

European Offshore Wind Deployment Centre Environmental Statement

Chapter 19: Seascape, Landscape and Visual



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19 SEASCAPE, LANDSCAPE AND VISUAL

19.1 Introduction

- 1 The Seascape, Landscape and Visual Impact Assessment (SLVIA) considered the potential effects that the European Offshore Wind Deployment Centre (EOWDC) would have on the existing seascape, landscape, and visual environment. This assessment was conducted by LDA Design. The purpose of the assessment was to determine the sensitivity, magnitude, and therefore significance of any change to the character of the regional seascape, landscape, and any areas of designated landscapes. The potential effect upon views, visual amenity and receptor groups within the overall Zone of Theoretical Visibility (ZTV) was also assessed. The cumulative seascape, landscape, and visual effects of the proposed development with the existing, consented and in-planning wind farms were also assessed for the study area.
- 2 The following technical reports support this chapter and can be found as:
 - SLVIA Baseline Technical Report (Appendix 19.1)
 - SLVIA Environmental Impact Assessment Technical Report (Appendix 19.2)
 - SLVIA Figures and Visualisations (Appendix 19.3)

19.1.1 Methodology Consultation

- 3 Consultation to agree upon the assessment methodology and a number of other important parameters regarding the scope of the SLVIA took place with Scottish Natural Heritage, Aberdeen City Council, and Aberdeenshire Council. The Baseline Report (Appendix 19.1) provides a summary of the key stages of consultation and also provides a detailed record of all consultation which took place on the SLVIA throughout the project.

19.1.2 Key Guidance Documents

- 4 Key guidance documents that have informed the SLVIA include:
 - Maritime Ireland/Wales Interreg 1994 – 1999 Guidance ‘Guide to Best Practice in Seascape Assessment’ (GSA), published in March 2001
 - ‘An assessment of the sensitivity and capacity of the Scottish Seascape in relation to wind farms’, (SNH commissioned Report 103, 2005)
 - Guidance on the Assessment of Effect of Offshore Wind Farms: Seascape and Visual Effect Report (DTI – November 2005)
 - Guidelines for Landscape and Visual Effect Assessment (Institute of Environmental Management and Assessment (IEMA) and the Landscape Institute’s (LI), second edition 2002)
 - Visual Representation of Windfarms Best Practice Guidance (SNH 2006, albeit published in 2007)
 - Cumulative Effects on Windfarms, (SNH, 2005)
 - Siting and Designing Windfarms in the Landscape (SNH, December 2009)

19.1.3 Data Information and Sources

- 5 The list below records the main survey information that was used in this assessment. Site visits in April 2010 and October 2010 were also undertaken to establish the baseline and assessment work was carried out on site in February 2011.
- SNH (1977) Beaches of Northeast Scotland
 - SNH (1994) Banff and Buchan Landscape Assessment
 - SNH (1996) Landscape Character Assessment of Aberdeen
 - SNH (1998) South and Central Aberdeenshire Landscape Character Assessment

19.2 Baseline Assessment

- 6 A 40 km radius study area was agreed with the consultees. This area includes a large part of Aberdeenshire which extends along the coast from Kinneff, south of Stonehaven to Crimond, near Peterhead in the north, and inland to the Grampian Mountains (see Figure 19.1). The city of Aberdeen is the main settlement within the study area on the North Sea coast approximately 5 km south-west at its closest point to the proposed EOWDC wind turbines. Stonehaven and Peterhead are the main coastal towns within the study area and Ellon, Inverurie and Banchory are the main inland towns.
- 7 The baseline landscape, seascape and visual environments within the 40 km radius study area have been defined and sensitivity to the type of development proposed assessed. Sensitivity to change is assessed for seascape/landscape receptors such as regional seascape units, designated areas and landscape character areas, and for visual receptors (people) at agreed viewpoints. It provides an indication of the sensitivity of those receptors to the development proposed.
- 8 Sensitivity is assessed for each receptor type on the following scale. A full description of the sensitivity methodology can be found in the Baseline Technical Report (Appendix 19.1).
- high – material effects are likely to arise from a development of this nature
 - medium – material effects may arise from a development of this nature
 - low - material effects are unlikely to arise from a development of this nature
- 9 Within the study area there are no national designated landscapes except for a number of Gardens and Designed Landscapes (GDLs). Please refer to the Chapter 20 Cultural Heritage for discussion on these and other historical landscape features. Local landscape designations include Areas of Landscape Significance (ALS) which cover a large proportion of the coast line and inland areas adjacent to the Cairngorms (see Figure 19.2). The closest of these to the EOWDC lies between Balmedie and Longhaven and has a high sensitivity to the type of proposed development.
- 10 Six seascape units were defined from Inverbervie to Fraserburgh with varying sensitivities towards the proposed development (see Figure 19.3). The north part of Aberdeen Bay at Forvie Sands has the highest sensitivity, assessed at

High to Medium, due principally to the remote and unspoilt dune landscape. This sensitivity is reduced to some degree by the presence of nearby existing wind turbines, and views of the developed seafront at Aberdeen.

- 11 The sensitivity of the landscape character areas within the 40 km radius study area was also assessed. The landscape character types and areas are identified on Figures 19.4 and 19.5. Those character areas from which views out to the sea and coastline are a key characteristic have the highest sensitivity. This includes the higher Moorland Plateau character types at the furthest extents of the study area, Hills surrounding Aberdeen, and the Open Farmland and Agricultural Heartlands adjacent to the coastline.
- 12 The visual baseline identified key receptors of residents, travelling public (including sea travel), and visitors and tourists. Twenty representative viewpoints were selected through the consultation process from which the effects upon visual receptors was assessed (please see Figure 19.6 for viewpoint locations). The sensitivity to the proposed development of the main identified visual receptor group at each viewpoint is described in the Baseline Report (Appendix 19.1). Fifteen of the viewpoints are located within 15 km of the site, with seven of these in and around Aberdeen. Those with highest sensitivity to the proposed development are those viewpoints where residents or visitors are the key visual receptors. This includes viewpoints at Balmedie Beach, Aberdeen Beach, Forvie Nature Reserve, Udry Station, near Netherley, and near Slains Castle. Photographic panoramas of each viewpoint are presented in Appendix 19.3.

19.3 Impact Assessment

19.3.1 Impact Assessment Methodology

- 13 The full assessment methodology is set out in the Baseline Technical Report (Appendix 19.1) and a brief summary of the methodology used to assess impacts is discussed below.
- 14 The magnitude of effect is assessed for all seascape, landscape and visual receptors and identifies the degree of change arising as a result of the proposed development. It is rated on the following scale:
 - high – total or major alteration to key elements, features or characteristics, such that post development the baseline situation would be fundamentally changed
 - medium - partial alteration to key elements, features or characteristics, such that post development the baseline situation would be noticeably changed
 - low – minor alteration to key elements, features or characteristics, such that post development the baseline situation would be largely unchanged despite discernable differences; and
 - negligible – very minor alteration to key elements, features or characteristics, such that post development the baseline situation would be fundamentally unchanged with barely perceptible differences
- 15 The process of forming a judgment regarding the significance of any potential effect is based upon the site assessment of magnitude of effect which is then correlated with the sensitivity of the receptor to come to a professional

judgment as to how important this effect is in enabling others to come to a decision as to whether consent should be granted. This judgment is illustrated in Table 19.1:

Sensitivity of Receptor	Magnitude of Effect			
	Negligible	Low	Medium	High
High	Negligible	Moderate	Major-Moderate	Major
Medium	Negligible	Moderate-Minor	Moderate	Major-Moderate
Low	Negligible	Minor	Moderate-Minor	Moderate

19.3.2 Seascape and Landscape Effects

- 16 The scale and extent of the proposed EOWDC, located just over 2 km east off the Aberdeenshire coast, would inevitably affect the surrounding seascape and landscape environments. The primary source point of the effects would be the 11 wind turbines. Whilst the assessment also considered construction and decommissioning effects, the SLVIA is primarily concerned with the operational effects as these have the most potentially significant effects due to the duration of this stage.
- 17 The proposed EOWDC site would be located within the Aberdeen Bay regional seascape unit which would thus carry the greatest effect arising from the EOWDC development. The EOWDC would be a prominent feature within the seascape unit and would become a defining characteristic. However, the scale of the seascape unit and the presence of existing prominent man made elements would assist to some extent with containing the overall extent of the effect locally to major to major-moderate in the north to major-moderate in the south of the seascape unit.
- 18 Given the distance between the proposed site and the coastline, the wind turbines would also be theoretically visible from five other regional seascape units and would thus have a degree of effect upon the visual attributes of their character. A combination of distance, the nature and scale of these units; and the fact that effects are confined to visual influence only, will, however, assist with limiting the overall extent of effect to major-moderate to moderate at Aberdeen Beach and no more than moderate in the remaining seascape units.
- 19 Whilst there would be no direct effects upon their physical character, the landscape character areas defined for the study area would also experience a range of effects on their visual characteristics. The most significant effects of major-moderate to moderate would be upon the Perwinnes Open Farmland and major-moderate to moderate to moderate-minor on the Formartine Lowlands which both lie adjacent to the coastline where views across the sea are a key characteristic. The more elevated inland character areas encompass far ranging and expansive views within which the EOWDC would be a noticeable, but not dominant, element and therefore would not result in any significant effects.

- 20 The EOWDC would have a major to negligible indirect effect on the Area of Landscape Significance which lies along the coast from Balmedie to Longhaven due to its proximity to the proposed wind turbines, which at its closest is 3 km. However, significant effects would reduce to negligible further north within this ALS.

19.3.3 Visual Effects

- 21 The proposed 11 wind turbines have a maximum nacelle height of 120 m above lowest astronomical tide (LAT), with a maximum height to blade tip of 195 m. They would be seen, both individually and collectively, as large visual elements set within a simple open setting comprised predominantly of sea, coastal edge and sky. As the wind turbines would be sited close to land, from within the wider study area, where visible, they would be seen both with and without the sea context, rising above the predominantly undulating landscape. The wind turbines would also be seen, admittedly by a far fewer number of visual receptor groups, in views from the sea where they would be seen against a backdrop of either the Aberdeenshire deposition coastline with farmland behind or against Aberdeen city and Girdle Ness headland.
- 22 The Zone of Theoretical Visibility (ZTV) (see Figure 19.7) illustrates that visual effects arising from the offshore wind turbines would be greatest when seen in views within an approximately 15 km radius of the site and for areas extending north along the coast from where clear views of the EOWDC are possible. This is also demonstrated by the assessment of significant effects at nine of the fifteen viewpoints which lie within 15 km of the EOWDC. Appendix 19. 3 provides wireframes and photomontages of each viewpoint. Inland, theoretical visibility is highest primarily to the north and north-west of the site in the more open gently undulating farmland. The city and its suburbs, combined with the more pronounced landform to the south and west limit views of the EOWDC within these areas of Aberdeenshire.
- 23 The visual effects would ease considerably with distance from the site. However, given the size of the wind turbines, they would still be a noticeable, but not significant, feature from the northern coastline at distances of over 20 km away. The landform and components of the landscape at this distance obscure or reduce the prominence of the wind turbines so that they become a minor element in the view. The magnitude and extent of visual effects is also reduced by distance as the proposed development would be seen to shift from being the main focus of view to occupying a more peripheral or oblique position within the field of view.
- 24 The visual impact on Aberdeen is limited by the densely built up nature of a city. Only in the more open elevated areas of the city are the wind turbines likely to be clearly visible, and then they would be seen within a busy and dynamic cityscape.
- 25 The significance of effect for Local Residents within close proximity to the EOWDC (approximately 3 km) is judged as major where properties are orientated towards the sea and direction of the proposed wind turbines.
- 26 Other land receptor groups include the visitors and walkers of the Coastal Path where the significance of effect would be major to major-moderate along those parts of the path in close proximity to the EOWDC, reducing to negligible with distance.

- 27 Any significant visual effects on receptors within the sea would be temporary due to the generally transient nature of views available from marine vessels making passage. There would, however, be overall moderate effects on those receptors out at sea, such as recreational sailors, who have an interest and enjoyment in the surrounding seascape.

19.3.4 Cumulative Effects

- 28 The assessment of cumulative effects found that, due to the offshore location of the EOWDC and the fact that the majority of the many wind farms within Aberdeenshire are beyond 20 km from the site, the combined and successional cumulative effects were mostly minor or negligible and no more than moderate in significance for visual, seascape and landscape cumulative effects. Appendix 19.3 provides cumulative ZTVs and cumulative wireframes from a selection of the viewpoints.
- 29 As a consequence of being the closest wind farm (11-19 km) to the EOWDC, the existing and consented Hill of Fiddes, Ardgrain, Tillymaud, and Mains of Bogfechel wind turbines and the in-planning Woodlands Farm and Hill of Fechel are the most frequent wind farms to be seen in theoretical views with the EOWDC. However, these wind farms are approximately half the height of EOWDC and with only between one and three wind turbines, they have a relatively confined visual envelope which reduces the cumulative effect.
- 30 Although there are no significant combined cumulative effects, the sequential cumulative effects (ie those seen by the travelling public) of EOWDC are potentially greater given the large number of wind farms within the study area.
- 31 The sequential cumulative assessment from the main roads within the study area showed that the EOWDC would potentially extend the visibility of turbines further than currently exists along the A90 and A96 thus creating localised moderate to moderate-minor sequential effects. Along the other roads studied, the EOWDC would become part of an existing sequential effect and not significantly add to it due to distance and angle of view.

19.3.5 Construction and Decommissioning Stages

- 32 During the construction phase the effect of increased activity of construction vessels travelling to the site, the presence of jack-up barges and the progressive construction of the wind turbines would constitute the main effect, albeit temporary. During this phase there would be some minor effects on the surrounding seascape. There would also be minor effects on the associated visual receptors and general visual amenity during construction operations which, although temporary, may be more significant than during the operational stages due to the increase in activity and vessel movements. The existing baseline of marine activity in the area helps to moderate impacts to some degree.
- 33 During the decommissioning phase, there would also be visual effects associated with the decommissioning activity. This would be similar to that of the construction phase and relatively insignificant as there is an existing baseline of marine activity in the area. As the anticipated length of decommissioning would be slightly less than for the construction phase, these impacts would be more temporary than for the construction period. Following

the decommissioning stage there would be no residual effects on the seascape, landscape or visual receptors.

19.3.6 Overview

- 34 Table 19.2 summarises the potential seascape, landscape and visual impacts which have been assessed as major or major-moderate, and also the associated cumulative impacts. The inherent characteristics of the EOWDC suggest that there are very limited opportunities for incorporation of mitigation measures although the scheme has been designed to minimise the risk of aesthetically visually uncomfortable arrangements.

TABLE 19.2 Summary of Impacts		
Receptor	Significance of Effect	Significance of Cumulative Effect
Regional Seascape Units		
Aberdeen Beach	Major-Moderate to Moderate	Moderate/Minor to Negligible
Aberdeen Bay	Major-Moderate (south) Major to Major-Moderate (north)	Moderate-Minor to Negligible (south) Moderate to Moderate-Minor to Negligible (north)
Aberdeenshire and Banff & Buchan LCA		
Formartine Lowlands	Major-Moderate to Moderate to Moderate-Minor	Moderate to Moderate-Minor
Aberdeen LCA		
Perwinnes	Major-Moderate to Moderate	Moderate-Minor
Areas of Landscape Significance		
Balmedie to Longhaven	Major in close proximity to the site reducing to Negligible with distance.	Moderate
Visual Effects		
Vpt 1 Balmedie Beach	Major	None
Vpt 2 A90 (Harehill)	Major-Moderate to Moderate	None
Vpt 4 B999 Whitecairns	Major-Moderate (residents)	None
Vpt 5 Aberdeen Beach	Major to Major-Moderate	None
Vpt 7 Torry Battery	Major to Major-Moderate to Moderate	Negligible
Vpt 9 Forvie Nature Reserve	Major-Moderate	None
Vpt 12 Kincorth Hill	Major-Moderate to Moderate	Negligible
Vpt 13 Udney Station	Major-Moderate to Moderate	Moderate
Vpt 15 Brimmond Hill	Major-Moderate to Moderate	Moderate to Moderate-Minor
Visual Receptor Groups		
Local Residents	Major (within close proximity to the site)	None
Travelling Public – Coastal Path	Major to Major-Moderate reducing to Moderate-Minor to Negligible with distance	Negligible
Travelling Public - Ferry	Moderate/Minor to Minor (overall) Major-Moderate to Moderate (only when passing in close proximity)	Negligible
Recreational Sailing	Moderate (overall) Major-Moderate (only when passing in close proximity)	Negligible
Sequential Effects on Roads		
A90	Major-Moderate to	Moderate to Moderate/Minor

TABLE 19.2 Summary of Impacts		
Receptor	Significance of Effect	Significance of Cumulative Effect
	Moderate within approximately 5 km	

19.4 Summary

- 35 Upon evaluation, the seascape, landscape, visual, and cumulative effects arising from the proposed EOWDC development have not been found to be inappropriate, although they would fundamentally change the character of the Aberdeen Bay seascape and views from the nearby coastline within approximately 15 km. Where visibility permits beyond this distance, the EOWDC wind turbines would be a noticeable but increasingly minor feature in views. Offshore, the EOWDC would be a visible feature for a considerable distance across the expansive open sea and would thus provide an identifiable focal point and visual reference within the maritime setting. It should also be considered that the nearby city and harbour, designated anchorage area, airport and heliport, and oil industry related activities such as the demonstration drilling platform, provide an environment where the EOWDC would not be an incongruous addition ie vessels are a common feature on the Aberdeen Bay seascape.