contrast to the existing platforms and the surrounding horizontal emphasis of the sea, this disparity would appear as a “clean” contrast of line and form on account of the simple composition of elements.

The proposed wind turbines would appear most prominent from the coastal areas that have a simple foreground pattern, and thus less distracting features, especially when which views are directed towards the proposed development. Visibility would mainly occur from southern directions and at high elevations.

Although 11 viewpoints have been assessed as part of the LVIA process, five were chosen mainly to illustrate the nature of visibility rather than for predicted significant visual impacts, as they are located outwith the 35km study area. Of all the viewpoints, impacts have been judged to be of only negligible or low magnitude of visual impact, strongly affected by the fact that all the viewpoints are over 25km from the proposed development (which itself is 22km from the coast). These viewpoints are all of only low or medium sensitivity to the type of development being proposed, mainly reflecting their location within open areas that contain many other built elements.

For the 11 viewpoints, the proposed development would mainly result in only negligible or slight significance of visual impacts, with only two viewpoints resulting in moderate significance of visual impact, reflecting their higher sensitivity. No substantial visual impacts have been assessed.

7.4 SEQUENTIAL IMPACTS OF THE BEATRICE WIND TURBINES

Two sequential routes were assessed in both directions for the proposed Beatrice wind turbines. Generally, however, because of the distance of the proposed development, as previously discussed, most of these would result in no or negligible magnitude of impact, although low magnitude of impacts would occur along some sections. This would result in none, negligible or slight significance of impacts along all sections of the roads apart from one section travelling south between Wick and Latheron and one section travelling north between Navidale and Dunbeath. From these sections, which equate to 51km of a total sequential assessment of 313km, there would be moderate sequential visual impacts. No substantial sequential impacts have been assessed.

7.5 IMPACTS OF THE BEATRICE WIND TURBINES ON AREAS OF LANDSCAPE AND SCENIC VALUE

The proposed development would have low or negligible magnitude of impact on areas of recognised landscape and scenic value. It would have no significant impact on any NSA. However, it would result in moderate adverse impacts on one proposed AGLV and two Garden and Designed Landscapes, which reflects their medium sensitivity. No substantial significant impacts have been identified on areas of landscape and scenic value.

7.6 CUMULATIVE LANDSCAPE AND VISUAL IMPACTS OF THE BEATRICE WIND TURBINES WITH OTHER WIND FARMS

Consideration of cumulative impacts of the proposed Beatrice wind turbines with the existing Causeymire and Buolfruich wind farms formed part of the baseline conditions. The cumulative LVIA however also considered the combined landscape and visual impacts of the Beatrice wind turbines with the proposed Dunbeath, Kilbraur and Gordonbush wind farms.

Generally the Beatrice wind turbines would appear as a separate isolated feature from these wind farms, seen within a different setting and when looking in a different direction from key viewpoints, e.g. Scaraben. In this way, it would seem more closely associated with the existing offshore oil platforms than other wind farms within the vicinity of viewpoints. A few exceptions to this occur in places: firstly where existing and proposed wind farms would cumulatively dominate the landscape and thus views to the Beatrice wind turbines at the edge of these areas could tentatively seem to increase its extent, almost as an outlier; and, secondly, where the existing and proposed wind turbines are viewed from elevated locations as a loosely linked arc of developments and the Beatrice wind turbines would appear between two other developments, seeming to reinforce the linkage.

Within the local landscape character areas, only none, negligible or slight significance of impacts were identified – no moderate or substantial. This is mainly because the proposed wind turbines would largely seem to relate to the character of the surrounding land and seascape, particularly on account of their close association with the existing oil platforms.

For the 11 viewpoints, only none or negligible cumulative significance of impacts have been identified apart from one viewpoint, Scaraben, where moderate cumulative visual impacts could result if both the proposed Gordonbush and Dunbeath wind farms were developed in addition to the existing Causeymire and Buolfruich wind farms.

Sequentially, of the two routes assessed in both directions, the cumulative LVIA assessed that mainly none or negligible cumulative impacts would occur. The only exceptions would be: a slight significance of cumulative landscape impacts when travelling from Navidale to Dunbeath and Wick to Latheron if the proposed Dunbeath and Kilbraur wind farms were built; a slight significance of cumulative visual impact between Latheron and Dunbeath if the proposed Dunbeath wind farm was built; and a moderate significance of visual impact between Navidale and Dunbeath also if the proposed Dunbeath wind farm was built.

7.7 OVERALL EFFECT OF THE BEATRICE WIND TURBINES

The LVIA has established that the proposed wind turbine development at Beatrice would change the landscape and visual baseline conditions during its construction and operational phases. The proposed wind turbines would introduce two new elements into the land and seascape. The construction phase would be relatively short as detailed in Section 3 of the ES, and would have only temporary adverse effects on the landscape and visual resource of the study area.

The design of the Beatrice wind turbines has been mainly determined by technical and practical factors. The resulting design would appear concentrated from all viewpoints, forming a simple feature that would seem to relate to the character of the surrounding land and seascape and the existing oil platforms. In this way, the proposed wind turbines would satisfy good practice guidance.

The application site is not subject to any statutory or local designations for landscape or scenic interest. The proposed wind farm would also not be visible from any major settlement.

Overall, during construction and operational phases, it is judged that direct impacts would have a slight adverse effect on the landscape resource. This is considered to be a non-significant effect.

Overall, during construction and operational phases, it is judged that direct impacts would have slight adverse effect on the visual resource. This is considered to be a non-significant effect.

7.8 OVERALL CUMULATIVE EFFECT OF BEATRICE WIND TURBINES

Assessment of the proposed Beatrice wind turbines in addition to the proposed Dunbeath, Kilbraur and Gordonbush wind farms identified that they would appear as a distinct feature within the land and seascape. Although the Beatrice turbines would seem to complement the function of the onshore developments, they would seem clearly separate from these within the wide open sea, more closely associated to the existing oil platforms than the nearest land mass.

Given the various effects described above, it is judged that direct cumulative impacts during construction and operational phases would have a negligible adverse effect on the landscape and visual resource. This is considered to be a non-significant effect.

Table 23 Original identification of viewpoints for the proposed Beatrice wind turbines LVIA.

No	Location	Reason for selection	Grid reference	Approx elevation
1	Brora golf course /car park	WSW viewpoint at low elevation. Approx. 44km distant. Local residents, visitors.	291004, 903966	59m/24m
2	A9 Navidale	W viewpoint at moderate elevation. Approx. 32km distant. Local residents, road users travelling on A9.	303767, 916153	91m/85m
3	A9/Berriedale Borgue area	WNW viewpoint at moderate elevation. Approx 25km distant. Local residents, road users travelling on A9.	313171, 924717	142m/140m
4	Dunbeath Heritage Centre	NW viewpoint at moderate elevation. Approx 24km distant. Local residents, visitors – also representative of views from A9.	315943, 929538	56m/58m
5	Lybster	NNW viewpoint at moderate elevation. Approx 24km distant. Local residents, visitors – also representative of views from A9.	324884, 935060	59m
6a	Scaraben	WNW viewpoint at high elevation. Approx. 32km distant. Hill walkers. Either or 6b	308074, 927326	626m
6b	Creag Riasgain	Suggested by local people during Talisman consultation exercise. Either of 6a	295746, 912661	415m
7a	Lossiemouth	SSW viewpoint at low elevation. Approx. 43km. Local residents, visitors. Either or 7b	323321, 871291 or 323317, 871285	5m
7b	Durn Hill	SSE viewpoint at medium-high elevation (with landform backdrop). Approx. 50km. Recreational walkers. Either or 7a	357100, 863842	199m
8	Burgie Hill	SSW viewpoint at medium-high elevation. Approx 61km. Minor road users – representative of views from Moray Hills. Explore other locations in Moray Hills within 60km radius as substitute.	310157, 857068	213m/210m

Note: Viewpoints 6a and 6b and 7a and 7b were intended as alternatives, with a final selection to be made on the basis of wirelines. It was subsequently determined that both 6a and 6b should be retained, and that 7a and 8 were selected as they gave a better representation than using either 7a or 7b together with 8.