

Contents

Contents	i
List of Tables.....	iii
List of Graphs and Charts.....	iii
List of Figures.....	iv
Glossary	x
Abbreviations and Acronyms.....	xiv
16 Seascape, Landscape and Visual Impacts	1
16.1 Introduction	1
16.2 Guidance	2
16.3 Consultation	2
16.4 SLVIA Study Area	13
16.4.1 Definition of SLVIA Study Area	13
16.4.2 Study Area Characteristics.....	13
16.4.3 Visibility Analysis.....	13
16.4.4 Additional Considerations	14
16.4.5 Receptors.....	16
16.4.6 Viewpoint Assessment.....	16
16.4.7 Desktop Survey	19
16.4.8 Field Survey.....	20
16.5 Assessment Methodology	20
16.5.1 Impact Assessment.....	20
16.5.2 Receptor Sensitivity	21
16.5.3 Viewpoint Sensitivity	22
16.5.4 Magnitude of Change	23
16.5.5 Significance of Effects	24
16.6 Cumulative Seascape, Landscape and Visual Impact Assessment Methodology	25
16.6.1 Cumulative Effects on Seascape and Landscape Character	25
16.6.2 Cumulative Effects on Visual Amenity.....	25
16.6.3 Cumulative Magnitude of Change	26
16.7 Nature of Effects	27
16.7.1 Effects Scoped Out of SLVIA	28
16.7.2 Illustrative Tools	29

16.8	Policy and Plans	31
16.9	Design Envelope and Embedded Mitigation	41
16.9.1	Design Sensitivity Analysis	41
16.9.2	Design Envelope	44
16.10	Embedded Mitigation	46
16.11	Baseline Environment	46
16.11.1	SLVIA Study Area.....	46
16.11.2	Regional Context.....	46
16.11.3	Local Context and Shipping Movements	48
16.11.4	Landform and Hydrology	48
16.11.5	Land Cover and Land Use	49
16.11.6	Seascape Character Areas	50
16.11.7	Landscape Character Types and Associated Areas.....	51
16.11.8	Landscape Designations	53
16.11.9	Visual Amenity Receptors.....	57
16.11.10	Baseline Offshore Export Cable Study Area.....	58
16.11.11	Baseline without the Project	58
16.12	Impact Assessment Development Area.....	59
16.12.1	Effects of Construction	59
16.12.2	Effects of Operation and Maintenance	60
16.13	Impact Interactions.....	72
16.14	Cumulative Impact Assessment	73
16.14.1	The Project.....	73
16.14.2	Other Projects.....	73
16.14.3	Addendum Regarding Cumulative Sites (13 January 2013)	75
16.14.4	Effects of Construction	76
16.14.5	Effects of Operation and Maintenance	76
16.14.6	Effects of Decommissioning	89
16.15	Mitigation.....	89
16.15.1	Development Area.....	89
16.16	Residual Impacts.....	89
16.16.1	Development Area.....	89
16.16.2	Offshore Export Cable Study Area	106
16.16.3	Cumulative Impacts	106

16.17 Conclusion	124
16.17.1 Inch Cape WTGs and OSPs in Conjunction with Existing and Consented Wind Farms	124
16.17.2 Summary	126
References	127

List of Tables

Table 16.1: Scoping Responses and Actions	3
Table 16.2: Other Issues Raised in Consultations and Responses	5
Table 16.3: Representative Viewpoints Included in the Assessment	17
Table 16.4: Seascape or Landscape Sensitivity	22
Table 16.5: Visual Sensitivity in Relation to Main Activity at Viewpoint	23
Table 16.6: Magnitude of Change	24
Table 16.7: Significance of Effects	24
Table 16.8: Magnitude of Cumulative Change	26
Table 16.9: Regional and Local Development Plan Policies.....	32
Table 16.10: Local Authority SPGs and Other Guidance Documents	40
Table 16.11: WTG Options	42
Table 16.12: Worst Case Scenario Definition - Development Area	45
Table 16.13: Worst Case Scenario Definition - Offshore Export Cable Corridor	45
Table 16.14: Regional Seascape Character Areas	50
Table 16.15: Landscape Character Types.....	52
Table 16.16: Landscape Designations	54
Table 16.17: Visual Amenity Receptors	57
Table 16.18: Summary of Potential Effects at Representative Viewpoints	64
Table 16.19: Agreed List of Cumulative Wind Farm Developments Included for Analysis.....	73
Table 16.20: List of Changes to Cumulative Sites Assessed (13 January 2013)	76
Table 16.21: Summary of Potential Cumulative Effects at Representative Viewpoints.....	77
Table 16.22: Summary of Residual Effects on Seascape and Landscape Character	90
Table 16.23: Summary of Effects on Landscape Designations	98
Table 16.24: Summary of Effects on Settlements.....	102
Table 16.25: Summary of Effects on Transport and Recreational Routes	103
Table 16.26: Summary of Residual Cumulative Effects on Seascape and Landscape Character	108
Table 16.27: Summary of Cumulative Effects on Landscape Designations	115
Table 16.28: Summary of Cumulative Effects on Settlements	118
Table 16.29: Summary of Cumulative Effects on Transport and Recreational Routes.....	121

List of Graphs and Charts

Graph 16.i: Visibility from Leuchars	15
Chart 16.ii: WTG Layout Showing Indicative Locations of OSPs	44

List of Figures

Appendix 16F: Seascape, Landscape and Visual: Figures

16.1	Topography with Local Authority Boundaries
16.2	Landscape and Seascape Character Areas
16.2a	Landscape and Seascape Character Areas (Fife Detail)
16.2b	Landscape and Seascape Character Areas ZTV Overlay
16.3	Landscape Designations
16.3a	Landscape Designations ZTV Overlay
16.4	Blade Tip ZTV - Overview
16.4a	Blade Tip ZTV - Section A
16.4b	Blade Tip ZTV - Section B
16.4c	Blade Tip ZTV - Section C
16.4d	Blade Tip ZTV - Section D
16.5	Blade Tip vs Hub Height vs WTG Base ZTV - Overview
16.5a	Blade Tip vs Hub Height vs WTG Base ZTV - Section A
16.5b	Blade Tip vs Hub Height vs WTG Base ZTV - Section B
16.5c	Blade Tip vs Hub Height vs WTG Base ZTV - Section C
16.5d	Blade Tip vs Hub Height vs WTG Base ZTV - Section D
16.6	Horizontal Angle ZTV
16.7	Route Analysis - Routes Assessed
16.8	Design Envelope Turbine Heights Comparative ZTV
16.9	Offshore Substation Platform ZTV
16.10	Cumulative Wind Farm Sites Assessed
16.11	Cumulative ZTV: Inch Cape, Group 1 and Group 2 - Overview
16.11a	Cumulative ZTV: Inch Cape, Group 1 and Group 2 - Section A
16.11b	Cumulative ZTV: Inch Cape, Group 1 and Group 2 - Section B
16.11c	Cumulative ZTV: Inch Cape, Group 1 and Group 2 - Section C
16.11d	Cumulative ZTV: Inch Cape, Group 1 and Group 2 - Section D
16.12	Cumulative ZTV: Inch Cape, Group 3 and Mains of Bridgeton - Overview
16.12a	Cumulative ZTV: Inch Cape, Group 3 and Mains of Bridgeton - Section A
16.12b	Cumulative ZTV: Inch Cape, Group 3 and Mains of Bridgeton - Section B
16.12c	Cumulative ZTV: Inch Cape, Group 3 and Mains of Bridgeton - Section C
16.12d	Cumulative ZTV: Inch Cape, Group 3 and Mains of Bridgeton - Section D
16.13	Cumulative ZTV: Inch Cape, Nathro Hill and Group 4 - Overview
16.13a	Cumulative ZTV: Inch Cape, Nathro Hill and Group 4 - Section A
16.13b	Cumulative ZTV: Inch Cape, Nathro Hill and Group 4 - Section B
16.13c	Cumulative ZTV: Inch Cape, Nathro Hill and Group 4 - Section C
16.13d	Cumulative ZTV: Inch Cape, Nathro Hill and Group 4 - Section D
16.14	Cumulative ZTV: Inch Cape, Glaxo Smith Kline and Balnacake - Overview
16.14a	Cumulative ZTV: Inch Cape, Glaxo Smith Kline and Balnacake - Section A
16.14b	Cumulative ZTV: Inch Cape, Glaxo Smith Kline and Balnacake - Section B
16.14c	Cumulative ZTV: Inch Cape, Glaxo Smith Kline and Balnacake - Section C
16.14d	Cumulative ZTV: Inch Cape, Glaxo Smith Kline and Balnacake - Section D
16.15	Cumulative ZTV: Inch Cape, Finavon House and Group 5 - Overview

16.15aCumulative ZTV: Inch Cape, Finavon House and Group 5 - Section A
 16.15bCumulative ZTV: Inch Cape, Finavon House and Group 5 - Section B
 16.15c.....Cumulative ZTV: Inch Cape, Finavon House and Group 5 - Section C
 16.15dCumulative ZTV: Inch Cape, Finavon House and Group 5 - Section D
 16.16 Cumulative ZTV: Inch Cape, Group 6 and Corse Hill - Overview
 16.16a Cumulative ZTV: Inch Cape, Group 6 and Corse Hill - Section A
 16.16bCumulative ZTV: Inch Cape, Group 6 and Corse Hill - Section B
 16.16c.....Cumulative ZTV: Inch Cape, Group 6 and Corse Hill - Section C
 16.16d Cumulative ZTV: Inch Cape, Group 6 and Corse Hill - Section D
 16.17 Cumulative ZTV: Inch Cape, Tealing Airfield and Michelin Tyre Factory - Overview
 16.17aCumulative ZTV: Inch Cape, Tealing Airfield and Michelin Tyre Factory - Section A
 16.17bCumulative ZTV: Inch Cape, Tealing Airfield and Michelin Tyre Factory - Section B
 16.17c.....Cumulative ZTV: Inch Cape, Tealing Airfield and Michelin Tyre Factory - Section C
 16.17d Cumulative ZTV: Inch Cape, Tealing Airfield and Michelin Tyre Factory - Section D
 16.18 Cumulative ZTV: Inch Cape and Port of Dundee - Overview
 16.18a Cumulative ZTV: Inch Cape and Port of Dundee - Section A
 16.18b Cumulative ZTV: Inch Cape and Port of Dundee - Section B
 16.18c..... Cumulative ZTV: Inch Cape and Port of Dundee - Section C
 16.18d Cumulative ZTV: Inch Cape and Port of Dundee - Section D
 16.19 Cumulative ZTV: Inch Cape and Group 7 - Overview
 16.19aCumulative ZTV: Inch Cape and Group 7 - Section A
 16.19bCumulative ZTV: Inch Cape and Group 7 - Section B
 16.19c.....Cumulative ZTV: Inch Cape and Group 7 - Section C
 16.19d Cumulative ZTV: Inch Cape and Group 7 - Section D
 16.20Cumulative ZTV: Inch Cape, Firth of Forth Phase 1 and Neart na Gaoithe - Overview
 16.20a Cumulative ZTV: Inch Cape, Firth of Forth Phase 1 and Neart na Gaoithe - Section A
 16.20b Cumulative ZTV: Inch Cape, Firth of Forth Phase 1 and Neart na Gaoithe - Section B
 16.20c..... Cumulative ZTV: Inch Cape, Firth of Forth Phase 1 and Neart na Gaoithe - Section C
 16.20dCumulative ZTV: Inch Cape, Firth of Forth Phase 1 and Neart na Gaoithe - Section D
 16.21Cumulative ZTV - Inch Cape, All Existing/Consented, and All Application/Scoping - Overview
 16.21aCumulative ZTV - Inch Cape, All Existing/Consented, and All Application/Scoping - Section A
 16.21b Cumulative ZTV - Inch Cape, All Existing/Consented, and All Application/Scoping - Section B
 16.21c..... Cumulative ZTV - Inch Cape, All Existing/Consented, and All Application/Scoping - Section C
 16.21dCumulative ZTV - Inch Cape, All Existing/Consented, and All Application/Scoping - Section D
 16.22 Cumulative ZTV - Inch Cape, All Onshore, and All Offshore - Overview
 16.22aCumulative ZTV - Inch Cape, All Onshore, and All Offshore - Section A
 16.22bCumulative ZTV - Inch Cape, All Onshore, and All Offshore - Section B
 16.22c.....Cumulative ZTV - Inch Cape, All Onshore, and All Offshore - Section C
 16.22dCumulative ZTV - Inch Cape, All Onshore, and All Offshore - Section D
 16.23 Route Analysis - A91
 16.24 Route Analysis - A914
 16.25 Route Analysis - A915
 16.26 Route Analysis - A917
 16.27 Route Analysis - A919
 16.28 Route Analysis - A92

16.29a	Route Analysis - A933 (a)
16.29b	Route Analysis - A933 (b)
16.30	Route Analysis - A935
16.31	Route Analysis - A937
16.32	Route Analysis - Fife Coastal Path
16.33a	Route Analysis - National Cycle Route 1 (a)
16.33b	Route Analysis - National Cycle Route 1 (b)
16.34	Route Analysis - East Coast Rail Line

Appendix 16G: Seascape and Landscape Visualisations

16.35	Viewpoint 1: Garron Point - Wireline Visualisation
16.35a	Viewpoint 1: Garron Point - Cumulative Wireline Visualisation
16.36	Viewpoint 2: A92 North of Inverbervie - Wireline Visualisation
16.36a	Viewpoint 2: A92 North of Inverbervie - Cumulative Wireline Visualisation View A
16.36b	Viewpoint 2: A92 North of Inverbervie - Cumulative Wireline Visualisation View B
16.36c.....	Viewpoint 2: A92 North of Inverbervie - Cumulative Wireline Visualisation View C
16.37	Viewpoint 3: Beach Road, Kirkton, St Cyrus - Photomontage
16.37a	Viewpoint 3: Beach Road, Kirkton, St Cyrus - Cumulative Wireline Visualisation View A
16.37b	Viewpoint 3: Beach Road, Kirkton, St Cyrus - Cumulative Wireline Visualisation View B
16.37c.....	Viewpoint 3: Beach Road, Kirkton, St Cyrus - Cumulative Wireline Visualisation View C
16.38	Viewpoint 4: Cairn o' Mount - Wireline Visualisation
16.38a	Viewpoint 4: Cairn o' Mount - Cumulative Wireline Visualisation
16.39	Viewpoint 5: Montrose - Photomontage
16.39a	Viewpoint 5: Montrose - Cumulative Wireline Visualisation View A
16.39b	Viewpoint 5: Montrose - Cumulative Wireline Visualisation View B
16.39c.....	Viewpoint 5: Montrose - Cumulative Wireline Visualisation View C
16.40	Viewpoint 6: Braehead of Lunan - Photomontage
16.40a	Viewpoint 6: Braehead of Lunan - Cumulative Wireline Visualisation
16.41	Viewpoint 7: Brechin - Wireline Visualisation
16.41a	Viewpoint 7: Brechin - Cumulative Wireline Visualisation View A
16.41b	Viewpoint 7: Brechin - Cumulative Wireline Visualisation View B
16.42	Viewpoint 8: White Caterthun Hill Fort - Wireline Visualisation
16.42a	Viewpoint 8: White Caterthun Hill Fort - Cumulative Wireline Visualisation View A
16.42b	Viewpoint 8: White Caterthun Hill Fort - Cumulative Wireline Visualisation View B
16.43	Viewpoint 9: Minor Road South of Cairnconon Hill - Photomontage
16.43a	Viewpoint 9: Minor Road South of Cairnconon Hill - Cumulative Wireline Visualisation
16.44	Viewpoint 10: Clifftop Path North of Victoria Park - Photomontage
16.44a ..	Viewpoint 10: Clifftop Path North of Victoria Park - Cumulative Wireline Visualisation View A
16.44b ..	Viewpoint 10: Clifftop Path North of Victoria Park - Cumulative Wireline Visualisation View B
16.45	Viewpoint 11: Arbroath Signal Tower - Photomontage
16.45a	Viewpoint 11: Arbroath Signal Tower - Cumulative Wireline Visualisation View A
16.45b	Viewpoint 11: Arbroath Signal Tower - Cumulative Wireline Visualisation View B
16.46	Viewpoint 12: A92 East of Muirdrum - Photomontage
16.46a	Viewpoint 12: A92 East of Muirdrum - Cumulative Wireline Visualisation View A
16.46b	Viewpoint 12: A92 East of Muirdrum - Cumulative Wireline Visualisation View B

16.47 Viewpoint 13: Dodd Hill - Wireline Visualisation
 16.47a Viewpoint 13: Dodd Hill - Cumulative Wireline Visualisation View A
 16.47b Viewpoint 13: Dodd Hill - Cumulative Wireline Visualisation View B
 16.47c Viewpoint 13: Dodd Hill - Cumulative Wireline Visualisation View C
 16.48 Viewpoint 14: Carnoustie - Photomontage
 16.48a Viewpoint 14: Carnoustie - Cumulative Wireline Visualisation View A
 16.48b Viewpoint 14: Carnoustie - Cumulative Wireline Visualisation View B
 16.49 Viewpoint 15: Dundee Law - Wireline Visualisation
 16.49a Viewpoint 15: Dundee Law - Cumulative Wireline Visualisation View A
 16.49b Viewpoint 15: Dundee Law - Cumulative Wireline Visualisation View B
 16.50 Viewpoint 16: Tentsmuir - Wireline Visualisation
 16.50a Viewpoint 16: Tentsmuir - Cumulative Wireline Visualisation View A
 16.50b Viewpoint 16: Tentsmuir - Cumulative Wireline Visualisation View B
 16.51 Viewpoint 17: Strathkinness - Wireline Visualisation
 16.51a Viewpoint 17: Strathkinness - Cumulative Wireline Visualisation View A
 16.51b Viewpoint 17: Strathkinness - Cumulative Wireline Visualisation View B
 16.52 Viewpoint 18: St Andrews, East Scores - Wireline Visualisation
 16.52a Viewpoint 18: St Andrews, East Scores - Cumulative Wireline Visualisation View A
 16.52b Viewpoint 18: St Andrews, East Scores - Cumulative Wireline Visualisation View B
 16.53 Viewpoint 19: Largo Law - Wireline Visualisation
 16.53a Viewpoint 19: Largo Law - Cumulative Wireline Visualisation
 16.54 Viewpoint 20: B9131 South of Dunino - Wireline Visualisation
 16.54a Viewpoint 20: B9131 South of Dunino - Cumulative Wireline Visualisation View A
 16.54b Viewpoint 20: B9131 South of Dunino - Cumulative Wireline Visualisation View B
 16.54c Viewpoint 20: B9131 South of Dunino - Cumulative Wireline Visualisation View C
 16.55 Viewpoint 21: Kingsbarns - Wireline Visualisation
 16.55a Viewpoint 21: Kingsbarns - Cumulative Wireline Visualisation View A
 16.55b Viewpoint 21: Kingsbarns - Cumulative Wireline Visualisation View B
 16.56 Viewpoint 22: Anstruther Easter - Wireline Visualisation
 16.56a Viewpoint 22: Anstruther Easter - Cumulative Wireline Visualisation
 16.57 Viewpoint 23: Fife Ness - Photomontage
 16.57a Viewpoint 23: Fife Ness - Cumulative Wireline Visualisation View A
 16.57b Viewpoint 23: Fife Ness - Cumulative Wireline Visualisation View B
 16.58 Viewpoint 24: Isle of May - Wireline Visualisation
 16.58a Viewpoint 24: Isle of May - Cumulative Wireline Visualisation
 16.59 Viewpoint 25: Dunbar - Wireline Visualisation
 16.59a Viewpoint 25: Dunbar - Cumulative Wireline Visualisation

Appendix 16F: Seascape, Landscape and Visual: Figures

16.60 Paired ZTV - Inch Cape with Ark Hill
 16.61 Paired ZTV - Inch Cape with Balmouth, Bonerbo and Drumrack Farms
 16.62 Paired ZTV - Inch Cape with Balnacake
 16.63 Paired ZTV - Inch Cape with Brighton Farm
 16.64 Paired ZTV - Inch Cape with Brownieleys
 16.65 Paired ZTV - Inch Cape with Clochnahill

16.66 Paired ZTV - Inch Cape with Corse Hill
 16.67 Paired ZTV - Inch Cape with Davidstone Farm
 16.68 Paired ZTV - Inch Cape with Dodd Hill
 16.69 Paired ZTV - Inch Cape with Droop Hill
 16.70 Paired ZTV - Inch Cape with Dundee Cold Stores
 16.71 Paired ZTV - Inch Cape with Dunswood
 16.72 Paired ZTV - Inch Cape with Dustydrum Farm
 16.73 Paired ZTV - Inch Cape with East Memus
 16.74 Paired ZTV - Inch Cape with Easter Tulloch
 16.75 Paired ZTV - Inch Cape with Ferniebrae
 16.76 Paired ZTV - Inch Cape with Finavon House
 16.77 Paired ZTV - Inch Cape with Fordoun Sawmill
 16.78 Paired ZTV - Inch Cape with Frawney
 16.79 Paired ZTV - Inch Cape with Glaxo Smith Kline
 16.80 Paired ZTV - Inch Cape with Govals
 16.81 Paired ZTV - Inch Cape with Grains of Fetteresso
 16.82 Paired ZTV - Inch Cape with Henderston Farm
 16.83 Paired ZTV - Inch Cape with Herscha Hill
 16.84 Paired ZTV - Inch Cape with Hill of Stracathro
 16.85 Paired ZTV - Inch Cape with Hillhead of Auquhirie
 16.86 Paired ZTV - Inch Cape with Jack's Bank
 16.87 Paired ZTV - Inch Cape with Kempstone Hill
 16.88 Paired ZTV - Inch Cape with Kenly
 16.89 Paired ZTV - Inch Cape with Kinneff
 16.90 Paired ZTV - Inch Cape with Lingo
 16.91 Paired ZTV - Inch Cape with Mains of Bridgeton
 16.92 Paired ZTV - Inch Cape with Meikle Carewe
 16.93 Paired ZTV - Inch Cape with Michelin Tyre Factory
 16.94 Paired ZTV - Inch Cape with Mid Hill Phase 1
 16.95 Paired ZTV - Inch Cape with Mid Hill Phase 2
 16.96 Paired ZTV - Inch Cape with Nathro Hill
 16.97 Paired ZTV - Inch Cape with North Mains of Cononsyth
 16.98 Paired ZTV - Inch Cape with North Tullo
 16.99 Paired ZTV - Inch Cape with Pickerton Farm
 16.100 Paired ZTV - Inch Cape with Pitbladdo Farm
 16.101 Paired ZTV - Inch Cape with Port of Dundee
 16.102 Paired ZTV - Inch Cape with Redford Farm
 16.103 Paired ZTV - Inch Cape with Reidhall Farm
 16.104 Paired ZTV - Inch Cape with Renmure
 16.105 Paired ZTV - Inch Cape with St John's Hill
 16.106 Paired ZTV - Inch Cape with Scotston Hill
 16.107 Paired ZTV - Inch Cape with Smiddyhill
 16.108 Paired ZTV - Inch Cape with South Cassingray
 16.109 Paired ZTV - Inch Cape with Steelstrath Farm
 16.110 Paired ZTV - Inch Cape with Tealing Airfield

16.111 Paired ZTV - Inch Cape with The Carrach
16.112 Paired ZTV - Inch Cape with Tillyhoit
16.113 Paired ZTV - Inch Cape with Troywood
16.114 Paired ZTV - Inch Cape with Tullo Farm
16.115 Paired ZTV - Inch Cape with Tullo Farm Extension
16.116 Paired ZTV - Inch Cape with Wairds of Alpity
16.117 Paired ZTV - Inch Cape with West Mains
16.118 Paired ZTV - Inch Cape with Whitefield of Dun
16.119 Paired ZTV - Inch Cape with Woodside

Glossary

Assessment (Landscape)	An umbrella term for description, classification and analysis of landscape.
Baseline	The landscape and visual character of the study area as it exists at the commencement of the assessment process – i.e. prior to the development proposal under consideration.
Countryside	The rural environment and its associated communities (including the coast).
Cumulative Effects	Effects arising from the additional changes to the landscape or visual character caused by a proposed development in conjunction with other developments (associated with it or separate to it).
Digital Terrain Model (DTM)	Computer generated three dimensional model based on aerial survey of ground surface (e.g. Ordnance Survey <i>Profile data</i>). Often utilised as a basis for visibility modeling over large areas.
Diversity	Where a variety of qualities or characteristics occur.
Effect	The result of an impact on a landscape or visual receptor.
Element	A component part of the landscape (e.g. roads, hedgerows, woods).
Field Pattern	The pattern of hedges and walls that define fields in farmed landscapes.
Horizontal Subtended Angle	The angle measured in degrees from the left most visible part to the right most visible part of any development.
Key Characteristics	The elements of the landscape and/or their inter relationship which form the defining components of the landscape.
Impact	The change arising for a landscape or visual receptor as a result of some form of alteration to the baseline.
Land Cover:	Combination of land use and vegetation that covers the land surface.
Landform	The topography of land or seabed, the extent to which the elevation changes and resulting features .
Landscape	<p>Human perception of the land conditioned by knowledge and identity with a place (as defined in the <i>Guidelines for Landscape and Visual Impact Assessment (GLVIA)</i> (The Landscape Institute and the Institute of Environmental Management and Assessment (IEMA), 2002).</p> <p>An area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors (as defined in the <i>European Landscape Convention</i> (Council of Europe, 2000).</p>

Landscape Capacity	The degree to which a particular landscape character type or area is able to accommodate change without unacceptable negative effects on its character. Capacity is likely to vary according to the type and nature of the changes being proposed. The capacity of the landscape is derived from a combination of Landscape Character Sensitivity, Visual Sensitivity and Landscape Value.
Landscape Character	The distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how this is perceived by people. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement. It creates the particular sense of place in different areas of the landscape.
Landscape Character Area	These are single unique areas which are the discrete geographical areas of a particular landscape type.
Landscape Character Type	A landscape type will have broadly similar patterns of geology, landform, soils, vegetation, land use, settlement and field pattern discernible in maps and field survey records.
Landscape Effect	The consequence of change in the elements, characteristics, qualities and overall character of the landscape as a result of any development. These effects can be positive, neutral or negative.
Landscape Feature	A prominent eye-catching element or landmark (e.g. church spire, wooded hilltop).
Landscape Impact	The change in the elements, characteristics, qualities and overall character of the landscape as a result of any development.
Landscape Quality (or Condition)	Based on judgments about the physical state of the landscape and about its intactness. Also relates to the state of repair of individual features and elements which make up character in any one place.
Landscape Resource	The combination of elements that contribute to landscape context, character and value.
Landscape Sensitivity (to a specific type of change)	<p>The extent to which a landscape can accept change of a particular type and scale and is assessed in relation to the following:</p> <ul style="list-style-type: none">• existing land use;• pattern and scale of the landscape and its elements/features;• simplicity/complexity of the landscape;• landscape quality or condition including presence of any detracting features;• the nature of skylines;• visual enclosure/openness of views and distribution of visual receptors;• value placed on the landscape – which may be expressed through designation or other identifiable form of recognition; and• scope of mitigation, which will be in character with the existing landscape.

Land Use	The primary use of land, including both rural and urban activities.
Landscape Value	The relative value or importance attached to a landscape (often as a basis for designation or recognition), which expresses commonly held national or local perception of its quality, special qualities and/or scenic beauty, tranquility or wildness and cultural associations.
Magnitude of Change	<p>The magnitude of change arising from a proposed development is described as high, moderate, low or negligible based on the interpretation of a combination of parameters, as follows:</p> <ul style="list-style-type: none"> • distance of the viewpoint from the development; • duration of the predicted impact; • extent of the development in the view (e.g. the horizontal angle subtended by it); • angle of view in relation to main receptor activity; • degree of contrast; • visual permeability of the development (i.e. extent to which views will be blocked or will be retained, albeit interrupted and altered); • background to the development; and • extent and nature of other built development visible.
Methodology	The specific approach and techniques used for a given study.
Mitigation Measures	Measures including any process, activity or design process to avoid, reduce, remedy or compensate for negative landscape and visual impacts of a development. Mitigation can also apply to the improvement of existing negative effects associated with existing developments/features in the landscape.
Policy Woodlands	A diverse and multi-purpose woodland, historically associated with plantings around country houses.
Perception (of Landscape)	The psychology of seeing and possibly attaching value or meaning to the landscape.
Receptor	Physical landscape resource, special interest or individual or group experiencing the view liable to change as a result of the proposed development.
Receptor Location	Location occupied by identified receptors.
Residual Effects	Effect of development after mitigation proposals are taken into account.
Scoping	The process of identifying likely significant effects of a development on the environment – which may be carried out in a formal or informal way.
Seascape	An area of sea, coastline and land, as perceived by people, whose character results from the actions and interactions of land with sea, by natural and/or human factors (definition from <i>An Approach to Seascape Character Assessment</i> , Natural England, 2012).

Seascape Character	Seascape character is a distinct and recognisable pattern of elements in the seascape that makes one seascape different from another, rather than better or worse (definition from <i>An Approach to Seascape Character Assessment</i> , Natural England, 2012).
Seascape Sensitivity	The ability of a seascape to respond to and accommodate change. It reflects seascape character, the nature of change and the way both are perceived and experienced by people (definition from <i>An Approach to Seascape Character Assessment</i> , Natural England, 2012).
Significant Effect	An effect which is considered by the assessor to be “significant” in terms of the Environmental Impact Assessment Regulations (85/337/EEC) which require the identification of significant effects.
Visual Amenity	Particular composition of landscape elements that contribute to a view, or views. The value of a particular area or view in terms of what is seen (as defined in the GLVIA).
Visibility Analysis	The process of identifying theoretical (based on digital modelling) and/or actual predicted areas from where any given development may be seen.
Visual Effect	The consequence of change in the appearance of the landscape as a result of a development, which may be positive or negative.
Visual Impact	The change in the appearance of the landscape and nature of views which may be negative or positive.
Viewpoint Sensitivity	The extent to which a view would be altered by change of a particular type and scale, assessed in relation to the following: <ul style="list-style-type: none"> • location and context of the viewpoint; • land use or main activity at the viewpoint; • frequency and duration of use; • seascape or landscape character and quality of the intervening seascape or landscape; and • importance of the view (which may be determined with respect to its popularity or number of affected people, its appearance in guidebooks, on tourist maps and the facilities provided for its enjoyment and references to it in literature and/or art).
Zone of Theoretical Visibility	The area predicted to have views of a proposed development on the basis of a digital terrain model or digital surface model, which may/may not take account of land cover features.

Abbreviations and Acronyms

AGLV	Area of Great Landscape Value
AOD	Above Ordnance Datum
CSLVIA	Cumulative Seascape, Landscape and Visual Impact Assessment
FTOWDG	Firth and Tay Offshore Wind Developers Group
GDL	Garden and Designed Landscape
GLVIA	Guidelines for Landscape and Visual Impact Assessment
HSA	Horizontal Subtended Angle
HS	Historic Scotland
LAT	Lowest Astronomical Tide
LCA	Landscape Character Assessment
LLA	Local Landscape Area
MOD	Ministry of Defence
MS	Marine Scotland
NCN	National Cycle Network
OfTW	Offshore Transmission Works
OnTW	Onshore Transmission Works
OS	Ordnance Survey
OSP	Offshore Substation Platform
SCA	Seascape Character Assessment
SLV	Seascape, Landscape and Visual
SLVIA	Seascape, Landscape and Visual Impact Assessment
SNH	Scottish Natural Heritage
WTG	Wind Turbine Generator
ZTV	Zone of Theoretical Visibility

16 Seascape, Landscape and Visual Impacts

16.1 Introduction

- 1 This chapter considers the potential seascape, landscape and visual impacts of the Inch Cape Offshore Wind Farm, and Offshore Transmission Works (OfTW).
- 2 The Seascape, Landscape and Visual Impact Assessment (SLVIA) considers potential effects on:
 - Seascape character caused by changes in the key characteristics and qualities of the seascape as a result of the Inch Cape Wind Turbine Generators (WTGs) and Offshore Substation Platforms (OSPs);
 - Landscape character caused by changes in the key characteristics and qualities of the landscape as a result of the Inch Cape WTGs and OSPs;
 - Visual amenity caused by changes in the appearance of the seascape and/or landscape as a result of the Inch Cape WTGs and OSPs; and
 - Potential seascape, landscape and visual amenity effects resulting from the construction of the Offshore Export Cable.
- 3 This chapter is accompanied by seven appendices:
 - *Appendix 16A: Seascape, Landscape and Visual Impact Baseline;*
 - *Appendix 16B: Zones of Theoretical Visibility Analysis;*
 - *Appendix 16C: Viewpoint Assessment;*
 - *Appendix 16D: Regional Seascape Assessment;*
 - *Appendix 16E: Approach to Assessment of Landscape, Seascape and Visual Cumulative Effects;*
 - *Appendix 16F: Seascape, Landscape and Visual: Figures* (Figures 16.1 to 16.34 and Figures 16.60 to 16.119); and
 - *Appendix 16G: Seascape and Landscape Visualisations* (Figures 16.35 to 16.59).
- 4 Where figures are referred to in this chapter they are contained in either *Appendix 16F* or *Appendix 16G*.
- 5 This chapter also shares direct linkages with the following chapters and makes reference to their content where relevant:
 - *Chapter 17: Cultural Heritage and Marine Archaeology;*
 - *Chapter 21: Other Human Considerations;*
 - *Chapter 22: Socioeconomics and Tourism;* and
 - *Chapter 23: Summary.*

16.2 Guidance

6 The SLVIA has considered relevant guidance provided in:

- *An assessment of the sensitivity and capacity of the Scottish seascape in relation to offshore windfarms* (SNH, 2005a).
- *Assessing the Cumulative Impacts of Onshore Wind Energy Developments* (SNH, 2012a).
- *Guidance on the Assessment of the Impact of Offshore Wind Farms: Seascape and Visual Impact Report* (Department for Trade and Industry, 2005).
- *Guidance on Landscape/Seascape Capacity for Aquaculture* (SNH, 2008).
- *Guide to Best Practice in Seascape Assessment* (Countryside Council for Wales (CCW), Brady Shipman Martin, University College Dublin, 2001).
- *Guidelines for Landscape and Visual Impact Assessment* (The Landscape Institute and the Institute of Environmental Management and Assessment (IEMA), 2002).
- *Landscape Character Assessment Guidance of England and Scotland* (The Countryside Agency and SNH, 2002).
- *Offshore Renewables – guidance on assessing the impact on coastal landscape and seascape* (SNH, 2012b).
- *Siting and Designing windfarms in the landscape - Version 1* (SNH, 2009).
- *Visual Representation of Windfarms - Good Practice Guidance* (SNH, 2006).

16.3 Consultation

7 A scoping report for the Inch Cape Offshore Wind Farm was issued in August 2010, to which Marine Scotland (MS) responded with a Scoping Opinion in January 2011. Issues relating to the SLVIA are listed in Table 16.1 below, highlighting where these issues are addressed within this Environmental Statement (ES).

8 In addition to the formal Scoping Opinion, further informal consultation has been undertaken in relation to the assessment of the impacts of the Wind Farm and OfTW with relevant stakeholders.

9 The information received through this consultation, along with the formal Scoping Opinion and recognised best practice, has informed the methodology and scope for the assessment of the impacts presented in this chapter.

10 In addition, the Forth and Tay Offshore Wind Developers' Group (FTOWDG) initiative, described in *Section 4.7.2*, has sought to establish a common approach across topic areas, including SLVIA. FTOWDG was formed in 2009, and is chaired by The Crown Estate and includes representatives from the offshore wind farms in the outer Firth of Tay: Inch Cape, Neart na Gaoithe and the Firth of Forth Round 3 Zone (see Figure 16.10). The majority of

consultation to date on assessment of cumulative seascape and landscape effects has been carried out through FTOWDG.

Table 16.1: Scoping Responses and Actions

Consultee	Comment	Project Response
<p>Scottish Natural Heritage (SNH)</p>	<p><i>In relation to the study area</i></p> <p>...we recommend an initial Zone of Theoretical Visibility (ZTV) of 45 km is used from which to establish a finalised study area.</p>	<p>A 50 km SLVIA Study Area was subsequently agreed and has been adopted for the assessment.</p>
	<p><i>In relation to seascape assessment</i></p> <p>...what is required is a coastal landscape assessment, clearly related both “seawards” and “landwards”.</p>	<p>This has been carried out on behalf of FTOWDG by the developers’ respective landscape consultants and is included as <i>Appendix 16D</i>.</p>
	<p><i>In relation to Gardens and Designed Landscapes (GDL)</i></p> <p>...some of these may have coastal, seaward views that are part of the reason for their listing. We recommend that these sites are considered in the LVIA.</p>	<p>GDLs with theoretical visibility of the Inch Cape WTGs and OSPs have been included in the assessment.</p>
	<p><i>In relation to viewpoint selection and assessment</i></p> <p>Viewpoints should be selected in consultation with Angus Council, Dundee City Council, Fife Council and SNH.</p>	<p>21 viewpoints to be used in the cumulative assessment were agreed by FTOWDG, of which 17 occur within the Inch Cape 50 km radius SLVIA Study Area.</p> <p>In addition to the FTOWDG viewpoints eight Inch Cape specific viewpoint locations were agreed with consultees (meeting of 22 March 2012 and subsequent correspondence) and included in the assessment.</p>
	<p><i>In relation to distance and visual impact</i></p> <p>We...recommend that the coastal landscape, seascape character and visual environment – the ‘baseline’ – be defined, and the relative sensitivities established prior to determining the significance of the development’s impacts.</p>	<p>This has been done, see <i>Section 16.11</i>.</p>

Consultee	Comment	Project Response
	We recommend that the applicant makes a specific assessment of visibility ranges in the Forth, rather than relying on generic information which may not be applicable.	A specific assessment of visibility within the SLVIA Study Area is included. See <i>Section 16.4</i> .
	<p><i>In relation to cumulative impacts</i></p> <p>Cumulative SLVIA should be carried out with reference to the current SNH guidance on cumulative effects (2005), though please be aware that it is currently being updated. It should be undertaken with the Forth and Tay offshore wind farm developers all working together.</p>	Updated guidance (March 2012) has been referred to whilst carrying out the assessment. An approach to the cumulative SLVIA was formulated on behalf of FTOWDG by developers' respective landscape consultants and is included as <i>Appendix 16E</i> .
	<p><i>In relation to potential mitigation</i></p> <p>The applicant should clearly articulate their design process in the ES.</p>	A design sensitivity analysis was carried out on behalf of FTOWDG by the developers' respective landscape consultants and is described in <i>Section 16.9</i> .
	We note that the SLVIA will have links to other issues including tourism, recreation, cultural heritage, and transportation. We recommend that there is clear cross-reference in the ES between these various aspects.	There are cross references to other chapters where relevant and appropriate.
	Of paramount importance is for the applicant to consider, and design, their wind farm in the context of the other FTOWDG proposals. The wind farms need to relate to one another in respect of their overall configuration and with a clear relationship between each design/layout.	During consultation with SNH on the design sensitivity analysis it was pointed out to SNH that there were likely to be multiple competing constraints (environmental and technical) that would need to be taken into account in the WTG layouts. The SLVIA is intended to assess the worst case scenario, in which the WTG layouts for each individual wind farm have the least similarity to one another.

11 Other guidance, meetings and discussions with consultees are listed in Table 16.2 below.

Table 16.2: Other Issues Raised in Consultations and Responses

Consultee	Comment	Response
Responses to FTOWDG Discussion Document (3) – Approach to Assessment of Landscape, Seascape and Visual Cumulative Effects (March 2011) – issued to consultees 01 April 2011. This document is included as <i>Appendix 16E</i> .		
MS – Licensing Operations Team (MS-LOT)	Confirmation that the methodology for the assessment of impacts on the setting of heritage assets has been discussed and agreed with Historic Scotland.	See <i>Chapter 17</i> .
	All viewpoints...are focused on the effects upon the seascape as seen from land. Consideration should be given to the impact on the landscape on the approaches to these (Forth and Tay) two Firths.	A consideration of marine based receptors has been included in the assessment.
	Other major coastal or significant offshore development proposals may be included in the cumulative assessment.	The cumulative assessment includes wind energy developments only. SNH Guidance (2012a) defines cumulative impacts, "...as the additional changes caused by a proposed development in conjunction with other similar developments."
	No consideration has been given to the visual effects of the development at night.	A description of night time lighting predicted at each viewpoint has been included.
	Please clarify how the apparent WTG height will vary with the state of the tide.	Considered in <i>Section 16.9</i> .
SNH	We suggest the joint FTOWDG addresses the following matters: any effects from the perspective of the geological value of the coastline...which is fundamental to scenery; including designed landscapes and policies.	The former is considered in the seascape assessment contained in <i>Appendix 16D</i> , and the latter throughout this chapter.
	A 50 km radius core study area (taken from the...three wind farms) is sufficient for the joint study.	A cumulative study area of 50 km from the Inch Cape WTGs and OSPs was subsequently agreed at the meeting of 22 March 2012.
	Setting out the rationale behind the proposed viewpoints will help to ensure and document that the full range of receptors are being considered.	The viewpoint rationale is included in the assessment.

Consultee	Comment	Response
	Using a common set of photographs to form the basis of each developer's visualisations will provide a reasonably sound, comparable baseline.	A set of common photographs was used.
	We note that the joint study should...assess the impacts of WTG lighting.	Although descriptions of likely night time views have been included within the viewpoint descriptions in <i>Appendix 16C</i> , the potential effects of warning and navigational lighting have not been assessed as there is currently no published guidance on how such an assessment might be undertaken.
15 June 2011 Meeting in Edinburgh with representatives of FTOWDG, SNH, MS, The Crown Estate, Fife Council, Scottish Borders Council, East Lothian Council and Angus Council		
General (the following comments were agreed)	A study area of 50 km radius and cumulative search area of 65 km radius around each of the three projects.	A cumulative study area of 50 km from the Inch Cape WTGs and OSPs was subsequently agreed at the meeting of 22 May 2012.
	Cut-off date for proposals being included in CSLVIA is three months prior to submission.	The "final" list of cumulative sites to be included in the CSLVIA was agreed on 27 September 2012. Changes occurring to this list between this date and 13 January 2013 are noted in Table 16.20.
	Sequential views assessment will include consideration of potential effects on offshore cruise ships, aeroplanes and the east coast railway.	These receptors have been considered in the assessment.
	Night time lighting will be considered in the assessment, no visuals will accompany this assessment. ESs should clearly state lighting options/requirements and if known, details should be provided.	Although descriptions of likely night time views have been included within the viewpoint descriptions in <i>Appendix 16C</i> , the potential effects of warning and navigational lighting have not been assessed as there is currently no published guidance on how such an assessment might be undertaken.
	Effects on historic settings to be assessed in the archaeology study, with cross-reference to the SLVIA.	See <i>Chapter 17</i> .

Consultee	Comment	Response
	Standard terminology to be used by each of the developers in their respective SLVIA studies.	Terminology may differ somewhat although all terms are defined where appropriate and a glossary is included for reference.
26 July 2011 Meeting in Edinburgh with representatives of FTOWDG, SNH, MS, The Crown Estate and Fife Council		
General	<p><i>In relation to baseline studies</i></p> <p>It was agreed that landscape consultants would review SNH's Guidance (2008) on <i>Landscape and Seascape Capacity for Aquaculture</i> and...this would be addressed in the baseline study.</p>	Consideration has been given to the Guidance.
	<p><i>In relation to visualisations</i></p> <p>It was agreed that a sample of the proposed final format of the SLVIA visualisations should be provided to SNH for comment in advance of production of the ES.</p> <p>A viewing distance of 300 mm for all visualisations was agreed.</p>	<p>A sample visualisation (for Viewpoint 14: Carnoustie) was sent to SNH on 25 October 2012.</p> <p>This has been adopted for the Inch Cape visualisations.</p>
	<p><i>In relation to cumulative impact assessment</i></p> <p>It was agreed that CSLVIA will be updated to reflect any new projects/proposals in planning three months prior to the submission of each consent application.</p>	<p>The list of cumulative sites to be included in the assessment was agreed with consultees on 27 September 2012. In January 2013 an addendum was added to the assessment to note any changes subsequent to that date. This is included in Table 16.20. It is not considered that these changes would make any material difference to the assessment of significant effects.</p>

Consultee	Comment	Response
<p>July 2011 SNH and MS Advice Note <i>Offshore Wind farm Landscape/Seascape, Visual and Cumulative Assessment Recommended Outputs</i></p>		
<p>N/A</p>	<p><i>In relation to:</i></p> <p><i>Recommended Outputs</i></p> <p><i>1. Map of search and study areas, and preliminary ZTV</i></p> <p>The study area will be agreed by MS in consultation with SNH and relevant local authorities.</p>	<p>The study area for the CSLVIA for the Inch Cape WTGs and OSPs was subsequently agreed as 50 km at the meeting of 22 March 2012.</p>
	<p><i>2. Coastal and “seascape”/landscape character assessment baseline information in agreed study area (map and text)</i></p> <p>a) Landscape character information shall be taken from the relevant terrestrial Landscape Character Assessment (SNH national series of LCAs);</p> <p>b) Coastal character information shall be based on national coastal character descriptions and relevant coastal references in the terrestrial LCA;</p> <p>c) More detailed characterisation and/or subdivision, if required, will be expected to nest within this hierarchy. The scale and detail should be appropriate for the assessment;</p> <p>d) National and local landscape designations will contribute to questions of landscape sensitivity; and</p> <p>e) Key characteristics should be identified, as appropriate, with respect to the proposed development.</p>	<p>These recommendations have been followed.</p>
	<p><i>3. Viewpoint selection (map and text)</i></p> <p>a) Viewpoints will be agreed by MS in consultation with SNH and relevant local authorities; and</p>	<p>A set of common viewpoints was agreed by the consultees with FTOWDG.</p>

Consultee	Comment	Response
	<p>b) In addition, with the use of “Rochdale Envelopes”, key design viewpoints will be needed, to be confirmed by MS in consultation with SNH and local authorities.</p>	<p>Several Inch Cape Wind Farm specific viewpoints were subsequently added.</p>
	<p>4. Baseline photographs</p> <p>The production and format of baseline photographs should be agreed and shared by developers for cumulative proposals in consultation with MS, SNH and local authorities.</p>	<p>A set of common baseline photographs was used.</p>
	<p><i>In relation to...Rochdale Envelopes</i></p> <p>5. Constraints (map and text)</p> <p>The primary concept stage should set out known constraints – for example shipping lanes, ordnance banks, geology, wind source and so on, as well as the range of potential components and layouts being considered.</p>	<p>Design constraints are discussed in <i>Chapter 6: Site Selection and Alternatives</i> and <i>Chapter 7: Description of Development</i>.</p>
	<p>6. Design concept (plan(s) and text)</p> <p>This is needed in order to investigate the likely impacts of different layouts (e.g. grid, offset grid, arc array).</p>	<p>A design sensitivity analysis was carried out see <i>Section 16.9</i>.</p>
	<p>7. Visualisations for design viewpoints (photomontages, wirelines, photographs)</p> <p>For each design viewpoint, the agreed range of layouts should be appropriately illustrated.</p>	<p>This was done for the design sensitivity analysis.</p>
	<p>8. Worst case scenario</p> <p>In compliance with EIA regulations, the worst case scenario should be assessed and illustrated.</p>	<p>For Inch Cape, the number of WTGs is fixed at 213 regardless of height therefore the maximum height scenario has been illustrated and assessed in clear conditions with WTGs brightly lit.</p>
	<p>9. Post-consent process</p> <p>Final visualisations, to agreed standard and format, from a list of agreed viewpoints, will be provided for the final layout and wind farm design.</p>	<p>Visualisations have been provided from representative viewpoints agreed with SNH and local authority consultees. These are included in <i>Appendix 16G</i>.</p>

Consultee	Comment	Response
21 December 2011 SNH Memo on Regional Seascape Character Assessment		
SNH	The following queries should be addressed: 1. What scale has the assessment been carried out at?	(FTOWDG Response) The overview map has been presented at 1:750,000 @ A3, but is supplemented within the SLVIA with information presented at a larger scale.
	2. How has the baseline seascape character been defined?	The study firstly defined the baseline character of each of the seascape character areas and then analysed this in respect of the recorded key characteristics identified in the methodology, in order to firstly define the area and secondly assess its sensitivity to offshore wind farm development.
	3. How does the defined seascape character relate to existing LCAs?	In some instances these reflect existing SNH LCA boundaries, but have not been defined in relation to these boundaries. Rather they have been entirely derived from application of the agreed seascape characterisation methodology.
	4. How have sensitivity ratings been ascribed to character areas?	The sensitivity ratings have been ascribed in accordance with the agreed methodology and by application of professional judgement.
22 March 2012 Meeting in Dundee with representatives of SNH, MS, Fife Council, Dundee Council and Angus Council		
General	<i>In relation to scope of cumulative assessment</i> It was agreed that the cut off for agreeing cumulative sites to be included in SLVIA would be three months prior to submission.	Noted, see Table 16.19 and Table 16.20.
	It was agreed that sites with WTGs below 50 m would not be included in the cumulative assessment.	Noted, see Table 16.19.

Consultee	Comment	Response
	<p>It was agreed that a plan showing location and status of all cumulative sites meeting the criteria within the 50 km study area together with a proposed list of cumulative sites to be included in the detailed assessment, with reasons for selection, would be circulated to all concerned for discussion a few weeks prior to the cut off.</p>	<p>This was circulated at the beginning of September 2012 and some changes made following advice from local authority consultees. A “final” list was circulated on 27/09/2012.</p>
	<p>It was agreed that the SLVIA would group together cumulative sites and also refer to sequential cumulative visibility on coastal routes along the Aberdeen and Angus coast.</p>	<p>Certain sites have been grouped for the assessment as shown in Table 16.19.</p>
<p>General</p>	<p><i>In relation to visualisations</i></p> <p>It was agreed that the eight closest viewpoints to the Inch Cape WTGs and OSPs would be illustrated using photomontages. Other viewpoint visualisations would show wirelines of the Inch Cape WTGs and OSPs.</p> <p>The currently proposed design envelope included WTGs of 215 m height to blade tip, as opposed to 198 m used to prepare ZTVs to date. A comparative ZTV showing difference between visibility for these options was circulated.</p> <p>It was thought that horizontal angle ZTVs would be useful.</p> <p>There was general interest in the production of a night time photomontage. SLR expressed concern over the technical difficulties this might present. It was agreed that SLR would investigate available guidance.</p>	<p>A total of nine viewpoints are illustrated by photomontages.</p> <p>A comparative ZTV (Figure 16.8) showing the three WTG heights selected for the Design Envelope has been included in the assessment.</p> <p>Horizontal angle ZTVs have been produced (Figure 16.6) and the proportion of the horizontal field of view occupied by each wind farm – herewith referred to as the (HSA) - is included in the assessment and noted in the viewpoint assessments <i>Appendix 16C</i>.</p> <p>There is no published guidance on assessment of the environmental impacts of lighting, or on production of night time visualisations. These have not been included in the assessment although a description of the possible appearance of lighting is included in the viewpoint assessment.</p>

Consultee	Comment	Response
General	<i>In relation to the Inch Cape WTGs and OSPs specific viewpoint locations</i>	
	It was agreed that the Inch Cape WTGs and OSPs specific viewpoints to be included in addition to the FTOWDG viewpoints were generally representative; comments were received subsequent to the meeting regarding micro-siting of these additional viewpoints.	Noted.
	It was agreed that an additional viewpoint would be included to show cumulative views of the Tullo group of wind farms in Aberdeenshire in conjunction with the Inch Cape WTGs and OSPs.	This is included as Viewpoint 2 (Figure 16.36).
	It was agreed that a wireline from a sea-based location showing Bell Rock and the Inch Cape WTGs and OSPs be provided.	This has been produced and is referenced in <i>Chapter 17</i> . See <i>Appendix 17B: Cultural Heritage Visualisations 17B.1, 17B.2, 17B.3 and 17B.4</i> .
Other correspondence and discussions subsequent to meeting of 22 March 2012		
SNH	Email from SNH (5 September 2012) confirming that SNH would defer to local authority opinion on which onshore wind farms should be included in the cumulative assessment.	Noted.
Fife Council	Email from Fife Council (11 September 2012) confirming that Fife was satisfied with the list of cumulative sites circulated on 5 September 2012 to attendees of the March 2012 meeting referred to above. Advised that South Cassingray could be removed as refused on appeal.	Noted.
Angus Council	Email from Angus Council (13 September 2012) included latest database of WTG planning applications received by Angus.	Two sites were added to the cumulative assessment: Balnacake and Hill of Stracathro.

16.4 SLVIA Study Area

16.4.1 Definition of SLVIA Study Area

12 The SLVIA Study Area covers a 50 km radius from the outermost Inch Cape WTGs as shown in Figure 16.1 and subsequent figures. This was requested during consultations with SNH, having regard to the potential height of the WTGs. The Offshore Export Cable Corridor runs from the Development Area to landfall at either Seton Sands or Cockenzie in East Lothian. The Study Area also includes the Offshore Export Cable Corridor shown on *Chapter 1*, Figure 1.2 and the landfall details shown in *Chapter 7*, Figure 7.6.

16.4.2 Study Area Characteristics

13 The first stage of the assessment reviews the existing seascape, landscape and visual amenity of the SLVIA Study Area. The landscape baseline for the SLVIA Study Area has been assessed, classified and verified on site taking account of the following SNH Landscape Character Assessments (LCAs):

- SNH (1998) *No. 102 South and Central Aberdeenshire* (Environmental Resources Management);
- SNH (1999a) *No. 113 Fife* (David Tyldesley and Associates); and
- SNH (1999b) *No. 122 Tayside* (Land Use Consultants).

14 Designated landscapes in the SLVIA Study Area have been identified, including Areas of Great Landscape Value (AGLV) and Local Landscape Areas (LLA). GDLs listed in Historic Scotland's Inventory have also been included in the assessment.

15 A detailed description of the baseline environment is contained in *Appendix 16A* and is summarised below in *Section 16.11*.

16 The Seascape Character Assessment (SCA) was undertaken following discussions between FTOWDG, SNH, MS and the local authorities. As part of the collaborative approach to impact assessment being undertaken by FTOWDG, a common seascape character baseline has been prepared and is presented in *Appendix 16D*.

17 Regional seascape character areas and landscape character types and their associated areas are shown in Figures 16.2, 16.2a and 16.2b, and designated areas in Figures 16.3 and 16.3a.

16.4.3 Visibility Analysis

18 In order to identify the parts of the SLVIA Study Area which may be affected by the Inch Cape WTGs and OSPs; tip height, hub height and substructure height, Zone of Theoretical Visibility (ZTV) plans were produced to identify the theoretical extent of visibility of the Inch Cape WTGs and OSPs within the SLVIA Study Area. These ZTVs are shown in Figures 16.4, 16.4a, 16.4b, 16.4c and 16.4d, and in Figures 16.5, 16.5a, 16.5b, 16.5c and 16.5d. They are supplemented with a horizontal angle ZTV which indicates the proportion of the horizontal

view theoretically occupied by the Inch Cape WTGs and OSPs at any given location. This is shown in Figure 16.6.

- 19 An assessment of the predicted visibility of the Inch Cape WTGs and OSPs from each of the landscape and visual receptors in the SLVIA Study Area has been carried out by analysis of the ZTVs and field verification from key sensitive receptors (*Section 16.4.5*). The visibility assessment has concentrated on publicly accessible areas and key receptors including residential and outdoor recreational areas, as well as road and rail routes and public footpath networks.

16.4.4 Additional Considerations

- 20 A number of additional factors have been considered in relation to visibility and the prediction of the likely significant landscape, seascape and visual effects within the SLVIA Study Area. These are:

- Curvature of the earth;
- State of tide;
- Atmospheric visibility; and
- Acuity of the eye.

Curvature of the Earth

- 21 When the WTGs and OSPs are viewed from locations near sea level, WTGs at distances greater than 50 km will begin to disappear over the horizon. These distances could theoretically be exceeded for land based receptors, where the viewing height is above sea level. The presence of hill and upland areas within the SLVIA Study Area provides elevated viewing locations for sensitive receptors. The angle of view gained by receptors at greater elevations above sea level will, to some degree, counteract the curvature of the earth, extending the potential availability of views. Modelled ZTVs and photomontages consequently take account of the curvature of the earth.

State of the Tide

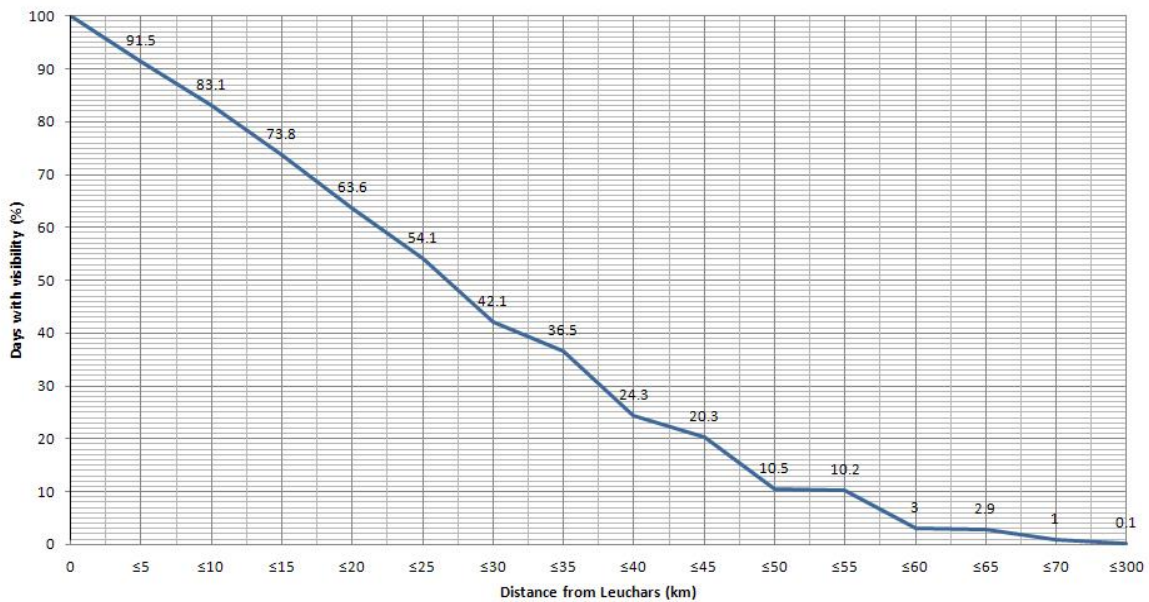
- 22 The apparent height of WTGs will vary between Lowest and Highest Astronomical Tide (LAT/HAT) by around 6.4 m. It is considered that this difference is unlikely to be discernible over the distances between the Development Area and the various viewpoints included in the assessment.

Atmospheric Visibility

- 23 It is usual when assessing visibility of WTGs to consider atmospheric visibility by examining meteorological data for the area. Such examination can only be approximate, as visibility varies from year to year, according to season, and will vary across the SLVIA Study Area, both laterally, and with height above sea level. Ten year averages have been used to indicate approximate percentages of time within each viewing range.

- 24 Atmospheric visibility data collected at the Leuchars weather station for a 10 year period from January 2001 to December 2010 was analysed for the purposes of this assessment, and is summarised in Graph 16.i below.
- 25 From Leuchars, the closest Inch Cape WTG will be located east north-east at a distance of approximately 40 km. The furthest WTG will be located approximately 50 km distant. The data shows that visibility up to 40 km indicating from this location the Inch Cape WTGs and OSPs will be visible for just under one quarter of the time.

Graph 16.i: Visibility from Leuchars



Acuity of the Eye

- 26 The *Guide to Best Practice in Seascape Assessment* (CCW et al, 2001) discusses the limitations of the acuity of the human eye. The guidance states that:

“At a distance of 1 kilometre in conditions of good visibility a pole of 100 mm diameter will become difficult to see, and at 2 kilometres a pole of 200 mm diameter will similarly be difficult to see. In other words there will be a point where an object, whilst still theoretically visible, will become too small for the human eye to resolve. Mist, haze or other atmospheric conditions may significantly exacerbate that difficulty.”

- 27 Consequently, when visible in favourable conditions, a slim object, approximately three metres in width will be at the limit of perception by the human eye at a distance of 30 km. An object would need to be greater than five metres wide to be visible at or beyond 50 km.
- 28 A combination of curvature of the earth and acuity of the eye would limit the potential for seascape, landscape and visual effects especially beyond 50 km distance.

16.4.5 Receptors

- 29 Within the SLVIA Study Area, there is a range of seascape, landscape and visual amenity receptors. A baseline survey has been carried out to identify these receptors, involving desk study and field work and taking account of consultation.
- 30 Seascape receptors are defined as all regional seascape character areas in the SLVIA Study Area from where the Inch Cape WTGs and OSPs are predicted to be visible. Seascape character areas within the SLVIA Study Area are shown in Figure 16.2, and an overlay with the ZTV is shown in Figure 16.2b.
- 31 Landscape receptors are defined as all LCAs in the SLVIA Study Area from where the Inch Cape WTGs and OSPs are predicted to be visible. Landscape character types and associated areas within the SLVIA Study Area are also shown in Figures 16.2 and 16.2a, and an overlay with the ZTV is shown in Figure 16.2b.
- 32 Designated landscapes within the SLVIA Study Area from where the Inch Cape WTGs and OSPs may be seen are also included as landscape receptors and are shown in Figure 16.3, and an overlay with the ZTV is shown in Figure 16.3a.
- 33 Visual amenity receptors are defined as individuals or groups of people within the SLVIA Study Area who are predicted to have views of the Inch Cape WTGs and OSPs. The main groups of visual receptors are defined as follows:
- residents;
 - walkers and climbers;
 - tourists, visitors or users of recreational facilities;
 - road and rail users; and
 - marine based receptors including people taking part in water-based recreational activities, and commercial and cruise ship.
- 34 It is acknowledged that these groups of visual amenity receptors may be sub-divided and that there may be more categories of receptors, but for the purposes of this assessment it is considered that the above categories cover the main groups of landscape and visual receptors in the SLVIA Study Area.

16.4.6 Viewpoint Assessment

- 35 A list of preliminary viewpoints was agreed during the course of discussions with consultees in relation to establishing the seascape character baseline through FTOWDG. Further consultation in respect of the WTGs and OSPs resulted in some additional inland viewpoint locations being added for the purposes of the SLVIA. These responses were incorporated into the final viewpoint list used in this SLVIA which is provided in Table 16.3 below. Viewpoint locations are illustrated on all ZTV plans (see *Appendix 16G*).

Table 16.3: Representative Viewpoints Included in the Assessment

Viewpoint Number	Viewpoint Location (distance to nearest Inch Cape WTG)	Reason for Inclusion
1.	Garron Point (43.74 km)	Extensive view from scenic golf course out to North Sea and south along coast past Stonehaven to Dunnottar Castle and beyond.
2.	A92, North of Inverbervie (30.00 km)	Cumulative view of the Inch Cape WTGs and OSPs with cluster of existing and proposed wind farms located on Hill of Garvock.
3.	Beach Road, Kirkton, St Cyrus (24.10 km)	Extensive view over Montrose Bay from well-used car park adjacent to coastal footpath.
4.	Cairn o' Mount (42.88 km)	Recognised scenic viewpoint on B974 between the Howe of the Mearns and Deeside with expansive view over surrounding areas.
5.	Montrose (19.74 km)	Popular tourist and recreational destination on the beach front; views encompassing Montrose Bay and Scurdie Ness Lighthouse.
6.	Braehead of Lunan (18.93 km)	Extensive views across Lunan Bay to Red Head; located on National Cycle Network (NCN) Route 1.
7.	Brechin (31.16 km)	Representative of views of the Inch Cape WTGs and OSPs which might be obtained from the outskirts of this important settlement.
8.	White Caterthun Hill Fort (38.29 km)	Important cultural heritage site in upland foothills popular with walkers having extensive views over surrounding landscape.
9.	Minor Road South of Cairnconon Hill (27.39 km)	Representative of inland views from this agricultural landscape within which the sea is visible.
10.	Clifftop Path North of Victoria Park (18.47 km)	Popular clifftop path included to show more coastal context in a view of the Inch Cape WTGs and OSPs from Arbroath.
11.	Arbroath Signal Tower (19.63 km)	Listed building with historic connection to the Bell Rock, now a museum. Public access to roof top platform not currently possible.

Viewpoint Number	Viewpoint Location (distance to nearest Inch Cape WTG)	Reason for Inclusion
12.	A92 East of Muirdrum (25.33 km)	Representative of inland views from this agricultural landscape within which the sea is visible. Located on NCN Route 1.
13.	Dodd Hill (37.89 km)	Popular with hill-walkers having extensive view over surrounding landscape.
14.	Carnoustie (26.45 km)	Popular destination for tourists, day-trippers and local residents, adjacent to golf course and beach.
15.	Dundee Law (43.45 km)	Recognised scenic viewpoint in centre of Dundee with extensive views over the surrounding landscape.
16.	Tentsmuir (33.16 km)	Well-visited beach adjacent to Tentsmuir Forest. Located close to NCN Route 1 and Fife Coastal Path.
17.	Strathkinness (39.14 km)	Representative of inland views from this agricultural landscape within which the sea is visible. Located on NCN Route 1.
18.	St Andrews, East Scores (34.53 km)	Representative of views from seafront of St Andrews. Popular with tourists and local residents. Located on Fife Coastal Path.
19.	Largo Law (47.92 km)	Popular with hill-walkers having extensive view over surrounding landscape.
20.	B9131 South of Dunino (35.52 km)	Representative of inland views from this agricultural landscape within which the sea is visible.
21.	Kingsbarns (29.86 km)	Representative of inland views from this agricultural landscape within which the sea is visible.
22.	Anstruther Easter (35.50 km)	Representative of views from the coastal villages of the East Neuk. On Fife Coastal Path and popular with tourists and day-trippers.
23.	Fife Ness, Lochaber Rock (27.37 km)	Easternmost point in Fife. Located on Fife Coastal Path and popular with tourists and other visitors. Small settlement nearby.
24.	Isle of May (33.50 km)	A National Nature Reserve (NNR) and tourist destination popular with day-trippers, which provides a proxy for seaborne views.

Viewpoint Number	Viewpoint Location (distance to nearest Inch Cape WTG)	Reason for Inclusion
25.	Dunbar (50.33 km)	Representative viewpoint on East Lothian coastline. Located on John Muir Way. Visited by residents and recreational users.

- 36 The selected viewpoints are considered to be representative of the main sensitive receptors or receptor groups in the SLVIA Study Area. The viewpoints have also been checked against the cumulative ZTVs for existing/consented and application scoping stage wind farms within the SLVIA Study Area in order to ensure that they provide representative coverage of potential cumulative visibility and related effects.
- 37 Analysis of the potential effect on seascape or landscape character and visual amenity at each of the viewpoints, arising from the Inch Cape WTGs and OSPs has been carried out. This analysis has involved the production of computer generated wirelines and in some cases photomontages, to predict the views of the WTGs from each of the agreed viewpoints. The existing and predicted views from each of these viewpoints have been analysed to identify the magnitude of change and the residual effect on seascape and landscape character and visual amenity based on field work as well as desk based assessment.
- 38 Finally, an assessment of the significance of the residual effect has been carried out to determine the predicted impact of the Inch Cape WTGs and OSPs in this locality in relation to seascape and landscape character and visual amenity. The significance of a seascape, landscape or visual effect is a function of the sensitivity of the affected seascape, landscape or visual receptor, and the magnitude of change that will occur as a result of the Inch Cape WTGs and OSPs.

16.4.7 Desktop Survey

- 39 A review of existing seascape, landscape and visual context has been undertaken with reference to existing character assessment, SNH guidance, planning policies and mapping information. The following sources were consulted in order to compile the baseline information:
- *Scottish Planning Policy* (Scottish Government, 2010);
 - SNH Landscape Character Assessments;
 - *An assessment of the sensitivity and capacity of the Scottish seascape in relation to offshore windfarms* (SNH, 2005a);
 - Historic Scotland's (2012) *The Inventory of Gardens and Designed Landscapes in Scotland*;
 - Ordnance Survey Maps;

- Aerial photography; and
- Consultation with SNH, and other consultees as listed in *Section 16.3*.

16.4.8 Field Survey

40 The SLVIA Study Area was visited during August 2011, January and December 2012, and January 2013, in periods of reasonably fine and clear weather, to verify seascape, landscape and visual receptors and related effects. The assessment has been carried out on the basis of clear visibility and maximum anticipated brightness.

16.5 Assessment Methodology

41 The aim of the SLVIA is to identify, predict and evaluate potential impacts arising from the Inch Cape WTGs and OSPs. This section highlights how the SLVIA methodology uses the framework outlined in *Section 4.4* and builds upon the principles to undertake the SLVIA assessments.

42 Wherever possible, identified impacts are quantified, but the nature of seascape, landscape and visual assessment also requires interpretation by professional judgement.

43 In order to provide a level of consistency to the assessment, seascape/landscape sensitivity and the prediction of magnitude of change, are based on pre-defined criteria as outlined in this section. These criteria are derived from the *Guidelines for Landscape and Visual Impact Assessment* (Landscape Institute and IEMA, 2002), as refined for the purposes of offshore wind farm assessment, and also taking account of SNH guidance detailed in *Section 16.2*.

16.5.1 Impact Assessment

44 The assessment of significance (sensitivity and magnitude) involved site specific field work to consider the potential impacts on all of the identified receptors included in the assessment. This field work was supplemented by reference to a range of illustrative material including photography, ZTVs, and electronically generated wireline representations of the predicted views at each of the 25 viewpoint locations included in the assessment. The nine viewpoint locations closest to the Inch Cape WTGs and OSPs are illustrated with a photomontage in addition to wireline visualisations. The viewpoint visualisations are presented in Figures 16.35 – 16.59 presented in *Appendix 16G*.

45 The potential landscape and visual impacts arising during the operational phase of the Inch Cape WTGs and OSPs have been assessed in two ways:

- analysis of the ZTVs to provide a general overview of the predicted visibility of the Inch Cape WTGs and OSPs from the different distances within the SLVIA Study Area. This analysis is contained within *Appendix 16B*; and
- assessment of the potential landscape and visual effects at 25 selected viewpoints. Descriptions of the existing and predicted view at each viewpoint together with a description of the predicted effects are contained in *Appendix 16C*.

16.5.2 Receptor Sensitivity

- 46 The sensitivity of the landscape to changes is defined as high, moderate or low based on professional interpretation of a combination of parameters including:
- the value placed on the landscape as defined by designation or other identifiable form of recognition;
 - the scale and pattern of the landscape and its elements/features;
 - the simplicity or complexity of the landscape;
 - the nature of skylines;
 - landscape quality or condition, including presence of any detracting features;
 - existing land-use;
 - visual enclosure/openness of views and distribution of visual receptors; and
 - the scope for mitigation, which would be in character with the existing landscape.
- 47 Seascape sensitivity is judged according to a series of criteria that were developed, based on those used in *An assessment of the sensitivity and capacity of the Scottish seascape in relation to offshore windfarms* (SNH, 2005a), to define sensitivity to offshore wind farm development. These were modified to include aspects of seascape covered in *Guidance on Landscape/Seascape Capacity for Aquaculture* (SNH, 2008). The sensitivity of the seascape to changes is defined as high, moderate or low based on professional interpretation of a combination of parameters including:
- scale and openness of the seascape;
 - form, whether complex and intricate or simple;
 - degree of settlement;
 - pattern and number/character of focal points;
 - lighting, whether dark or well-lit;
 - degree and perception of movement in the seascape;
 - aspect, for example, whether coastal views are aligned towards open sea or inner firths;
 - experiential qualities of the seascape such as seclusion, busyness, strong maritime connections, etc.;
 - degree of exposure;
 - process and dynamics;
 - quality and condition;
 - whether seascape quality is recognised by any designations; and
 - what development or other pressures are present.

- 48 It should be noted that the seascape or landscape sensitivity assessed at each of the representative viewpoints is not necessarily the same as that identified as the overall sensitivity for the seascape or landscape character area within which the viewpoint is located. Thus if the key characteristics of the seascape or landscape at, and seen from, a viewpoint location are different from the key characteristics of the overall seascape or landscape character area, it may be assessed as being of a different sensitivity at the particular viewpoint location.
- 49 This assessment considers landscape and seascape sensitivity in relation to indirect effects arising from development outwith the particular landscape or seascape character area in question. Sensitivity is defined as high, moderate or low in accordance with Table 16.4 below.

Table 16.4: Seascape or Landscape Sensitivity

Sensitivity of Receptor	Seascape or Landscape Resource
High	A seascape or landscape of particularly distinctive character, which may be nationally designated for its scenic quality or where its key characteristics have limited resilience to change.
Moderate	A seascape or landscape of notable character or where its key characteristics have some/moderate resilience to change.
Low	A seascape or landscape which is of low/poor scenic quality or where its key characteristics are such that they are resilient to change.

16.5.3 Viewpoint Sensitivity

- 50 Viewpoint sensitivity is defined as high, moderate or low based on an interpretation of a combination of parameters, as follows:
- location and context of the viewpoint;
 - land use or main activity at the viewpoint;
 - frequency and duration of use;
 - seascape or landscape character and quality of the intervening seascape or landscape; and
 - importance of the view (which may be determined with respect to its popularity or number of affected people, its appearance in guidebooks, on tourist maps and the facilities provided for its enjoyment and references to it in literature and/or art).
- 51 In relation to land use at the viewpoint, visual sensitivity is defined in Table 16.5 below.

Table 16.5: Visual Sensitivity in Relation to Main Activity at Viewpoint

Sensitivity of Receptor	Visual Resource or Amenity
High	Locations frequented by viewers with proprietary interest and prolonged viewing opportunities such as at residential properties or at popular recreational destinations, including views obtained by recreational cyclists on recognised national cycle routes.
Moderate	Locations frequented by viewers with a moderate interest in their environment; people travelling through the landscape in a motorised vehicle or at recreational facilities, where the main focus of activity is not on the surroundings.
Low	Locations frequented by viewers with a passing interest in their surroundings and whose interest is not specifically focussed on the scenery, e.g. at working premises.

16.5.4 Magnitude of Change

52 The magnitude of change arising from the Inch Cape WTGs and OSPs at any particular viewpoint is described as high, moderate, low or negligible based on the interpretation of a combination of parameters, as follows:

- distance of the viewpoint from the Inch Cape WTGs and OSPs;
- duration of the predicted impact;
- extent of the Inch Cape WTGs and OSPs in the view (e.g. the horizontal angle subtended by it);
- angle of view in relation to main receptor activity;
- degree of contrast;
- visual permeability of the Inch Cape WTGs and OSPs (i.e. extent to which views will be blocked or will be retained, albeit interrupted and altered);
- background to the Inch Cape WTGs and OSPs; and
- extent and nature of other built development visible.

53 In the case of magnitude of change occurring within designated areas or along roads, railways or recreational routes, the proportion of the designated area or length of the route affected by the proposals is also a consideration.

54 The criteria utilised in ascribing magnitude of change throughout this assessment are defined in Table 16.6 below.

Table 16.6: Magnitude of Change

Magnitude of Change	Definition
High	Total loss or considerable alteration to key elements, features or characteristics of the seascape/landscape character or view, resulting in a substantial change to the baseline condition.
Moderate	Partial loss or alteration to one or more key elements, features or characteristics of the seascape/landscape character or view. Change perceived as a partial or localised change within a broader, unaltered context.
Low	Limited loss or small alteration to one or more key elements/features/characteristics of the existing seascape/landscape character or view. Change is discernible but underlying landscape character or view composition will be similar to baseline.
Negligible	Very limited or imperceptible loss or alteration to one or more key elements/characteristics of the baseline. Change may be barely distinguishable.

16.5.5 Significance of Effects

55 Significance of effects is determined by the sensitivity of receptors and the predicted magnitude of change. For the purposes of this assessment seascape, landscape or visual effects which are major or moderate/major are considered significant.

Table 16.7: Significance of Effects

Magnitude of Impact	Sensitivity of resource/receptor		
	Low	Moderate	High
Negligible	Negligible/Minor	Minor	Minor/Moderate
Low	Minor	Minor/Moderate	Moderate
Moderate	Minor/Moderate	Moderate	Moderate/Major
High	Moderate	Moderate/Major	Major

- 56 The matrix is not used as a prescriptive tool, and the methodology and analysis of potential effects at any particular location must allow for the exercise of professional judgement. Thus in some instances a particular parameter may be considered as having a determining effect on the analysis.

16.6 Cumulative Seascape, Landscape and Visual Impact Assessment Methodology

- 57 The SLVIA firstly considers the additional effect of the Inch Cape WTGs and OSPs in conjunction with existing and consented wind farms as these are already, or will become, part of the landscape and/or seascape. The cumulative assessment then proceeds to consider the additional effect of the Inch Cape WTGs and OSPs in conjunction with existing and consented wind farm developments, together with application and scoping stage wind farm developments (i.e. those for which applications have been or may be submitted to the relevant authority). Application stage developments include ones for which planning applications have been submitted or where an appeal is in progress. Refused applications which are within six months of the refusal decision are also included. Only scoping stage developments with a particular relevance to the Inch Cape WTGs and OSPs (for example those in coastal locations) have been considered in the assessment. As agreed with SNH, because there is considerable uncertainty about the number, dimensions and locations of turbines which may be constructed in Phases 2 and 3 of Firth of Forth Round 3 Zone, the maximum potential horizontal extent of these turbines has been indicated on wirelines for information purposes only, and they have not been considered in the assessment due to aforementioned levels of uncertainty regarding these potential developments.

16.6.1 Cumulative Effects on Seascape and Landscape Character

- 58 Cumulative effects on seascape and landscape character arise from two or more wind farm developments introducing new features into the seascape or landscape.

16.6.2 Cumulative Effects on Visual Amenity

- 59 Cumulative effects on visual amenity consist of combined and sequential visibility of wind farms in the SLVIA Study Area.
- 60 Combined visibility occurs where it is possible to see two or more developments from a single location. Combined visibility may either be in combination (where several wind farms are within a single arc of vision i.e. approximately 90°) or in succession (where wind farms occur in several arcs of vision at the same location). Sequential effects occur where there is visibility of one or more wind farms from any route through the landscape: for example, from roads or footpaths. These definitions are based on SNH guidelines *Assessing the Cumulative Impact of Onshore Wind Energy Developments* (March 2012a).

16.6.3 Cumulative Magnitude of Change

- 61 In addition to the above the following criteria are considered in order to determine cumulative impacts:
- the number of existing, consented and/or proposed wind farms visible;
 - the distance to each of the existing, consented, and/or proposed wind farms from receptor locations;
 - the direction of each wind farm in relation to other wind farm developments and the viewpoint;
 - the horizontal subtended angle (HSA) of the view occupied by each wind farm (i.e. the angle between the left hand visible WTG and right hand visible WTG in each wind farm);
 - the frequency and duration of cumulative visibility; and
 - in the case of seascape and landscape character areas, landscape designations and transportation/recreational routes, the proportion of the area or route subject to cumulative views.
- 62 The criteria utilised in ascribing magnitude of cumulative change throughout this assessment are defined in Table 16.8 below.

Table 16.8: Magnitude of Cumulative Change

Magnitude of Change	Definition
High	The Inch Cape WTGs and OSPs would represent a considerable increase in the proportion of the seascape/landscape or view affected by wind farm developments.
Moderate	The Inch Cape WTGs and OSPs would represent a notable increase in the proportion of the seascape/landscape or view affected by wind farm developments. Moderate cumulative change equates to a localised change within an otherwise unaltered context.
Low	The Inch Cape WTGs and OSPs would represent a minor addition to the proportion of the seascape/landscape or view affected by wind farm developments. The change would be discernible, but the original baseline conditions would be largely unaltered.
Negligible	The Inch Cape WTGs and OSPs would represent a barely discernible addition to the proportion of the seascape/landscape or view affected by wind farm developments. The baseline condition of the seascape/landscape or view would, for all intents and purposes, be unaffected.

63 In carrying out the CSLVIA, consideration has been given to cumulative effects arising from combined and/or consecutive (concurrent) visibility (where the observer would be able to see two or more wind farm developments from one viewpoint location), and sequential effects (where a number of wind farm developments would be visible individually or simultaneously over a sequence of connected viewpoints, such as would be found along a road or footpath).

16.7 Nature of Effects

64 Aside from direct effects on seascape character experienced within and adjacent to the Development Area, the effects on seascape and landscape character will be indirect as they will mostly be experienced by land-based receptors at least 15.4 km from the Inch Cape WTGs and OSPs (this being the distance between the nearest WTG within the Development Area and the closest point on the coast). The effects will be long-term but reversible.

65 Throughout the SLVIA, the effects of the Inch Cape WTGs and OSPs on seascape and landscape character have been assessed in relation to the key characteristics of each seascape character area or landscape character type (and associated areas) predicted to have visibility of the Inch Cape WTGs and OSPs.

66 This chapter assesses the effects on seascape character arising from the introduction of fixed engineered structures and related components. The existing seascape is an open, extensive sea area, in which there are currently no, or very few, other fixed manmade structures visible. For the purposes of this assessment the effects resulting from the Wind Farm and OfTW are considered to be negative. It is, however, important to consider the nature of the proposed change in the context of the key characteristics of the seascape or landscape areas from which the Inch Cape WTGs and OSPs will be seen, and the extent to which these may be more, or less, sensitive to change of the nature associated with offshore wind farms and accordingly, more, or less, able to accommodate the predicted changes.

67 In relation to the effects of wind farm development on visual amenity, there is a wide spectrum of opinion regarding the appearance of WTGs in the landscape which is well documented and has been reported in several research studies which have been undertaken in recent years to assess public attitudes to wind farms, and in particular whether wind farms discourage tourists. Chapter 22 Section 22.8.4 includes an assessment of the impact on tourism of eight existing Round 1 offshore wind farms. This assessment demonstrates that none of these offshore developments led to a negative effect upon onshore tourism or recreation. In addition, specific studies relating to visual amenity are outlined below:

- University of the West of England Research (Aitchison, 2004) – Professor Aitchison undertook research to provide information for a public inquiry for a proposed wind farm development in North Devon in 2006. Part of this research involved the interviewing of 379 visitors to areas around two wind farms in Cornwall and two in mid-Wales. Eighty seven per cent of the people interviewed considered that the development of a wind farm would neither encourage nor discourage them from visiting the area. Of the remaining 13 per cent, just over half thought that a wind farm would encourage them to

visit an area. The survey also found broad support for renewable energy schemes in general. These findings are supported by a more recent study relating specifically to tourism in Scotland (Aitchison, 2012).

- British Wind Energy Association Survey (BWEA, 2002) – The BWEA, and the Scottish Renewables Forum (SRF), commissioned research into public attitudes to wind farms in Argyll, which has one of the highest concentrations of existing wind farms in the UK. The research clearly shows that tourists came to Argyll because of its high landscape value. When asked whether the presence of wind farms in Argyll made any difference to the likelihood of them visiting the area, the majority (91 per cent) maintained that it made no difference. Twice as many people said they would be ‘more likely’ to visit again than the amount who would be ‘less likely’ to visit.
- Allegra Strategies (Allegra Strategies, 2007) - *UK Attitudes to Energy Efficiency and Alternative Energy Sources*. This March 2007 study reviewed UK consumer views on energy efficiency and alternative energy sources. It concluded that wind power was the most popular renewable energy source quoted. Over two-thirds (70.1 per cent) of respondents stated they would be happy to have a wind farm located near to them, compared to 17 per cent who would not. The clear majority (85.9 per cent) of respondents who had WTGs in their local area expressed positive feedback.
- Scottish Government Report (Scottish Government, 2008)– A March 2008 report, *The economic impact of wind farms on Scottish tourism* found that three-quarters of people interviewed in person felt wind farms had a positive or neutral impact on the landscape.

68 Therefore, whilst the predicted effects on visual amenity resulting from the Inch Cape WTGs and OSPs have been assessed, the assessment does not make a judgement as to the nature of these effects (whether positive, neutral or negative), given the aforementioned diversity and divergence of public opinion.

16.7.1 Effects Scoped Out of SLVIA

69 The potential effects of decommissioning are considered to be equivalent to, and potentially lower than the worst case effects assessed for the construction phase. The approach to decommissioning is described in *Section 7.12*. A decommissioning plan will be prepared in accordance with the requirements of the *Energy Act 2004* (see *Section 3.2.5*) and will be subject to approval from the Department of Energy and Climate Change prior to implementation.

70 Paragraph 188 of *Scottish Planning Policy* (2010) states that projects which are at scoping stage are not generally included in detailed cumulative assessment because their design may undergo substantial change before a formal planning application is made and there is considerable uncertainty about whether these projects will be built at all.

71 However, SNH Guidance on the *Cumulative Effect of Windfarms* (2005b) advises that, despite this, a new wind farm proposal in the vicinity, and its associated cumulative impact, may well be regarded as an important material consideration which the planning authority may wish to take into account in arriving at its decision, but that it is for the planning

authority to decide on the weight to be attached to such a consideration. Within the SLVIA, the only scoping stage onshore development included is within a coastal location, at Port of Dundee. The list of developments to be included in the SLVIA was circulated to both SNH and local authority consultees (see *Section 16.3* for details). Whilst various amendments were suggested and incorporated into the SLVIA, there was no request to include any other scoping stage developments in addition to Port of Dundee.

16.7.2 Illustrative Tools

- 72 A ZTV map illustrates the theoretical visibility of an object in the landscape. The phrase "theoretical visibility" is used to describe the result because the analysis does not take into account any landscape elements such as trees, woodland, buildings/man-made structures or localised landforms etc. The analysis is made on the basis of topography alone. The ZTVs are based on Ordnance Survey (OS) digital terrain data supplied as gridded height data at 50 m interval resolution. The visibility shown on the ZTVs is more extensive than actual visibility on the ground. Where the ZTV shows no visibility, it is predicted that no part of the Inch Cape WTGs and OSPs will be seen. The ZTV plans are shown in Figures 16.4 and 16.5 contained in *Appendix 16F*.
- 73 The ZTVs have been supplemented by a visibility analysis based on the digital terrain model, which provides details of the number, height of, and distance to, visible WTGs, as well as the HSA. In order to identify the wind farms to be included in the detailed CSLVIA, ZTVs were prepared for all existing, under construction, consented and application stage wind farm projects within 50 km of the Inch Cape WTGs and OSPs. These were analysed to identify the wind farms with which the Inch Cape WTGs and OSPs could interact to give rise to potentially significant cumulative effects, by examining the extent of simultaneous or sequential visibility and the likely affected receptors. The cumulative ZTVs are shown in Figures 16.11 to 16.22 contained in *Appendix 16F*. The paired ZTVs for developments that were discounted from the assessment at this stage are also presented for reference in Figures 16.60 to 16.119 also contained in *Appendix 16F*.
- 74 The viewpoint assessment which is described below is illustrated by a range of tools including photographs, wirelines and photomontages. The photographs used to construct the photomontages have been taken using a digital camera with a 50 mm lens equivalent, which conforms with the recommendations of the *Guidelines for Landscape and Visual Impact Assessment* (Landscape Institute and IEMA, 2002) guidance because this lens size is considered to most closely represent the view obtained by the human eye.
- 75 The wirelines have been generated based on the same OS digital data used to generate the ZTVs, and therefore illustrate the maximum extent of visibility, because they do not take account of the screening effect of local landform or vegetation. The wirelines show the Inch Cape WTGs in blue, existing and consented wind farms in green, application stage wind farm developments in red (including those at appeal stage, or refused, but where an appeal may occur), and scoping stage developments in purple. Where a wind farm consists of existing and consented components, all the WTGs are shown in the same colour. However, the

different components are identified separately in the detailed analysis and related tables in the report where necessary.

- 76 It should be noted that some variation may occur between the landform in the foreground of photographed views and the foreground terrain shown in a small number of wireline images. This is due to the interval of surveyed grid points in the Digital Terrain Model which results in the interpolation of levels between grid points. In order to remedy this and provide a better match to what is seen in the wireline visualisation and photograph, the viewer height in the visualisation software is sometimes raised using accurate spot heights taken from OS maps or other sources. Where this has occurred it is noted on the visualisation figure.
- 77 The photomontages have been prepared by combining a wireline of the view of the Inch Cape WTGs and OSPs with the photograph of the existing view and rendering the image using a model of the WTGs. The resulting images should be viewed at a distance of 300 mm, preferably in the field at each viewpoint location, as noted on the visualisations, to most closely replicate the view which will be obtained from the viewpoint.
- 78 The visualisations have been prepared to accord with the requirements set out in SNH's Guidance (SNH 2006).

Atmospheric Visibility and Assessment of Worst Case Effects

- 79 It is important when assessing visibility of WTGs to consider atmospheric visibility by examining meteorological data for the area, particularly for offshore developments. For the purposes of this assessment, atmospheric visibility data collected at the Leuchars weather station is summarised in Graph 16.i.
- 80 The data have been extrapolated to other locations within the SLVIA Study Area in order to assess for what proportion of time the Inch Cape WTGs and OSPs will be visible. For example, at the point closest to the WTGs, Red Head, the nearest WTG will be approximately 15 km distant in an east south-easterly direction and the furthest WTG approximately 32 km away. The data indicates that some or all of the WTGs will be visible from this location for just under three quarters of the time.
- 81 Field work to inform the Inch Cape SLVIA was undertaken along the west coast of Cumbria in October and November 2012 in order to look at the visibility and appearance of the Barrow, Ormonde and Walney 1 & 2 offshore wind farms constructed in the Irish Sea in recent years. The field work highlighted the extent to which changing weather conditions affects the visibility and appearance of an offshore wind farm.
- 82 This assessment considers the worst case effects, in other words, those occasions when the WTGs will be fully visible and most prominent in the view, either appearing brightly lit by sunshine or silhouetted and standing out against a brighter backdrop. However, as demonstrated by the fieldwork described above, and apparent from the visibility statistics, with increasing distance from the Inch Cape WTGs and OSPs, there will be many days in the year when the WTGs and OSPs will not be visible from the shoreline at all. The residual

effects on seascape, landscape and visual amenity assessed therefore represent the maximum potential impacts which are likely to result from the Inch Cape WTGs and OSPs.

16.8 Policy and Plans

83 This section contains a brief review of planning policy specifically related to SLV issues.

Marine Policy Statement

84 The *UK Marine Policy Statement* was jointly published in March 2011 by all UK Administrations as part of a new system of marine planning being introduced across UK seas. The Policy Statement recognises that activities and development in marine and coastal areas may give rise to seascape effects, and recommends that marine plan authorities should consider potential impacts at a strategic level, liaising with terrestrial planning authorities where necessary, and utilising appropriate tools such as seascape and landscape character assessment. It also recommends that the authorities should have particular regard to development within or close to any nationally designated areas.

National Marine Plan (Pre-consultation Draft)

85 *Scotland's National Marine Plan: Pre-consultation Draft* (NMP) was published in March 2011. The NMP will set out policies for the sustainable development of Scotland's seas and it is intended that authorisations will be determined in accordance with the adopted NMP unless material considerations indicate otherwise. In relation to seascape/landscape, the pre-consultation draft recommends that development in the marine environment should, in general, take into account the existing character and quality of the seascape, how highly it is valued and its capacity to accommodate change, with a particular focus on minimising negative impacts on National Scenic Areas (NSA).

Scottish Planning Policy

86 National planning policy for land use planning is contained within *Scottish Planning Policy* (SPP) – February 2010 which states that:

"The design and location of any wind farm development should reflect the scale and character of the landscape. The location of turbines should be considered carefully to ensure that the landscape and visual impact is minimised." (Paragraph 187)

87 In relation to offshore wind development, SPP contains little specific guidance except to say that:

"Off-shore renewable energy generation presents significant opportunities to contribute to the achievement of Government targets. Although the planning system does not regulate off-shore development, it is essential that development plans take into account the infrastructure and grid connection needs of the off-shore renewable energy generation industry. Development plans should identify appropriate locations

for facilities linked to the manufacture, installation, operation and maintenance of off-shore wind farms and wave and tidal devices.” (Paragraph 192).

SNH Policy and Guidance

88 SNH does not have a specific policy relating to offshore wind energy. Offshore wind development is covered by an overarching *Policy on Renewable Energy* (SNH, 2000) and in SNH (2004) *Policy Statement 04/01 Marine Renewable Energy and the Natural Heritage: An Overview and Policy Statement*. Landscape and seascape impacts are recognised as having the potential to be significant:

“...as turbines are likely to be large (150m or taller), arrays of turbines may have a strong visual and land/seascape impact, reducing with distance from the coast. Areas of special landscape value require special consideration...Requirements for navigational lighting may lead to significant night-time impacts.” (Paragraph 32).

89 Guidance on assessing the impact of offshore renewables on coastal landscape and seascape was published in March 2012 (SNH, 2012b) and SNH also offers advice and guidance on a case by case basis as referenced in *Section 16.3* in the case of Inch Cape.

Regional and Local Planning Policy

90 The SLVIA Study Area incorporates six different local authority administrative areas: Aberdeenshire, Angus, Dundee City, Perth and Kinross, Fife and East Lothian.

91 The parts of the SLVIA Study Area falling into Perth and Kinross, and East Lothian, are relatively small, and relatively distant from the Inch Cape WTGs and OSPs. Therefore they have not been included in this consideration of policy. For the purposes of this assessment, relevant development plans for Aberdeenshire, Angus, Dundee City and Fife have been considered. These are identified below in Table 16.9, together with landscape (or wind energy related) policies contained within. Local authorities will act as consultees on the application for consents for the Wind Farm and OfTW and are likely to use relevant parts of these policies to guide their consultation responses.

Table 16.9: Regional and Local Development Plan Policies

Local Authority	Regional Plan		Local Plan	
	Plan	Policy	Plan	Policy
Aberdeenshire	Aberdeen City and Shire Structure Plan 2009	No policies relating specifically to landscape or wind energy	Aberdeenshire Local Development Plan 2012	Policy 12: Landscape conservation Policy 13: Protecting, improving and conserving the historic

Local Authority	Regional Plan		Local Plan	
				environment
<p><u>Policy 12:</u></p> <p>Aberdeenshire Council will plan for and promote the improvement and protection of all landscapes in Aberdeenshire by recognising and using landscape character areas. All the landscapes of Aberdeenshire are valuable assets and vulnerable resources, which are facing various pressures of change. We will use the Landscape Character Area framework as a basis for our future planning and management policy. We will also take into consideration particular opportunities, sensitivities and vulnerabilities of different landscapes, and make sure that the implications of development on these are managed in an appropriate and sensitive way. The way we will do this is set out in the following supplementary guidance: SG Landscape 1: Landscape character; and, SG Landscape 2: Valued views.</p> <p><u>Policy 13:</u></p> <p>Aberdeenshire Council supports the protection, improvement and conservation of the historic environment. There will be a presumption against development that would have a negative effect on the quality of these historic assets. Different parts of the historic environment require to be subject to specific guidance and controls to make sure that we maintain and improve their value. The way we will do this is published separately in the following supplementary guidance: SG Historic Environment 3: Historic Gardens and Designed Landscapes.</p>				
	Plan	Policy	Plan	Policy
Angus	<p>Dundee and Angus Structure Plan 2001-2016</p> <p>TAYplan - Strategic Development Plan (SDP) 2012</p>	<p>Environmental Resources Policy 2: The Wider Natural Heritage</p> <p>Environmental Resources Policy 3: Coastal Development and Protection</p> <p>Environmental Resources Policy 5a: Historic Environment</p> <p>Environmental Resources Policy 10: Renewable Energy</p> <p>TAYplan Policy 6: Energy and Waste / Resource Management Infrastructure</p>	<p>Angus Local Plan Review (Adopted 2009)</p>	<p>Policy ER5: Conservation of Landscape Character</p> <p>Policy ER20: Historic Gardens and Designed Landscapes</p> <p>Policy ER29: Coastal Development</p> <p>Policy ER34: Renewable Energy Developments</p> <p>Policy ER35: Wind Energy Development</p>

Local Authority	Regional Plan	Local Plan
<p><u>Environmental Resources Policy 2:</u></p> <p>The Tayside Landscape Character Assessment 1999 (Scottish Natural Heritage), and Local Biodiversity Action Plans produced for Tayside and the Cairngorms area will constitute material considerations in determining development proposals and in providing for new development within Local Plans. Landscape capacity studies will be pursued as necessary to assist the allocation of land and the determination of applications of strategic importance.</p> <p>All developments must respect main features and characteristics of the natural heritage and should contribute to landscape restoration or improvement, biodiversity conservation and enhancement, environmental quality, and where appropriate, promotion of public enjoyment and understanding. Developers will be encouraged to incorporate positive environmental features that either enhance existing or create new habitat networks, such as native trees and woodlands; lochs, ponds, wetlands and watercourses; traditional field boundaries; unimproved grasslands; and coastal habitats.</p> <p><u>Environmental Resources Policy 3:</u></p> <p>Local Plans will establish a development framework to ensure the appropriate protection, enhancement and management of the area’s developed and undeveloped coast in support of the emerging Shoreline and Coastal Zone Management Plans.</p> <p>Development requiring a coastal location or contributing to the economic vitality of the area and consistent with policies elsewhere in the Plan will be directed to developed coast.</p> <p>Development proposals affecting undeveloped coast will only be considered where it can be demonstrated that there are no suitable alternatives, there is an overriding social or economic justification, and they are consistent with policies elsewhere in the Plan.</p> <p>There will be a presumption against development in areas known to be at risk from coastal erosion and/or tidal flooding, based on the information available to the Councils. Development proposals will only be considered within such areas where it can be demonstrated that there are no suitable alternatives, the development can be protected in an environmentally sensitive way without giving rise to similar problems elsewhere and without compromising other policies in the Plan.</p> <p><u>Environmental Resources Policy 5a:</u></p> <p>Local Plans will establish a policy framework to safeguard and enhance important features of the area’s historic environment as a means of conserving the diverse and distinctive qualities of Dundee and Angus. The historic environment of Dundee and Angus is a valuable, non-renewable resource which must be protected, conserved and enhanced. Local Plans shall identify these assets and include policies which :</p> <ul style="list-style-type: none"> • protect the site and setting of listed buildings and scheduled ancient monuments; • protect other archaeological sites and sensitive areas. Where this is not feasible, proper recording and analysis shall take place; • protect and enhance conservation areas and historic gardens and designed landscapes. 		

Local Authority	Regional Plan	Local Plan
<p><u>Environmental Resources Policy 10:</u></p> <p>Proposals for renewable energy development will be favourably considered where they deliver quantifiable environmental and economic benefits and any significant or cumulative adverse impacts on the natural and historic environment, landscape and local communities can be satisfactorily addressed.</p> <p>Development proposals will be considered in the context of the wider environmental policies of the Structure Plan. Detailed criteria based policy, locational guidance and, where appropriate, areas of search for individual sources of renewable energy will be established by Local Plans. An Environmental Statement will be required for all large scale proposals or where development is likely to have significant effects on the environment.</p> <p><u>TAYplan Policy 6:</u></p> <p>A. Local Development Plans should identify areas that are suitable for different forms of renewable heat and electricity infrastructure and for waste/resource management infrastructure or criteria to support this; including, where appropriate, land for process industries (e.g. the co-location/proximity of surplus heat producers with heat users).</p> <p>B. Beyond community or small scale facilities waste/resource management infrastructure is most likely to be focussed within or close to the Dundee and/or Perth Core Areas (identified in Policy 1).</p> <p>C. Local Development Plans and development proposals should ensure that all areas of search, allocated sites, routes and decisions on development proposals for energy and waste/resource management infrastructure have been justified, at a minimum, on the basis of these considerations:</p> <ul style="list-style-type: none"> • The specific land take requirements associated with the infrastructure technology and associated statutory safety exclusion zones where appropriate; • Waste/resource management proposals are justified against the Scottish Government’s Zero Waste Plan and support the delivery of the waste/resource management hierarchy; • Proximity of resources (e.g. woodland, wind or waste material); and to users/customers, grid connections and distribution networks for the heat, power or physical materials and waste products, where appropriate; • Anticipated effects of construction and operation on air quality, emissions, noise, odour, surface and ground water pollution, drainage, waste disposal, radar installations and flight paths, and, of nuisance impacts on of-site properties; • Sensitivity of landscapes (informed by landscape character assessments and other work), the water environment, biodiversity, geo-diversity, habitats, tourism, recreational access and listed/scheduled buildings and structures; • Impacts of associated new grid connections and distribution or access infrastructure; • Cumulative impacts of the scale and massing of multiple developments, including existing infrastructure; • Impacts upon neighbouring planning authorities (both within and outwith TAYplan); and, • Consistency with the National Planning Framework and its Action Programme. 		

Local Authority	Regional Plan	Local Plan
<p><u>Policy ER5:</u></p> <p>Development proposals should take account of the guidance provided by the Tayside Landscape Character Assessment and where appropriate will be considered against the following criteria: (a) sites selected should be capable of absorbing the proposed development to ensure that it fits into the landscape; (b) where required, landscape mitigation measures should be in character with, or enhance, the existing landscape setting; (c) new buildings/structures should respect the pattern, scale, siting, form, design, colour and density of existing development; (d) priority should be given to locating new development in towns, villages or building groups in preference to isolated development.</p> <p><u>Policy ER20:</u></p> <p>Sites included in the “Inventory of Gardens and Designed Landscapes in Scotland”, and any others that may be identified during the plan period, will be protected from development that adversely affects their character, amenity value and historic importance. Development proposals will only be permitted where it can be demonstrated that: (a) the proposal will not significantly damage the essential characteristics of the garden and designed landscape or its setting; or (b) there is a proven public interest, in allowing the development, which cannot be met in other less damaging locations or by reasonable alternative means. Protection will also be given to non-inventory historic gardens, surviving features of designed landscapes, and parks of regional or local importance, including their setting.</p> <p><u>Policy ER29:</u></p> <p>New development requiring a coastal location will generally be directed toward the developed coast. Development proposals for the undeveloped coast will generally only be considered acceptable where it can be demonstrated that:</p> <ul style="list-style-type: none"> • the proposal requires a coastal location; and • no other suitable alternative site exists within the developed coast; and • the social and economic benefits of the proposal outweigh the potential detrimental impact on the Angus coastal environment. <p>In addition, all development proposals affecting either the developed or undeveloped coast will be assessed against the Angus Shoreline Management Plan and other relevant policies of this Local Plan.</p> <p><u>Policy ER34:</u></p> <p>Proposals for all forms of renewable energy development will be supported in principle and will be assessed against the following criteria: (a) the siting and appearance of apparatus have been chosen to minimise the impact on amenity, while respecting operational efficiency; (b) there will be no unacceptable adverse landscape and visual impacts having regard to landscape character, setting within the immediate and wider landscape, and sensitive viewpoints; (c) the development will have no unacceptable detrimental effect on any sites designated for natural heritage, scientific, historic or archaeological reasons; (d) no unacceptable environmental effects of transmission lines, within and beyond the site; and (e) access for construction and maintenance traffic can be achieved without compromising road safety or causing unacceptable permanent and significant change to the environment and landscape.</p>		

Local Authority	Regional Plan	Local Plan		
<p><u>Policy ER35:</u></p> <p>Wind energy developments must meet the requirements of Policy ER34 and also demonstrate: (a) the reasons for site selection; (b) that no wind turbines will cause unacceptable interference to birds, especially those that have statutory protection and are susceptible to disturbance, displacement or collision; (c) there is no unacceptable detrimental effect on residential amenity, existing land uses or road safety by reason of shadow flicker, noise or reflected light; (d) that no wind turbines will interfere with authorised aircraft activity; (e) that no electromagnetic disturbance is likely to be caused by the proposal to any existing transmitting or receiving system, or (where such disturbances may be caused) that measures will be taken to minimise or remedy any such interference; (f) that the proposal must be capable of co-existing with other existing or permitted wind energy developments in terms of cumulative impact particularly on visual amenity and landscape, including impacts from development in neighbouring local authority areas; (g) a realistic means of achieving the removal of any apparatus when redundant and the restoration of the site are proposed.</p>				
	Plan	Policy	Plan	Policy
Dundee City	Dundee and Angus Structure Plan 2001-2016 TAYplan - Strategic Development Plan (SDP) 2012	See above	Dundee Local Plan Review 2005	Policy 77: Renewable Energy and Energy Efficiency
<p><u>Policy 77:</u></p> <p>The Council will continue to support the generation of renewable energy via the Waste to Energy plant in Dundee. Small scale wind energy developments will be favourably considered where they are consistent with other Environmental policies of the Plan, they do not necessitate ancillary developments that may have an adverse environmental impact, e.g. power lines, and where they have no significant adverse or cumulative effects on: (a) neighbouring residential occupiers, other uses or road safety by reason of visual disturbance, noise emission, shadow flicker, reflected light or electro-magnetic influences; (b) landscape; and (c) aircraft activity or known flight paths of migratory birds. Other small scale renewable energy and energy efficiency measures that benefit communities and households in Dundee will also be favourably considered where they are consistent with Environmental policies of the Plan.</p>				

Local Authority	Regional Plan		Local Plan	
	Plan	Policy	Plan	Policy
Fife	Fife Structure Plan 2006 - 2026 TAYplan - Strategic Development Plan (SDP) 2012	Policy R1: Wind Turbines See above for TAYplan policies which are relevant	St Andrews and East Fife Local Plan (Adopted October 2012)	Policy E11: Historic Gardens and Designed Landscapes Policy E19: Local Landscape Areas Policy I1: Renewable Energy
<p><u>Policy R1:</u></p> <p>In accordance with SPP6, local plans and local development plans will include spatial frameworks for wind farms over 20 megawatts to reflect the following:</p> <ul style="list-style-type: none"> • areas of search where proposals for large and small scale wind farm development will be supported subject to specific proposals satisfactorily addressing all other material considerations. • areas designated for their national or international natural heritage value and green belts will be afforded significant protection from large scale wind farms. • the integrity of national or international designations should not be compromised. • cumulative impact will be assessed in all relevant cases, taking into account existing wind farms, those which have permission and those that are the subject of valid but undetermined applications. The weight to be accorded to undetermined applications will reflect their position in the application process. Where the limit of acceptable cumulative impact has been reached the area will be afforded significant protection. • outside the areas of search, wind farm proposals will be assessed against the following constraints, any positive or adverse effects on them and how the latter can be overcome or minimised: <ol style="list-style-type: none"> 1. Historic environment; 2. Areas designated for their regional and local natural heritage value; 3. Tourism and recreational interests; 4. Communities; 5. Buffer zones; 6. Aviation and defence interests; 7. Broadcasting installations. 				

Local Authority	Regional Plan	Local Plan
<ul style="list-style-type: none"> • Proposals affecting areas designated for their local and regional natural heritage value shall satisfactorily address any impacts on the particular interest that the designation is intended to protect but the designation shall not unreasonably restrict the overall ability of the plan area to contribute to national targets. • In all cases, applications for wind farms should be assessed in relation to criteria including as appropriate, grid capacity, impacts on the landscape and historic environment, ecology (including birds), biodiversity and nature conservation, the water environment, communities, aviation, telecommunications, noise and shadow flicker. <p>Wind farm and individual turbine proposals will be considered in relation to the issues in policy R1 and the Fife Landscape Character Assessment. The extent to which the considerations in the spatial framework will be relevant to proposals below 20 megawatts will be dependent on the scale of the proposal, its design, location and the landscape.</p> <p><u>Policy E11:</u></p> <p>Development affecting Historic Gardens and Designed Landscapes shall protect, preserve, and enhance such places and shall not impact adversely upon their character, upon important views to, from or within them, or upon the site or setting of component features which contribute to their value.</p> <p><u>Policy E19:</u></p> <p>Development proposed within a Local Landscape Area or outwith the boundary but which may impact upon the designated area will only be permitted where it has no significant adverse effect on the identified landscape qualities of the area and/or its overall landscape integrity and setting. Proposals must demonstrate, through form, scale, layout, detailing, siting, design, materials, and landscape treatment, how the development will contribute to the conservation, restoration or enhancement of the Local Landscape Area and its associated landscape character and qualities.</p> <p><u>Policy I1:</u></p> <p>A range of technologies for renewable energy generation, including micro-renewables, will be encouraged. Renewable energy developments will be supported provided that: (a.) there is no significant adverse impact on local communities and/or the built and natural environment; (b.) they provide employment opportunities, particularly diversification of the rural economy; and (c.) they make use of brownfield or contaminated land, where possible. All proposals will be required to provide detailed information on associated infrastructure required; including roads and grid connections, impact during construction and operational phases of the development, including visual and environmental impact, noise, and odour issues; and provisions for the restoration of the site. All new developments should make a positive contribution to environmental quality by incorporating on-site zero and low carbon technologies contributing at least an extra 15% reduction in CO2 emissions beyond the 2007 Building Regulations carbon dioxide emissions standard. All new renewable energy developments should take account of any potential impact on sport and recreation interests. Proposals for combustion of biomass, composting, landfill gas and other technologies will be supported where: (d.) they make use of brownfield or contaminated land; or (e.) they provide rural employment opportunities and are consistent with other Development Plan policies. Biomass fuel processing and energy production facilities will be supported where it can be demonstrated that generating efficiency will be enhanced by co-location and, subject to transportation impact, siting and design. Proposals to abstract geothermal energy from groundwater and other sources will be supported throughout Fife provided that the drilling, engineering and abstraction operations do not: (f.) cause unacceptable impacts on the built and natural environment, and residential and other sensitive properties; and (g.) do not cause pollution</p>		

Local Authority	Regional Plan	Local Plan
of groundwater. Proposals for hydro power developments will be supported throughout Fife’s river network provided that they do not cause damage to fisheries, fish and other aquatic life within the river catchment. Proposals for using solar panels will be supported provided that they comply with Development Plan policy and Planning Customer Guidelines.		

Supplementary Planning Guidance and other Guidance Documents

92 Most local authorities have prepared supplementary planning guidance (SPG) and other guidance documents relating to wind energy, as it has been a requirement for local plans and local development plans to include spatial frameworks for wind farms over 20 megawatts. However, these relate primarily to onshore developments. A list of relevant SPGs and other guidance documents is shown in Table 16.10 below.

Table 16.10: Local Authority SPGs and Other Guidance Documents

Local Authority	Document
Aberdeenshire	<i>The Renewable Energy Strategy - A Strategy to Promote the Generation of Energy from Renewable Sources</i> (December 2004). <i>Use of Wind Energy in Aberdeenshire Part One – Guidance for Developers</i> (August 2005a). <i>Use of Wind Energy in Aberdeenshire Part One - Guidance for Developers: Addendum Broad Areas of Search for Wind Farms</i> (January 2009, updated May 2009). <i>Use of Wind Energy in Aberdeenshire Part Two – Guidance for Assessing Wind Energy Developments</i> (August 2005b).
Angus	<i>Angus Windfarms Landscape Capacity and Cumulative Impacts Study</i> (September 2008).
Dundee City	No SPGs relating specifically to WTGs in the landscape.
Fife	<i>Fife Wind Energy Supplementary Planning Guidance (SPG)</i> (2008 updated June 2011).

93 Of these guidance documents, only the *Fife Wind Energy SPG* specifically refers to offshore wind farms. The guidance recognises that ultimately the Scottish Government will be responsible for determining consents under Section 36 of the *Electricity Act 1989* and for reviewing environmental statements for the offshore wind proposals. However, Fife Council will be a key consultee in all proposals brought forward.

94 Policy R3 – Offshore Activities (*Fife Wind Energy SPG*, 2011), states that:

“Fife Council will support offshore renewable energy development provided that it does not have a significant adverse effect on local maritime activities, including shipping, fishing, leisure sailing, diving, on the natural environment including marine habitats and birds, on pipelines, on research activities and on the historic marine environment.”

16.9 Design Envelope and Embedded Mitigation

16.9.1 Design Sensitivity Analysis

95 Design sensitivity analysis was carried out by FTOWDG in respect of three different generic design concepts for the three offshore wind farm developments comprising the Inch Cape Offshore Wind Farm, Neart na Gaoithe and Firth of Forth Phase 1 offshore wind farms. For each of the three developments, three different WTG dimension scenarios were provided by the respective developers, as follows:

- maximum height of WTGs, with related maximum spacing requirements;
- intermediate height of WTGs, with intermediate spacing requirement; and
- minimum height of WTGs, with minimum spacing requirements.

96 Layouts were generated on the basis of these WTG dimension scenarios based on three different generic design concepts for the placement of WTGs, as follows:

- regular grid;
- offset grid; and
- series of arcs.

97 All three WTG dimension scenarios were modelled with ReSoft’s Windfarm software for the respective wind farms and then wirelines produced from the three agreed “design” viewpoints of:

- Arbroath – grid reference: 365910, 741080;
- Fife Ness - grid reference: 363842, 709766; and
- St Abb’s Head – grid reference: 391235, 669167.

98 These three locations were chosen on the basis of providing a reasonable “spread” of viewpoint locations across the amalgamated cumulative study areas for the three offshore wind farms.

99 The wirelines were then reviewed by landscape consultants from Land Use Consultants, Pegasus Planning Group Limited and SLR Consulting Limited. Each landscape architect recorded independently their ranking of the layouts as predicted to be seen in the wirelines from each viewpoint. Ranking was assessed in relation to the extent to which the layouts demonstrated the most balance, coherence and greatest degree of “legibility”. The ranking

was not unanimous for each viewpoint; however, there was a preference firstly for the least “busy” layouts which derived from the maximum height WTG scenarios which resulted in greater spacing between WTGs, as well as a slight visual preference for the offset grid layout.

- 100 On this basis, this SLVIA has assessed what is assumed to be the worst case scenario, with the tallest WTGs on a regular grid layout. The maximum number of WTGs within the Development Area is 213 for the small, medium or large. The orientation of the grid across the Development Area is a product of the direction of the prevailing wind at this location and is therefore designed to optimise the generating capacity of the Wind Farm.
- 101 Three options for WTG size are included in the Design Envelope as shown in Table 16.11 below. Figure 16.8 shows a comparative ZTV for the three heights and indicates only minor variations in the extent of theoretical visibility between the smallest and largest WTG. The larger WTGs will be theoretically visible from a slightly greater area of the inland landscape; however the extent of visibility along the coastal edge will not materially vary from case to case.

Table 16.11: WTG Options

	Small	Medium	Large
Approximate Maximum Hub Height (m, LAT)	92	109	129
Approximate Maximum Blade Tip Height (m, LAT)	152	186	215

- 102 The WTGs will be laid out within the Development Area in a configuration which optimises performance and takes account of environmental and technical constraints. The closest average spacing between WTGs will be 820 m, resulting in a maximum number of WTGs, of any size, of 213. WTGs will be laid out using either regular or offset grid spacing (see *Chapter 7*). The worst case assessment scenario assumes a maximum number of 213 WTGs with a blade tip height of 215 m arranged in a regular grid.
- 103 Fieldwork surveys undertaken in relation to existing offshore wind farms located off the Cumbria coastline (Barrow, Walney 1 & 2, and Ormonde Offshore Wind Farms) suggests that jacket substructures (as used at Ormonde) tend to increase the visual contrast of the WTGs, although they will not lead to an increase in the overall extent of visibility of the Inch Cape WTGs and OSPs. However, it is recognised that Ormonde Offshore Wind Farm is closer to the adjacent coastline (approximately 9.5 km) than is the case with the Development Area. Due to technical constraints in the modelling software it has not been possible to include jacket foundation structures within the visualisations. However, a ZTV plan has been produced to show areas from which there will be no theoretical visibility of the foundation structures due to the effects of distance and curvature of the earth, as shown on Figure 16.5.

- 104 The number of OSPs required will depend on whether the offshore transmission system is AC or DC. The worst case scenario will require five OSPs. The visible part of the platforms will consist of a substructure similar to that used for the WTGs and a “topside”, which is a structure housing the transmission equipment. In order to account for various additional elements which may be attached to the topside, for example loading platforms at the sides and a crane and helideck on top, an overall maximum dimension of 100 m x 100 m x 70 m is assumed. Therefore 70 m is the maximum height of the OSPs (LAT). They will all be located on the perimeter of the Development Area with indicative positions shown in Chart 16.ii. This is an indicative layout and illustrates what is considered to be the worst case locations, where the potential visibility of the OSPs will be greatest. A ZTV plan indicating theoretical visibility of the Inch Cape OSPs is shown in Figure 16.9. The OSPs have not been included in wireline visualisations due to the limitations of the modelling software used; however, they have been shown indicatively – at the above locations – in the photomontages. An image of a typical OSP is shown in *Chapter 7*, Figure 7.27.
- 105 Up to three met masts will also be installed within the Development Area. A typical offshore met mast is shown in Figure 7.44. However, these are not considered separately in the assessment nor shown on visualisations as they are not considered to add materially to any worst case effects.

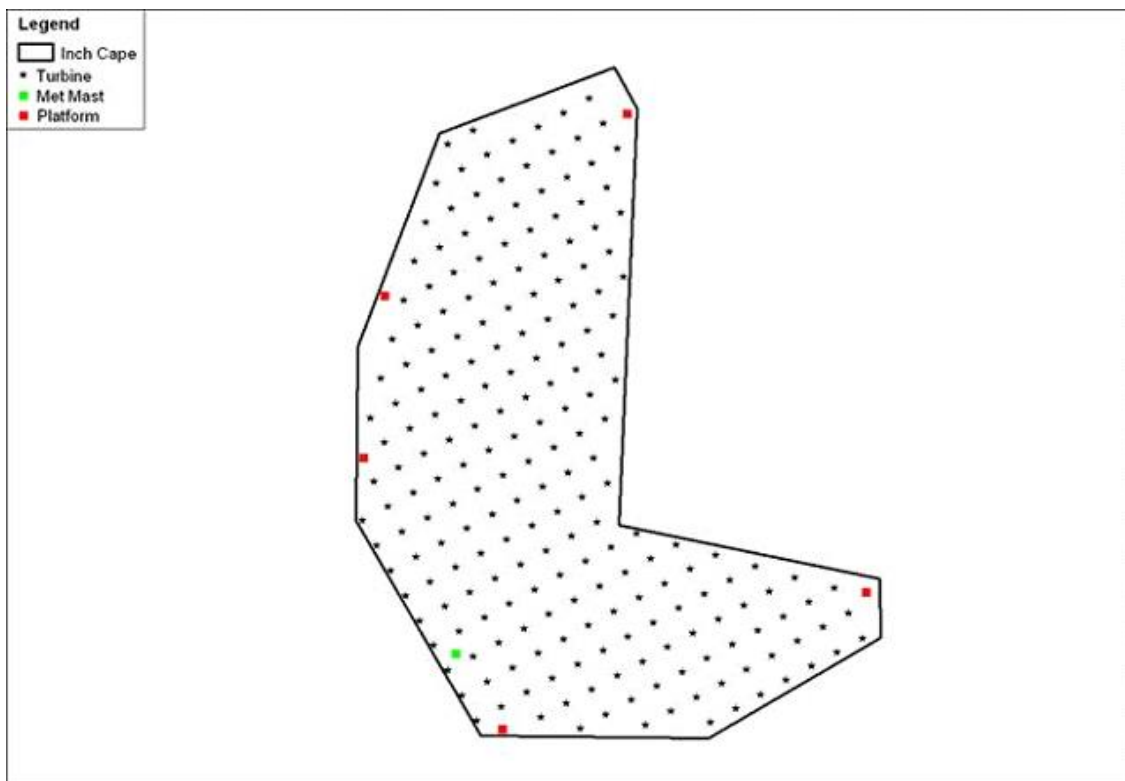
Lighting

- 106 Throughout the construction, operation and maintenance of the Wind Farm and OfTW, navigation lighting for both maritime traffic and aviation will be provided on the WTGs and other offshore structures in accordance with relevant guidance and legislation. More detail on this can be found in *Chapter 19: Shipping and Navigation*, and *Chapter 20: Military and Civil Aviation*; however, in summary this lighting is likely to comprise the following elements.
- 107 For maritime lighting, Significant Peripheral Structures (SPS) – which are the “corners” or other significant points on the periphery of Inch Cape Offshore Wind Farm – will be fitted with synchronised flashing yellow lights visible from all directions in the horizontal plane, with a range of not less than five nautical miles (9.26 km). In the case of a large or extended wind farm, the distance between these lights should not normally exceed three nautical miles (5.56 km). Selected intermediate structures on the periphery other than SPSs will also be marked with flashing yellow lights visible from all directions in the horizontal plane. The flash character and range of these intermediate lights will be different from those described above, with a range of not less than two nautical miles (3.70 km). Both types of light will be mounted below the lowest point of the arc of the WTG rotor blades and at a height of at least six metres above the highest astronomical tide (HAT). The range distances quoted here suggest that these lights do not need to be visible from the shore. However, in recent research (Argonne National Laboratory, 2011) marine navigational lighting has been observed at a distance of 21 km, which is within range of some coastal viewpoints in the assessment. It is assumed that these lights will not be visible beyond this distance.
- 108 In regards to aviation lighting, selected Inch Cape WTGs on both the periphery and within the array will be fitted with two medium intensity red lights (2,000 Candela) as close as is

reasonably practicable at the top of the fixed structure, spaced so as to minimise the likelihood of blades temporarily obscuring both lights simultaneously in any direction. There may be a requirement for these lights to flash 'W' Morse code simultaneously and repeatedly, however, at the time of writing, the requirement is for steady red lights. The research quoted above reported that aviation lighting was visible at distances greater than 39 km.

- 109 *Appendix 16C* includes a description of how lighting may be seen from each representative viewpoint. It should be noted that the distances at which navigational and aviation lighting is predicted to be visible, in the 2011 research mentioned above, are likely to be maxima and would occur in clear weather conditions. As shown in the met data in Graph 16.i, visibility varies considerably throughout the average year which will affect the extent to which the lighting at the Development Area will be visible. It is considered that the effects of the lighting at the representative viewpoints would not be greater than the predicted effects on landscape character and visual amenity at each of the representative viewpoints.

Chart 16.ii: WTG Layout Showing Indicative Locations of OSPs



16.9.2 Design Envelope

- 110 The potential development parameters and scenarios are defined as a Design Envelope and presented in *Chapter 7: Description of Development*. The assessment of potential impacts on seascape, landscape and visual amenity is based upon the worst case scenario as identified from this Design Envelope, and is specific to the potential impacts assessed in this chapter.

111 Key parameters for the worst case scenario for each potential impact are detailed in Table 16.12 and 16.13 below.

Table 16.12: Worst Case Scenario Definition - Development Area

Potential Impact	Design Envelope Scenario Assessed
Construction (and Decommissioning)	
Construction activities in the development area may affect key characteristics of seascape and/ or landscape character, landscape designations and visual amenity	Maximum number of vessel movements and construction activities within development area.
Operation	
Physical presence of WTGs, Met Masts and OSPs may affect seascape and/ or landscape character, landscape designations and visual amenity.	213 WTGs 215 m to blade tip and 129 m to hub height Closest averaged down-wind spacing – 820 m Closest average cross-wind spacing – 820 m Jacket WTG foundations with sea level dimensions of 30 m x 30 m; Three Met Masts – steel lattice structure Up to five OSPs 100 m x 100 m and up to 70 m height Indicative layout is shown in Chart 16.ii
Night time lighting of development area may affect seascape and/ or landscape character and visual amenity.	Maritime and navigational lighting as described in <i>Chapters 19 and 20</i> and <i>Section 7.14</i> .

Table 16.13: Worst Case Scenario Definition - Offshore Export Cable Corridor

Potential Impact	Design Envelope Scenario Assessed
Installation	
Presence of installation vessels and related works, and trenching of cable at landfall location may affect seascape character area, designated landscape and visual amenity.	Longest installation period and trenching across landfall by burial plough, mechanical rock wheel cutter or open trenching (assuming that horizontal directional drilling may be used but would not be visible).

16.10 Embedded Mitigation

113 A range of embedded mitigation measures to minimise environmental effects are captured within the Design Envelope (see Section 4.4.1). The assessment of effects has taken account of the following embedded mitigation measures:

- WTGs will be placed in a regular grid subject to micro siting requirements;
- WTGs will all be of similar dimensions to hub height and blade tip subject to WTG and substructure design and installation specification;
- The WTGs will all be pale grey in colour with a semi-matt finish. This tends to reduce the distance over which the WTGs are visible, especially in dull or overcast conditions, which often occur. As offshore WTGs are often viewed against the sky, pale grey is the most appropriate colour as it is closest to that of the lower part of the sky under the most frequent UK weather conditions.

16.11 Baseline Environment

16.11.1 SLVIA Study Area

114 Within the SLVIA Study Area, shown in Figure 16.1 and on all subsequent figures, the baseline environment includes the following receptors:

- Seascape character areas as shown in Figure 16.2;
- Landscape character types and associated areas as shown in Figure 16.2;
- Landscape designations as shown in Figure 16.3; and
- Visual amenity receptors including settlements (as shown in Figure 16.1), routes (as shown in Figure 16.7) and other recreational receptors.

115 It is acknowledged that these groups of visual amenity receptors may be sub-divided and that there may be more categories of receptors, but for the purposes of the assessment, it is considered that the above categories cover the main groups of landscape and visual receptors in the SLVIA Study Area.

16.11.2 Regional Context

116 As noted in *Section 16.4*, the landward component of the SLVIA Study Area covers the administrative areas of six local authorities. Within the SLVIA Study Area, the coastline extends from Newtonhill (south of Aberdeen) through Stonehaven to Dundee, across the Firth of Tay before continuing around the coastal edge of East Fife to Largo where it extends across the Firth of Forth to North Berwick and Dunbar. The SLVIA Study Area is shown on Figure 16.1.

117 The SLVIA Study Area can therefore be broadly divided into two main areas:

- The North East Coast, encompassing Aberdeenshire, Angus and Dundee; and,

- East Fife, incorporating the Firth of Tay.
- 118 Additionally, there is a third area, with a much smaller landward component:
- East Lothian, incorporating the Firth of Forth.
- 119 The first area covers much of the Aberdeenshire coastline to the south of Aberdeen itself, incorporating the local centres of Stonehaven and Inverbervie as well as important tourism and recreational sites such as Dunnottar Castle, and St Cyrus National Nature Reserve. Inland is rural, centred on the major transport corridor of the A90. Between the coast and the A90 the land is broadly rolling with many low-lying hills of volcanic origin, including Bruxie Hill (216 m Above Ordnance Datum (AOD)). These hills physically contain the Howe of the Mearns, which forms a hill girt basin at the north eastern end of the wide valley of Strathmore, beyond Brechin. To the north, the Howe is overlooked by Strathfinella Hill (414 m AOD) and its main town is Laurencekirk.
- 120 The Angus coastline lies in closest proximity to the Development Area. It runs from Montrose Bay in the north to the outskirts of Dundee, including local centres at Montrose, Arbroath and Carnoustie. It also includes a number of tourism and recreation destinations such as Montrose Bay, Lunan Bay and Carnoustie Golf Course, together with important sites for nature conservation such as Montrose Basin and Barry Links. The A92 runs adjacent to the coast for much of its length, behind which is a largely agricultural and rolling hinterland continuing into the broad valley of Strathmore through which the A90 runs, connecting the local centres of Forfar and Brechin. To the west of Strathmore the ground rises in the area of the five Angus Glens, where the main land use is hill-farming, extending towards the distant summits of the Grampian Mountains.
- 121 Dundee, the fourth largest city in Scotland, lies on the north bank of the Firth of Tay and is a regional employment and education centre for this part of the country. The Port of Dundee is used primarily in the provision of support services to the offshore oil and gas industries. The city is bisected by a line of hills stretching from Balgay Hill, through Dundee Law, to Gallow Hill.
- 122 The Firth of Tay extends eastward from Perth opening into the North Sea beyond Buddon Ness in Angus and Tentsmuir Point in Fife. It contains a number of important nature conservation sites including the Firth of Tay and Eden Estuary Special Area of Conservation (SAC).
- 123 Within East Fife, the coastline runs west to east from the Inner Firth of Tay past the Tay Bridge and Tayport, before rounding Tentsmuir Point and continuing south across the Eden Estuary, through St Andrews and along the rocky coastline to Fife Ness. Inland areas are largely rural, with low hills achieving a visual prominence which belies their height due to the general low-lying and undulating character of the land. Most larger settlements are located along the coastline, including St Andrews, with its famous university and golf courses.
- 124 The Firth of Forth is the largest estuary on the east coast of Scotland. A number of large towns and settlements line its shores, many of them connected with heavy industry,

manufacturing and shipping. The SLVIA Study Area however only encompasses parts of the Outer Firth between Fife Ness and Dunbar. The northern coastline, in Fife, contains a number of small villages and towns, some with harbours and small scale fishing industry. Within the Firth itself are a number of small islands including the Isle of May and Bass Rock.

- 125 Within East Lothian, the SLVIA Study Area covers a small part of the town of Dunbar and the adjacent Barns Ness. Further to the west it also incorporates land on the coastal edge of the broad peninsula which projects north into the Firth of Forth, from the headland of St Baldred's Cradle, past Tantallon Castle, to the outskirts of North Berwick.

16.11.3 Local Context and Shipping Movements

- 126 Data showing shipping movements in and around the Development Area and within the SLVIA Study Area is described in *Chapter 19* and in more detail in *Appendix 19A: Navigational Risk Assessment Development Area*. These show that the area of sea around the Development Area is well-used by a variety of vessels. During the period surveyed, the majority of vessel types crossing within a 10 nm (approximately 18.52 km) buffer zone around the Development Area were cargo vessels (29 per cent) and fishing vessels (27 per cent). Tankers and "other" vessels made up 15 per cent and 14 per cent of the traffic recorded respectively. The passenger vessels in the vicinity of the Development Area (which comprised four per cent of all survey traffic) were all cruise vessels, the majority of which were headed in and out of the Firth of Forth. Recreational vessels, also comprising four per cent of the recorded total, are also active around the Development Area, along the Angus and Fife coastlines, and within both the Firths Tay and Forth. In terms of facilities, the nearest club is the Arbroath Sailing & Boating club, 10 nm (18.52 km) to the west of the Development Area, with Montrose Sailing Club a similar distance to the north-west. The nearest marina to the Development Area is also at Arbroath.

16.11.4 Landform and Hydrology

- 127 Patterns of landform and watershed drainage within the SLVIA Study Area are clearly illustrated in Figure 16.1. Along the north-east coast section a generally rocky coastline with low cliffs, interspersed with wide sandy bays, backs onto an undulating agricultural hinterland of low rolling hills and depressions, with notable high points in the north around Bruxie Hill (217 m AOD) and the Hill of Garvock (277 m AOD), and in the south including the easternmost summits of the Sidlaw Hills, such as Craigowl Hill (455 m AOD) and Balkello Hill (397 m AOD), which overlook Dundee and the Firth of Tay.
- 128 To the west of this rolling landscape is the broad valley of Strathmore running from north-east to south-west between the Grampian Mountains and the Sidlaws. Within the southern half of Strathmore minor burns and streams drain into the River Isla which itself is a tributary of the River Tay. In its northern extents the main watercourses are the rivers North Esk and South Esk, which both drain into Montrose Bay, the latter via Montrose Basin which occupies an extensive area of low-lying land to the west of Montrose. Other notable watercourses include Bervie Water, which flows into the North Sea at Inverbervie, and Lunan Water which does likewise at Lunan Bay.

- 129 North-west of Strathmore, the Grampian Mountains rise through two of the five “Glens of Angus”, Glen Esk and Glen Lethnot. The foothills of the Grampians feature prominently in long-distance views westwards across the SLVIA Study Area, as they rise relatively abruptly from Strathmore. Notable summits include the Hill of Wirren (678 m AOD), with the Cairn o’ Mount being a popular elevated viewpoint (454 m AOD) adjacent to the B974.
- 130 The Firth of Tay and Firth of Forth are the major hydrological features within the SLVIA Study Area. The former comprises the relatively narrow Inner Firth which runs east from Perth towards the Tay Bridge where it is pinched between Tayport and Broughty Castle. The inner Tay has extensive sediment flats together with the most extensive continuous stands of reed swamp in Britain. The outer Firth lies seaward of Broughty Ferry but includes large areas of sand flats off Tentsmuir Point in particular.
- 131 The Firth of Forth is also divided approximately into an inner and outer section. The Inner Forth extends between the Kincardine and Forth Bridges but lies outwith the SLVIA Study Area. Further downstream the Forth widens out and the shores become sandy and rocky interspersed with fishing villages. Golf courses have traditionally been created on the sandy grassy links in Fife and East Lothian. Similar to the Tay, the Firth of Forth is an important area for both people and wildlife.
- 132 Between the Tay and Forth lies the Eden Estuary which, apart from the main river channel, is exposed at low water and is an important site for nature conservation with its landscape of mudflats, sandbanks and saltmarshes providing habitats for various flora and fauna.
- 133 The coastline of East Fife displays very different characters to the north and south of the Eden Estuary. Northwards, it is low-lying and sandy with extensive areas of forest at Tentsmuir. The hinterland here rises gently merging into a rolling landscape of low summits and depressions including Lucklaw Hill (190 m AOD).
- 134 South of the Eden the sandy coastline continues east to the famous links at St Andrews beyond which the coastline becomes rocky with low cliffs backing onto shallow sloping and relatively sparsely populated agricultural land. Further inland the ground rises somewhat including the notable hills of Largo Law (290 m AOD) and Drumcarrow Craig (217 m AOD). The northern coast of the Outer Firth of Forth remains rocky but is interspersed with small sandy beaches and coves, with only limited areas of low cliff-edge.

16.11.5 Land Cover and Land Use

- 135 Land cover refers to the physical material at the surface of the land in question for example grass, tarmac, trees, bare ground, water. Land use is a description of how people actually utilise the land. This could include agricultural land use, urban land use, etc. The two terms, although clearly closely related, are distinct.
- 136 Land use in the SLVIA Study Area is predominantly agricultural. It includes some of the most productive farmland in Scotland such as Strathmore, where soft fruits, potatoes and cereals predominate. It also includes large areas of pasture – both beef and dairy farming are

important on the rich pastures along the highland foothills. On higher ground with more marginal land, particularly within the Grampian Mountains, hill farming prevails.

- 137 Within this matrix of agricultural land there are also many large scale commercial forests and plantations which form prominent features in the local landscape, particularly in the hills above Stonehaven (Fetteresso Forest, Drumtochty Forest), south of Brechin (Montreathmont Forest) and at Tentsmuir.
- 138 Finally there are also large areas of urban development connected by an extensive highway network. Outside of the major regional and local centres, patterns of settlement are more scattered and settlement sizes smaller; nevertheless, with the exception of the upland areas, this is a well-settled landscape. Associated with the bigger towns and cities are more large-scale industrial and commercial areas including both ports at Dundee and Montrose.

16.11.6 Seascape Character Areas

- 139 The baseline seascape character is described in detail in the Seascape Character Assessment: Aberdeen to Holy Island, included as *Appendix 16D*. This identifies and describes 21 regional seascape character areas of which 13 are located within the SLVIA Study Area as summarised in Table 16.14 below and shown in Figure 16.2. Following the characterisation process, a sensitivity rating of high, moderate or low was assigned to each regional seascape character area. The assessment of sensitivity considers the ability of each character area to accept change of the type proposed (i.e. offshore wind farm development), without detriment to key characteristics. As such it is a judgement of sensitivity to a specific type of change, rather than overall or inherent sensitivity.

Table 16.14: Regional Seascape Character Areas

Character Area	Key Characteristics	Sensitivity
SA3 – Cove Bay to Milton Ness	Long, generally linear and rocky coastline interspersed with small coves and beaches and settlements including Stonehaven and Inverbervie.	Moderate
SA4 – Montrose Bay	Wide, sandy beach backed by line of dunes and grassland with cliffs at the National Nature Reserve (NNR) at St Cyrus. Port and town of Montrose at south end of Montrose Bay.	High
SA5 – Long Craig	A low-lying headland with a rocky foreshore and sparsely settled agricultural hinterland.	Moderate
SA6 – Lunan Bay	Wide, sandy beach with rocky headlands to the north and south, backed by dunes with woodland and shelter belts around Lunan.	High
SA7 – Lang Craig to the Deil’s Heid	Rocky coastline including cliffs, sea stacks, blowholes, caves, wave cut platforms and arches, contrasting with agricultural hinterland.	High

Character Area	Key Characteristics	Sensitivity
SA8 – Arbroath to Monifieth	Low lying coastal edge with extensive wave-cut platforms interspersed with sections of sandy beach, which are backed by areas of dunes in places; the coastline is extensively settled.	Moderate
SA9 – Dundee	Settled coastal fringe centred on the urban developments in and around the City of Dundee.	Low
SA10 – Inner Firth of Tay	Extensive intertidal mudflats and sandbanks with narrow coastal strip on south side and extensive low-lying agricultural land with the Carse of Gowrie to the north.	Low
SA11 – St Andrews Bay	Long stretch of sandy coastline with expansive intertidal areas backed by extensive areas of dunes and forestry, includes links and town at St Andrews.	High
SA12 – St Andrews to Fife Ness	Diverse coastal edge comprising small sandy bays, extensive wave-cut rock platforms, low cliffs and narrow, wooded dens, backed by gently undulating agricultural landscape.	High
SA13 – East Neuk of Fife	A generally low lying, rocky coastline with distinctive red sandstone cliffs and soils, shingle beaches and attractive fishing villages centred on busy harbours.	High
SA14 – Kirkcaldy to Largo Bay	Generally low lying coast with views to sea framed by headlands and large coastal settlements.	Moderate
SA17 – Eyebroughy to Torness Point	Generally low-lying coast, with an alternation of rocky headlands and sandy pocket bays, backed by relatively unfragmented agricultural land and towns.	Moderate

16.11.7 Landscape Character Types and Associated Areas

140 The landscape baseline for the SLVIA Study Area has been assessed and classified taking account of the following SNH LCAs:

- SNH (1998) *No. 102 South and Central Aberdeenshire* (Environmental Resources Management);
- SNH (1999a) *No. 113 Fife* (David Tyldesley and Associates); and
- SNH (1999b) *No. 122 Tayside* (Land Use Consultants).

141 Landscape character types and their associated areas are shown in Figures 16.2 and 16.2a.

142 A sensitivity rating has also been assigned to each landscape character type, which occurs in locations within the SLVIA Study Area and has theoretical visibility of the Inch Cape WTGs

and OSPs as described in Table 16.15 below and set out in detail in *Appendix 16A*. The assessment of sensitivity considers the ability of each landscape character type and associated area(s) to accept change of the type proposed (i.e. offshore wind farm development), without detriment to key characteristics. As such it is a judgement of sensitivity to a specific type of change, rather than overall or inherent sensitivity.

Table 16.15: Landscape Character Types

Character Type	Key Characteristics	Sensitivity
ABS2 – Agricultural Farmlands	Medium to large scale agricultural landscape varying from the almost uniformly flat Howe of the Mearns to the undulating ridges of Hill of Garvock and Kincardine Plateau.	Moderate
ABS4 – Moorland Plateaux	Large scale, open landscape featuring smooth rolling landform and rounded summits, extensive areas of heather moorland and grasses, and large areas of coniferous forest.	Moderate
TAY1 – Highland Glens	Medium to small scale, sparsely settled and enclosed landscape which is dominated by the scale and proximity of surrounding mountains.	High
TAY3 – Highland Summits and Plateaux	Large scale, open and exposed landscape with panoramic views to surrounding areas, with predominantly simple patterns of land cover and land use.	Moderate to High
TAY5 – Highland Foothills	Overall medium scale landscape of steep whale-backed hills and valleys with scattered settlement and agriculture on lower ground.	Moderate to High
TAY8 – Igneous Hills	Medium scale landscape of rounded hills dominated by grass moorland, with scattered settlement and agriculture on lower ground.	Moderate to High
TAY10 – Broad Valley Lowlands	Overall medium scale, predominantly open and expansive landscape of rectilinear fields with scattered large farmsteads contrasting with neighbouring upland areas.	Moderate
TAY12 – Low Moorland Hills	Medium scale landscape comprising a series of low-lying hills and ridges with extensive areas of coniferous plantation and scattered settlement.	Moderate
TAY13 – Dipslope Farmland	Medium to large scale mostly open landscape with few settlements of any size, dominated by productive agricultural land with low woodland cover.	Moderate
TAY15 – Lowland Basins	Medium scale open landscape comprising large, rounded estuarine basin surrounded by low-lying drained farmland with settlement concentrated in Montrose.	Moderate

Character Type	Key Characteristics	Sensitivity
FFE3 – Upland Foothills	Medium to large scale transitional landscape forming distinctive backdrop to lowlands and having extensive views across other landscape types.	Moderate
FFE4 – Pronounced Volcanic Hills and Craigs	Medium to large-scale, open landscape of distinctive hills rising above surrounding lowlands, with contrast between rugged hills and more intensively used lower slopes.	Moderate to High
FFE5 – Lowland Hills and Valleys	Medium scale landscape of low hills and valleys comprising open farmland with extensive areas of woodland and regular pattern of farmsteads and larger settlements and towns.	Moderate to High
FFE6 – Lowland Open Sloping Farmland	Large scale, open and exposed landscape with generally simple form and pattern of predominantly large-scale, open, sloping arable fields, with extensive seaward views in places.	Moderate
FFE7 – Lowland Dens	Narrow and steeply sloping valleys with often semi-natural woodlands on the banks and valley sides; the tops of the Dens slope more gently to the surrounding farmland.	Low
FFE8 – Lowland Glacial Meltwater Valleys	Medium to large-scale, open landscape of U-shaped valleys with intensive arable cultivation on valley floors contrasting with the mixed farming or grazing land on the rising slopes.	Moderate
FFE11 – Coastal Hills	Medium to large scale landscape of undulating hills, influenced by proximity to the coast and comprising generally simple patterns of land use and land cover.	Moderate
FFE12 – Coastal Terraces	Medium to large scale and mostly flat or gently sloping landscape with extensive views of the coast, comprising agricultural land interspersed with urban development.	Moderate
FFE15 – Coastal Flats	Large-scale low-lying and exposed coastal landscape comprising mix of predominantly agricultural land and coniferous forestry with extensive seaward views.	Moderate

16.11.8 Landscape Designations

143 The landscape baseline for the SLVIA Study Area also includes areas with theoretical visibility of the Inch Cape WTGs and OSPs, which are designated for the quality of their landscapes. This includes GDLs, AGLV and LLA. These are shown in Figure 16.3 and described briefly in Table 16.16 below.

Table 16.16: Landscape Designations

Designated Area	Description	Sensitivity
GDL		
Fasque House	Situated to the north of Fettercairn, there are views from the house of Strathmore with the policy woodland and parkland contributing to the surrounding scenery.	High
The Burn	Located at the foot of Glenesk with scenic value attributed largely to the surrounding woodlands and gate lodges.	High
House of Dun	Situated between Montrose and Brechin, there are extensive views south from the house and grounds across Montrose Basin.	High
Dunninald	Situated on the coastline between Lunan Bay and Montrose, the policy woodlands provide scenic value but screen views from within the grounds to the surrounding landscape.	High
Guthrie Castle	Located between Forfar and the coast, the grounds have some scenic value in the local landscape but long-distance views largely screened by woodland.	High
House of Pitmuies	Located next to Guthrie Castle on the north-eastern edge of the Sidlaw Hills, areas of policy woodland in the grounds adds scenic value but screen views to the surrounding landscape.	High
The Guynd	Located inland to the west of Arbroath, views of the North Sea may be obtained from the top of the house but the policy woodland restricts views from elsewhere in the grounds.	High
Camperdown House	Situated on the outskirts of Dundee, there are extensive views from the house across the Firth of Tay and towards the Carse of Gowrie.	High
Baxter Park	Located in the centre of Dundee, long-distance views are largely screened by trees and vegetation within the park and the urban fabric beyond.	High
Balgay Park	Also located close to the centre of Dundee, there are extensive views from the park across the city to the Firth of Tay and beyond.	High

Designated Area	Description	Sensitivity
Earlshall	Located on the outskirts of Leuchars village views from within the grounds to the surrounding landscape are screened by the policy woodland.	High
St Andrews Links	The Links are situated to the north-west of St Andrews and have uninterrupted views eastwards across St Andrews Bay.	High
Craigtoun	Located to the west of St Andrews, there are views from within the grounds to the surrounding landscape including the coastline and St Andrews Bay beyond.	High
Hill of Tarvit (Wemyss Hall)	Situated just south of Cupar, views to the surrounding landscape from within the grounds, with the exception of higher land on the Hill of Tarvit, are mostly screened by woodland.	High
Charleton House	Located in the East Neuk, the policy woodlands contribute to the scenic value of the local landscape but also screen views from within the grounds, except from more elevated areas.	High
Cambo	Cambo is located on the north-east Fife coastline, to the north of Crail. There are coastal views from the wider estate, although within the garden these are largely screened.	High
Tynninghame	Located to the north-west of Dunbar, views may be obtained from within the grounds to the adjacent coastline and beyond.	High
AGLV		
North Berwick to Dunbar Coastal	Includes the rocky coastline to the east of North Berwick, Tantallon Castle, the GDL at Tynninghame and the extensive beach at Belhaven Bay at the mouth of the River Tyne.	High
LLA		
Craigtoun	Includes the Kinness, Claremont, Lumbo and Cairns Dens which extend from the south-west of St Andrews and provides a link from the surrounding countryside towards St Andrews contributing to the setting of the town.	High

Designated Area	Description	Sensitivity
Dura Den	Incorporates the incised valley of Dura Den, the northern slopes of Kemback Hill and the policy influenced valley of the River Eden around Dairsie. Wooded valley has intimate character and feeling of naturalness.	Moderate
East Neuk	Extends along the coastal edge from Crail to Earlsferry and Kingcraig Hill, and incorporating the inland areas of Balcaskie and Kilconquhar. Extensive seaward views combine with open character of farmland landscape and contrast with intimate coastal villages.	High
Forth Islands	Comprises the three Forth islands of Inchcolm, Inchkeith and the Isle of May, although only the latter is within the SLVIA Study Area, having a distinctive long, low profile with steep cliffs on the eastern shore and a central lighthouse.	High
Largo	Encompasses the rising slopes and low summits which surround Largo Law and to the north it extends along the summit of Flagstaff Hill.	Moderate
St Andrews to Fife Ness	Coastal edge extending from St Andrews around Fife Ness to Crail incorporating Boarhills, Kingsbarns and Cambo incorporating an extensive area of largely undeveloped coast with expansive seaward views from an open landscape.	High
St Andrews Links	Low lying coastal landscape defined by close association with Eden Estuary and the coastal sands, extending from the northern edge of St Andrews and the A91 across the golf courses and dune system to the Eden Estuary.	High
Tarvit and Ceres	A scenically diverse and balanced landscape comprising the valley of the Ceres and Craigothie Burns and the softly rolling hills which contain it.	Moderate
Tay Coast	The Firth of Tay provides the setting for a richly, diverse landscape of steep, wooded coastal braes, gently sloping farmland, deeply incised wooded dens and policies backed by a long band of low rounded hills.	Moderate
Tentsmuir Coast	Comprises the coastal dunes and long sandy beach of Tentsmuir Sands extending from the River Eden estuary to Tayport, possessing a high degree of naturalness and sense of remoteness.	High

16.11.9 Visual Amenity Receptors

144 It is recognised that a wide variety of people will have potential views of the Inch Cape WTGs and OSPs. However, for the purposes of this assessment a representative range of visual amenity receptors has been assessed as follows:

- residents in selected settlements;
- people travelling through the seascape/landscape on major roads and railways. These may be tourists and other visitors or local people;
- users of other recreational facilities including cycle routes, long-distance footpaths, Core Paths, golf courses, caravan parks, country parks, nature reserves and popular tourist destinations; and
- marine based receptors including people taking part in water-based recreational activities, and commercial and cruise ships.

145 The range of receptors subject to detailed assessment is summarised in Table 16.17 below. It is important to recognise that the high sensitivity rating in this case relates to those residential receptors who have views of the open sea from their properties. As such, it is not a general assessment of the sensitivity of the whole settlement, but rather a worst case which may apply only to relatively few residents, particularly in larger urban settlements and those located away from the coastline. Visual amenity sensitivity for other types of receptor, including non-residential receptors, is also described in Table 16.17 below.

Table 16.17: Visual Amenity Receptors

Receptor	Name (with distance to the nearest WTG)	Sensitivity
Settlements		
Aberdeenshire	Stonehaven (42.0 km), Inverbervie (29.4 km), Gourdon (27.9 km), Johnshaven (25.1 km) and St Cyrus (24.0 km).	High
Angus	Montrose (20.4 km), Lunan (18.7 km), Auchmithie (17.0 km), Arbroath (19.0 km), Carnoustie (26.0 km) and Monifieth (32.0 km).	High
Dundee	Dundee (42.9 km) and Broughty Ferry (35.9 km).	High
Fife	Tayport (37.1 km), Guardbridge (39.5 km), St Andrews (35.3 km), Crail (30.4 km), Anstruther Easter (36.1 km), Pittenweem (39.0 km), Balmullo (41.2 km), Boarhills (31.5 km), Kingsbarns (29.9 km), Leuchars (38.6 km), Strathkinness (39.9 km) and Dairsie (43.8 km).	High
East Lothian	Dunbar (50.7 km) and North Berwick (51.3 km).	High

Receptor	Name (with distance to the nearest WTG)	Sensitivity
Routes (as shown in Figure 16.7)		
Roads	A92, A937, A935, A933, A914, A919, A91, A915, A917.	Moderate
Railways	Edinburgh to Aberdeen train line.	Moderate
National Cycle Network Routes	NCN Route 1.	High
Long Distance Footpaths	Fife Coastal Path.	High

- 146 Other recreational facilities with theoretical visibility of the Inch Cape WTGs and OSPs include numerous golf clubs, caravan parks and campsites, nature reserves, hotels and other tourist destinations such as country parks. A tourism impact assessment has been carried out and is contained in *Appendix 22A: Socioeconomics and Tourism Baseline*.

16.11.10 Baseline Offshore Export Cable Study Area

- 147 The Offshore Export Cable Corridor will be assessed only in so far as construction activities related to the installation of the Offshore Export Cable have the potential to create SLV impacts. This is considered further in *Section 16.12*.

16.11.11 Baseline without the Project

- 148 In the case that the Project is not developed, baseline seascape and landscape conditions within the SLVIA Study Area will still be subject to future change. This issue has been addressed with specific reference to the regional seascape character areas in the “Forces for Change” sections of the seascape character assessment, which is included as *Appendix 16D*. The main forces for change identified relate to anticipated future development in and around coastal settlements, and the continuing development of onshore wind farms, with anticipated future development associated with recreational and agricultural land uses being a secondary issue. The Scottish Government publication, *Scotland's Offshore Wind Route Map - Developing Scotland's Offshore Wind Industry to 2020 and Beyond* (2010b), suggests that within the marine environment the development of large scale offshore wind energy facilities will remain an official objective for some time to come, and it is likely that at least some of this activity will be focused on the SLVIA Study Area given the allocation of Round 3 zone in the Outer Firth of Forth.

16.12 Impact Assessment Development Area

16.12.1 Effects of Construction

- 149 Activities associated with the construction of the Inch Cape WTGs and OSPs have the potential to create temporary SLV impacts, as will construction activities related to the installation of offshore cabling (including inter-array and Offshore Export Cables). Indicative information regarding anticipated construction activity, available at this stage, is outlined below.
- 150 Construction is expected to commence in 2016 continue for around four years (see *Section 7.10*) and consist of the following activities:
- foundation installation;
 - substructure installation;
 - WTG installation;
 - WTG commissioning;
 - Inter-array cable installation;
 - OSP installation (foundations, substructures and topsides); and
 - Offshore Export Cable installation.
- 151 A number of different vessels will be used for these activities including supply vessels, barges, jack-up barges and heavy lift vessels, as well as cable-laying vessels.
- 152 A detailed construction programme will be developed as design and procurement activities progress. The nature of offshore work requires it to be undertaken 24 hours-a-day, seven days a week, therefore lighting will be required during hours of darkness. More detail is included in *Chapter 7*, Table 7.12.
- 153 SLV effects occurring during the construction phase will relate to both construction activities and views of the Inch Cape WTGs, OSPs, and met masts as they are installed across the Development Area.
- 154 In relation to the first of these, a number of activities will take place over a number of years, as described above. Depending on the final location of the construction port, vessel movements have the potential to affect different parts of the SLVIA Study Area. However, in general this is an area in which there is a relatively large amount of shipping activity, particularly around the Firths of Forth and Tay; therefore, vessel movements to and from the construction port are unlikely to give rise to any significant seascape or visual impacts, particularly as they will be temporary in duration. Construction activity at the Development Area is also temporary in nature and will consist of vessel movements within different parts of the Development Area, the exact location and timing of which will depend on how construction is phased across the Development Area. It is anticipated that these activities will be visible, particularly in good conditions, from many onshore locations within the SLVIA

Study Area; however, these are unlikely to be greater than the effects which are predicted to result from the seascape, landscape and visual receptors of the WTGs themselves.

- 155 As the number and extent of WTGs installed on the Development Area gradually increases, so too will the level of associated SLV effects, however, these effects are not anticipated to exceed those resulting from the worst case scenario which has been assessed in the SLVIA and are therefore not considered further.

16.12.2 Effects of Operation and Maintenance

- 156 SLV effects occurring during the operational phase will relate to both maintenance and operational activities such as boat and helicopter movements, and to views of the WTGs, OSPs and met masts and their related components such as marine navigational lighting and aviation warning lighting. It is likely that the Inch Cape Offshore Wind Farm will be managed, operated and maintained throughout its life from an onshore facility. Operation and Maintenance (O&M) activities may be undertaken at any time, 24 hours per day; 365 days per year, and therefore access to the Wind Farm may be required at any time.
- 157 Although the majority of control activities will be undertaken from shore using a remote control centre, offshore access and intervention will be required to maintain and potentially change equipment. Maintenance can be generally separated into three categories: planned maintenance, unplanned maintenance, and periodic overhauls.
- 158 Different strategies could be applied for the O&M of the development. These can generally be categorised into shore-based or offshore-based. Offshore-based maintenance activities are likely to use a mothership (as shown in Figure 7.43) based semi-permanently at the Development Area. Helicopter operations may be required for both strategies, however the primary means of access would be via vessel. Jack-ups, Heavy Lift Vessels and Construction Support Vessels would also be required for unplanned maintenance and/or periodic overhauls. All types of O&M activity are likely to be visible from within the SLVIA Study Area, particularly from coastal locations. However, they will be temporary in duration and are unlikely to give rise to any significant effects greater than those associated with the operation of the WTGs.
- 159 The remainder of the assessment considers the operational SLV effects of the WTGs and OSPs as the worst case scenario as described in *Section 16.9*.

Visibility Analysis

- 160 In order to identify the parts of the SLVIA Study Area where the Inch Cape WTGs and OSPs could potentially cause seascape, landscape or visual effects, ZTVs have been analysed of the WTGs at blade tip (215 m) and hub (129 m) height, as well as cumulative ZTVs of the WTGs with existing, consented and submitted (application stage) wind farms and also with a small number of refused (within six months of refusal date) and scoping stage proposals.
- 161 ZTVs for the Inch Cape WTGs are shown in Figures 16.4, 16.4a, 16.4b, 16.4c and 16.4d and Figures 16.5, 16.5a, 16.5b, 16.5c and 16.5d. They illustrate areas predicted to have views of

the WTGs based on bare ground analysis, i.e. the OS 1:50,000 digital terrain model with gridded height data at 50 m intervals, which does not take account of local landform, vegetation or buildings. The blade tip ZTVs in Figures 16.4, 16.4a, 16.4b, 16.4c and 16.4d show areas from where any part of the Inch Cape WTGs up to the 215 m overall height may be visible, whilst the blade tip vs. hub height vs. WTG base ZTVs show areas from where only the blade tips may be visible. The horizontal subtended angle ZTV in Figure 16.6 shows the horizontal proportion of the view occupied by the Inch Cape WTGs at any given location within the SLVIA Study Area.

- 162 Descriptions of the geographic areas of predicted visibility for these ZTVs are provided below. *Appendix 16B* includes an analysis of the predicted visibility for the main seascape, landscape and visual receptors identified in the SLVIA Study Area, comprising seascape character areas, landscape character types and associated areas, landscape designations, residential settlements, road and rail routes, and recreational routes and facilities.

Blade Tip ZTV Analysis

- 163 The ZTVs show that for offshore areas, theoretical visibility is only limited by the curvature of the earth or by offshore islands, such as the Isle of May, which will block views of the Inch Cape WTGs and OSPs from certain offshore locations. Beyond the 50 km SLVIA Study Area, theoretical visibility of the WTGs and OSPs reduces and becomes zero at 60 km. It is also worth noting that visibility within the inner Firths of Forth and Tay will be limited by distance, as described above, and also by the position of the WTGs and OSPs in relation to various headlands and promontories, which will screen views from certain areas.
- 164 The closest onshore location to the Development Area is Long Craig, at just over 15.4 km to the nearest Inch Cape WTG.
- 165 Within the SLVIA Study Area, the following broad patterns of theoretical visibility may be discerned. There will be almost continuous visibility of the Inch Cape WTGs and OSPs from the coastal edge, with the exception of certain areas of the inner Firths of Forth and Tay where there will be no visibility; the stretch of coastline running south from Stonehaven to Crawton Ness where visibility will be intermittent; and other limited areas such as to the west of Lang Craig, where local topography will prevent views of the Inch Cape WTGs and OSPs.
- 166 Inland of the coastal edge, the extent of theoretical visibility is dictated by patterns of local topography. Between Stonehaven, the northern end of Montrose Bay and the A90, the hills attain heights of up to 266 m AOD and have a more pronounced form of ridge, summit and valley, with visibility limited to the south and south-west facing upper slopes and hilltops. To the north and west of Inverbervie and north of Stonehaven, theoretical visibility is even more limited. To the north-west of Montrose there will be visibility from the south facing slopes above the Montrose Basin. There will also be some visibility of the Inch Cape WTGs and OSPs from areas inland of Lunan Bay and along the stretch of coastline between Lang Craig and Arbroath.

- 167 Inland of Arbroath and Carnoustie, and at distances of between 20 km to 30 km from the Inch Cape WTGs and OSPs, there is a much greater extent of theoretical visibility, due to the lower height and gently rolling and sloping topography of the predominantly agricultural land, although it is likely that actual visibility will be more limited because of the screening effect of woodland and roadside vegetation.
- 168 There are large areas of Aberdeenshire and Angus which lie within the SLVIA Study Area which will have no visibility of the Inch Cape WTGs and OSPs. These areas include most of Strathmore, following the alignment of the A90, and the Howe of the Mearns, at between 30 km and 40 km distance from the Development Area. At beyond 40 km distance, theoretical visibility is limited to the summits and south-east facing slopes of the hills which rise above Strathmore. It is also worth noting several areas that have theoretical visibility of the WTGs and OSPs, but from where actual visibility is likely to be limited due to extensive woodland cover. These include Montreathmont Forest, between Brechin and Friockheim, and Drumtochty and Fetteresso Forests to the west of Stonehaven.
- 169 In the urban areas within and around Dundee, actual visibility of the Inch Cape WTGs and OSPs will be limited by intervening buildings and vegetation. To the north of Dundee, theoretical visibility is limited to the south and east facing slopes of the Sidlaw Hills.
- 170 Within East Fife, inland of the coastal edge, most areas of theoretical visibility lie between 30 km and 40 km to the south-east of the Development Area. Once again, the shallowly sloping farmland creates a greater extent of theoretical visibility, but in practice many inland areas will not have views of the Inch Cape WTGs due to the screening effect of intervening vegetation, particularly where there are large areas of woodland such as Tentsmuir Forest. Beyond 40 km from the Development Area, visibility within Fife will be much more intermittent with most areas having no visibility of the WTGs, in particular the East Neuk of Fife between Crail and Largo.
- 171 The areas of East Lothian which lie within the SLVIA Study Area are very limited and visibility of the Inch Cape WTGs will be largely limited to the coastal edge and areas immediately inland of this.

Comparison of Blade Tip and Hub Height ZTVs

- 172 A comparison of the blade tip ZTV and hub height ZTV is shown in Figures 16.5, 16.5a, 16.5b, 16.5c and 16.5d. These drawings illustrate that for almost all areas having theoretical visibility of the Inch Cape WTGs, this visibility will include both WTG hubs and blade tips. There are only limited areas that will have visibility of blade tips only. These include the lower south and east facing slopes of the hills above Strathmore, the lower slopes of the shallow ridge to the north of the River South Esk, an area inland of Lunan Bay centred on the settlement of Friockheim, the lower slopes of the Sidlaws and adjacent hills, and parts of the Inner Firth of Tay. Within Fife, these areas are very limited in extent, and within the SLVIA Study Area in East Lothian theoretical visibility of blade tips occurs mostly along parts of the coastline and is due to the effects of the curvature of the earth on visibility. Figures 16.5,

16.5a, 16.5b, 16.5c and 16.5d also illustrate theoretical visibility of the top of the WTG substructures (WTG tower base).

Horizontal Subtended Angle (HSA) ZTV

- 173 Figure 16.6 illustrates the HSA ZTV for the Inch Cape WTGs. Rather than illustrating the number of WTGs having theoretical visibility, this ZTV shows the angle from any point between the leftmost and rightmost visible WTG within the Development Area, with the aim of indicating the horizontal proportion of the view taken up by the Inch Cape WTGs at any given location. The angle decreases the greater the distance between the viewer and development but is also influenced by variations in topography. The general pattern shows that for locations either within or very close to the Development Area, the WTGs will occupy a HSA of between 90° and 360° of the view. Likewise, the area of coastline along which views of the WTGs will occupy the greatest horizontal extent of the view (between 30.1° and 50°) lies in Angus, roughly between Montrose and Carnoustie (the HSA at Viewpoint 11: Arbroath Signal Tower is approximately 41°), with a somewhat lesser extent of the field of view being occupied by views of the Inch Cape WTGs and OSPs along stretches of coastline in Aberdeenshire and Fife (mostly between 15.1° to 30°, but lower than this around Stonehaven in the north and along the East Neuk of Fife coastline). The influence of topography on the HSA is more evident along certain stretches of coastline, for example the East Neuk and the Inner Firth of Tay where the location, form and topography of the coastal edge introduces progressive screening effects in relation to WTGs located at the outer extents of the Development Area. This effect is also more evident in certain inland locations, for example the area of land between the River North Esk and Fettercairn.

Potential Effects

- 174 In this section, potential effects on seascape/landscape character and visual amenity assessed at the 25 agreed viewpoints are listed. Significant potential effects are highlighted in bold. A detailed description of the existing and predicted views from each viewpoint together with a description of the predicted effects is included in *Appendix 16C*. Visualisations are shown in Figures 16.35 to 16.59 in *Appendix 16G*. A summary of predicted effects at each viewpoint is contained in Table 16.18 below.

Table 16.18: Summary of Potential Effects at Representative Viewpoints

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Magnitude of Change	Effect
	Visual Amenity Receptor			
1. Garron Point See Figures 16.35 and 16.35a for visualisations.	SA3 – Cove Bay to Milton Ness	Moderate	Low	Minor/Moderate
	Recreational users	High		Moderate
	The Inch Cape WTGs and OSPs will mostly be seen against the sea horizon but adjacent to the coastal edge, with which it may compete as a focus of views when looking southwards along the coastline. However, the WTGs will be located at a considerable distance from this viewpoint (43.74 km), occupying around 13° of the view. On average, the closest WTGs will be visible for 21.5 per cent of the time, equivalent to approximately 78 days of the year.			
2. A92, North of Inverbervie See Figures 16.36 to 16.36c for visualisations.	SA3 – Cove Bay to Milton Ness	Moderate	High	Moderate/Major
	Recreational cyclists and road users	High to Moderate		Major to Moderate/Major
	The Inch Cape WTGs and OSPs will introduce a large number of man-made vertical elements on the horizon at 30 km distance occupying approximately 18° of the view. From this location, they will completely fill the framed view of the distant sea horizon. The WTGs will extend wind farm development, already or soon to be apparent in the nearby surrounding landscape, to the sea surface. On average, the closest WTGs are likely to be visible for 42 per cent of the time, equivalent to approximately 153 days of the year.			
3. Beach Road, Kirkton, St Cyrus See Figures 16.37 to 16.37c for visualisations.	SA4 – Montrose Bay	High	Moderate	Moderate/Major
	Recreational users	High		Moderate/Major
	The Inch Cape WTGs and OSPs will introduce a large number of man-made vertical elements on the horizon. They will occupy approximately 21° of the open sea view at a closest distance of over 24.1 km. Other existing and consented wind farms are, or will be, visible from the same location but seen in the opposite direction to the Inch Cape WTGs and OSPs. On average, the closest WTGs are likely to be visible for 56 per cent of the time, equivalent to approximately 204 days of the year.			

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Magnitude of Change	Effect
	Visual Amenity Receptor			
4. Cairn o' Mount	ABS4 – Moorland Plateaux	Moderate	Low	Minor/Moderate
	Recreational users	High		Moderate
See Figures 16.38 and 16.38a for visualisations.	In this view, the Inch Cape WTGs and OSPs will introduce a large number of man-made vertical elements to the distant sea horizon at 42.88 km, seen beyond Montrose Bay, and occupying a HSA of 13° of the view. From this location, the sea is a distant element in an extensive view across the surrounding landscape. On average, the closest WTGs are likely to be visible for 22 per cent of the time, equivalent to approximately 80 days of the year.			
5. Montrose	SA4 – Montrose Bay	High	High	Major
	Recreational users	High		Major
See Figures 16.39 to 16.39c for visualisations.	The Inch Cape WTGs and OSPs will introduce a large number of vertical man-made elements in the view across Montrose Bay and the mouth of the River South Esk towards Scurdie Ness at a distance of 19.74 km. Some of the WTGs will appear as blade tips above the landward skyline but most will be visible on the sea horizon occupying a HSA of around 26° of the view. They will appear behind and adjacent to the lighthouse at Scurdie Ness, and compete with this and the headland, as a focus in the view. On average, the closest WTGs are likely to be visible for 64.5 per cent of the time, equivalent to approximately 235 days of the year.			
6. Braehead of Lunan	SA6 – Lunan Bay	High	High	Major
	Recreational users, residents	High		Major
See Figures 16.40 and 16.40a for visualisations.	The Inch Cape WTGs and OSPs will introduce a large number of man-made structures onto the sea horizon at a distance of 18.93 km, occupying a relatively large proportion of the open sea view available at this location. They will be seen to the east south-east and occupying a HSA of 34°. On average, the closest WTGs are likely to be visible for 66 per cent of the time, equivalent to approximately 241 days of the year.			
7. Brechin	TAY10 – Broad Valley Lowlands	Moderate	Negligible	Negligible
	Road users	Moderate		Negligible
See Figures 16.41 to 16.41b for visualisations.	The Inch Cape WTGs and OSPs are considered unlikely to be visible from this location due to intervening vegetation.			

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Magnitude of Change	Effect
	Visual Amenity Receptor			
8. White Caterthun Hill Fort See Figures 16.42 to 16.42b for visualisations.	TAY5 – Highland Foothills	Moderate	Low	Minor/Moderate
	Recreational users	High		Moderate
The Inch Cape WTGs and OSPs will introduce a large number of man-made elements to part of the distant horizon at 38.29 km in a complex panoramic view which includes several existing and/or consented WTGs. The WTGs will occupy a HSA of 19° of the view. On average, the closest WTG are likely to be visible for 28.5 per cent of the time, equivalent to approximately 104 days of the year.				
9. Minor Road South of Cairnconon Hill See Figures 16.43 and 16.43a for visualisations.	TAY13 – Dipslope Farmland	Moderate	High	Moderate/Major
	Road users	Moderate		Moderate/Major
In sea views, the Inch Cape WTGs and OSPs will introduce a large number of man-made vertical elements occupying approximately a HSA of 32° on the distant horizon at 27.1 km. Although the WTGs will be located at some distance from this viewpoint, the sea is an important part in the overall composition of the view from this location. On average, the closest WTGs are likely to be visible for 48.5 per cent of the time, equivalent to approximately 177 days of the year.				
10. Clifftop Path North of Victoria Park See Figures 16.44 to 16.44b for visualisations.	SA8 – Arbroath to Monifieth	Moderate	High	Moderate/Major
	Recreational users	High		Major
In seaward views, the Inch Cape WTGs and OSPs will introduce a large number of man-made vertical elements on the skyline at a closest distance of 18.47 km occupying 23° of the view. The WTGs will be seen extending out from the adjacent headland and across the sea horizon. On average, the closest WTGs are likely to be visible for 67 per cent of the time, equivalent to approximately 245 days of the year.				
11. Arbroath Signal Tower See Figures 16.45 and 16.45b for visualisations.	SA8 – Arbroath to Monifieth	Moderate	High	Moderate/Major
	Recreational users	High		Major
In sea views, the Inch Cape WTGs and OSPs will introduce a large number of man-made vertical elements on the horizon at a closest distance of 19.63 km occupying approximately 41° of the view within a large expanse of otherwise open sea. At this distance, all parts of the WTGs and the OSPs will be visible above the horizon. On average, the closest WTGs are likely to be visible for 64 per cent of the time, equivalent to approximately 234 days of the year.				

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Magnitude of Change	Effect
	Visual Amenity Receptor			
12. A92 East of Muirdrum See Figures 16.46 to 16.46b for visualisations.	TAY13 – Dipslope Farmland	Moderate	Moderate	Moderate
	Recreational cyclists and road users	High to Moderate		Moderate/Major to Moderate
	The landscape has a strong horizontal emphasis at this location and is somewhat open and exposed with limited tree cover. The Inch Cape WTGs and OSPs will introduce a large group of WTGs into seaward views at a distance of 25.07 km and occupying a HSA of 34° of the view. However, views of the sea form just one element of the overall composition of the landscape at this point. On average, the closest WTGs are likely to be visible for 53.5 per cent of the time, equivalent to approximately 195 days of the year.			
13. Dodd Hill See Figures 16.47 to 16.47c for visualisations.	TAY8 – Igneous Hills	Moderate	Low	Minor/Moderate
	Recreational users	High		Moderate
	The Inch Cape WTGs and OSPs will introduce a large number of vertical man-made elements into distant sea views at 37.89 km, occupying a HSA of 24°. However, the sea is just one component in the overall expansive and panoramic view from the summit of Dodd Hill. On average, the closest WTGs are likely to be visible for 29.5 per cent of the time, equivalent to approximately 108 days of the year.			
14. Carnoustie See Figures 16.48 to 16.48b for visualisations.	SA8 – Arbroath to Monifieth	Moderate	Moderate	Moderate
	Recreational users and residents	High		Moderate/Major
	Although the Inch Cape WTGs and OSPs will be seen in the view at some distance they will introduce a large number of vertical man-made structures onto the skyline at a closest distance of 26.45 km and occupying 32° of the open sea horizon. On average, the closest WTGs are likely to be visible for 50.5 per cent of the time, equivalent to approximately 184 days of the year.			
15. Dundee Law See Figures 16.49 to 16.49b for visualisations.	SA9 – Dundee	Low	Low	Minor
	Recreational users	High		Moderate
	The Inch Cape WTGs and OSPs will be seen in the same field of view and slightly overlapping with the existing Michelin Tyre Factory wind farm that is also visible from this location. Although the Inch Cape WTGs and OSPs will occupy 20° of the open sea view they will be seen at a considerable distance at 43.45 km. On average, the closest WTGs are likely to be visible for 21.5 per cent of the time, equivalent to approximately 78 days of the year.			

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Magnitude of Change	Effect
	Visual Amenity Receptor			
16. Tentsmuir	SA11 – St Andrews Bay	High	Low	Moderate
	Recreational users	High		Moderate
See Figures 16.50 to 16.50b for visualisations.	The Inch Cape WTGs and OSPs will occupy a HSA of 25° of the open sea view at a closest distance of 33.16 km. The sea view here is expansive and the Inch Cape WTGs and OSPs will be visible at a considerable distance and with the WTG towers being mostly screened below the horizon. On average, the closest WTGs are likely to be visible for 38.5 per cent of the time, equivalent to approximately 141 days of the year.			
17. Strathkinness	FFE11 - Coastal Hills	Moderate	Low	Minor/Moderate
	Recreational cyclists, residents and road users	High to Moderate		Moderate to Minor/Moderate
See Figures 16.51 to 16.51b for visualisations.	Although the Inch Cape WTGs and OSPs will occupy a HSA of 22° of the open sea view at this location, they will be seen at a considerable distance (39.14 km). Other onshore existing wind farms that are visible occupy a small extent of the view and will not be seen in the same field of view as the Inch Cape WTGs and OSPs. On average, the closest WTGs are likely to be visible for 26.5 per cent of the time, equivalent to approximately 97 days of the year.			
18. St Andrews, East Scores	SA12 – St Andrews to Fife Ness	High	Moderate	Moderate/Major
	Residents and recreational users	High		Moderate/Major
See Figures 16.52 to 16.52b for visualisations.	In sea views, the Inch Cape WTGs and OSPs will introduce a large number of man-made vertical elements on the horizon occupying approximately 25° of the view within a large expanse of otherwise open sea, but at considerable distance from the viewpoint (34.53 km). Other onshore existing and consented wind farms that are visible will not be seen in the same field of view as the Inch Cape WTGs and OSPs and also occupy a much smaller extent of the view. On average, the closest WTGs are likely to be visible for 38 per cent of the time, equivalent to approximately 139 days of the year.			

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Magnitude of Change	Effect
	Visual Amenity Receptor			
19. Largo Law See Figures 16.53 and 16.53a for visualisations.	FFE4 – Pronounced Volcanic Hills and Craigs	Moderate	Low	Minor/Moderate
	Recreational users	High		Moderate
	Views of the open sea are just one element in a 360° panoramic view from this hilltop location. The Inch Cape WTGs and OSPs will occupy approximately 19° of the overall view at a closest distance of 47.92 km. On average, the closest WTGs are likely to be visible for 14.5 per cent of the time, equivalent to approximately 53 days of the year.			
20. B9131 South of Dunino See Figures 16.54 to 16.54c for visualisations.	FFE6 – Lowland Open Sloping Farmland	Moderate	Moderate	Moderate
	Road users	Moderate		Moderate
	In seaward views, the Inch Cape WTGs and OSPs will introduce a large number of man-made vertical elements on the horizon occupying approximately 24° of the seaward view, but at a closest distance of 35.52 km from the viewpoint. These views are broken in places by trees and vegetation in the surrounding landscape and other onshore existing and consented wind farms are unlikely to be visible from this location. On average, the closest WTGs are likely to be visible for 35 per cent of the time, equivalent to approximately 128 days of the year.			
21. Kingsbarns See Figures 16.55 to 16.55b for visualisations.	FFE6 – Lowland Open Sloping Farmland	Moderate	Moderate	Moderate
	Road users	Moderate		Moderate
	In seaward views, the Inch Cape WTGs and OSPs will introduce a large number of man-made vertical elements on the horizon occupying approximately 27° of a view framed by trees and vegetation in the surrounding landscape, but located at a closest distance of 29.86 km from the viewpoint. Other onshore existing and consented wind farms are unlikely to be visible from this location. On average, the closest WTGs are likely to be visible for 42.5 per cent of the time, equivalent to approximately 155 days of the year.			

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Magnitude of Change	Effect
	Visual Amenity Receptor			
22. Anstruther Easter See Figures 16.56 and 16.56a for visualisations.	SA13 – East Neuk of Fife	High	Low	Moderate
	Residents and recreational users	High		Moderate
	The Inch Cape WTGs and OSPs will extend wind farm development into the seaward view from the adjacent coastal edge and may compete with it as a focus in the view, but will be at some distance (35.5 km) and occupy a HSA of approximately 7° of the view. On average, the closest WTGs are likely to be visible for 35 per cent of the time, equivalent to approximately 128 days of the year.			
23. Fife Ness See Figures 16.57 to 16.57b for visualisations.	SA12 – St Andrews to Fife Ness	High	Moderate	Moderate/Major
	Residents and recreational users	High		Moderate/Major
	In sea views, the Inch Cape WTGs and OSPs will introduce a large number of man-made vertical elements on the horizon occupying approximately 28° of the view within a large expanse of otherwise open sea. At a closest distance of 27.37 km from the viewpoint the vertical extent of the WTGs decreases as they start to drop below the horizon due to the effects of earth curvature. On average, the closest WTGs are likely to be visible for 48.5 per cent of the time, equivalent to approximately 177 days of the year.			
24. Isle of May See Figures 16.58 and 16.58a for visualisations.	SA13 – East Neuk of Fife	High	Moderate	Moderate/Major
	Recreational users	High		Moderate/Major
	In sea views, the Inch Cape WTGs and OSPs will introduce a large number of man-made vertical elements on the horizon occupying approximately 23° of the view within a very large expanse of otherwise open sea. At 33.5 km from the viewpoint the vertical extent of the WTGs decreases particularly for the most distant WTGs as the lower part of the tower starts to drop below the horizon due to the effects of earth curvature. On average, the closest WTGs are likely to be visible for 38 per cent of the time, equivalent to approximately 139 days of the year.			

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Magnitude of Change	Effect
	Visual Amenity Receptor			
25. Dunbar See Figures 16.59 and 16.59a for visualisations.	SA17 - Eyebroughy to Torness Point	Moderate	Negligible	Minor
	Residents and recreational users	High		Minor/Moderate
	In sea views, the Inch Cape WTGs and OSPs will introduce a large number of man-made vertical elements on the horizon, occupying a HSA of 15°, within a large expanse of otherwise open sea but at a closest distance of 50.33 km from the viewpoint which has the effect of decreasing the vertical extent of the WTGs that will be visible. On average, the closest WTGs are likely to be visible for 10.5 per cent of the time, equivalent to approximately 38 days of the year.			

Summary of Potential Effects

175 Significant effects on landscape or seascape character (Major or Moderate/Major) from the Inch Cape WTGs and OSPs are predicted at 10 of the 25 viewpoints.

- Major impacts are predicted at two of the 25 viewpoints – Viewpoint 5: Montrose and Viewpoint 6: Braehead of Lunan – both located within Angus, at distances ranging from 18.93 km to 19.74 km to the closest WTG within the Development Area. These are both impacts on seascape character where the character area is accorded a high sensitivity to change.
- Moderate/Major impacts are predicted at eight of the 25 viewpoints at distances ranging from 18.47 km to 34.53 km from the closest WTG within the Development Area. These are: Viewpoint 2: A92, North of Inverbervie; Viewpoint 3: Beach Road, Kirkton, St Cyrus; Viewpoint 9: Minor Road South of Cairnconon Hill; Viewpoint 10: Clifftop Path North of Victoria Park; Viewpoint 11: Arbroath Signal Tower; Viewpoint 18: St Andrews, East Scores; Viewpoint 23: Fife Ness; and, Viewpoint 24: Isle of May.

176 Significant effects on visual amenity (Major or Moderate/Major) from the Inch Cape WTGs and OSPs are predicted at 12 of the 25 viewpoints. With the exception of Viewpoint 9: Minor Road South of Cairnconon Hill, these are all associated with high sensitivity visual receptors such as residents and/or recreational users whose attention will be focused on the view (hill walkers, etc.).

- Major impacts are predicted at five of the 25 viewpoints, of which four are located within Angus and one in Aberdeenshire, at distances ranging from 18.47 km to 30.04 km to the closest WTG within the Development Area. These are: Viewpoint 2: A92 North of Inverbervie; Viewpoint 5: Montrose; Viewpoint 6: Braehead of Lunan; Viewpoint 10: Clifftop Path North of Victoria Park; and, Viewpoint 11: Arbroath Signal Tower.

- Moderate/Major (and significant) impacts are predicted at eight of the 25 viewpoints; one is where Major impacts are also predicted at Viewpoint 2: A92 North of Inverbervie (different visual receptors at the same viewpoint can have different sensitivity ratings to this type of development). Of the remaining seven viewpoints where Moderate/Major impacts are predicted one is in Aberdeenshire, three are in Angus and three in Fife. These seven viewpoints are located at distances ranging from 27.37 km to 34.53 km to the closest WTG within the Development Area. The viewpoints are: Viewpoint 3: Beach Road, Kirkton, St Cyrus; Viewpoint 9: Minor Road South of Cairnconon Hill; Viewpoint 12: A92 East of Muirdrum; Viewpoint 14: Carnoustie; Viewpoint 18: St Andrews, East Scores; Viewpoint 23: Fife Ness; and, Viewpoint 24: Isle of May.
- 177 It is important to reiterate that these are considered to be worst case effects which are only predicted to occur in conditions of good visibility and bright daylight, and that actual visibility may be limited with a corresponding reduction in the level of effect.
- 178 The viewpoints were agreed to be representative of the range of seascape, landscape and visual receptors identified in the study area (*Section 16.4.6*). The findings of the viewpoint assessment in respect of effects on seascape and landscape character as well as, where relevant, designated landscapes and effects on visual receptors are drawn on to inform the Residual Impacts set out in *Section 16.16*.

16.13 Impact Interactions

- 179 There is an inherent linkage between seascape, landscape and visual effects insofar as the changes predicted to occur for seascape or landscape character would affect views and visual amenity. This is reflected in the methodology where the magnitude of change for seascape, landscape character and visual amenity are considered to be the same, but the sensitivity of the respective landscape and visual receptors may vary according to the criteria identified in *Section 16.5.2 and Section 16.5.3*.
- 180 The SLVIA has identified the linkages between different chapters in this ES where relevant. Specifically, potential impacts upon tourism and recreational receptors and general socio-economic impacts, are fully assessed in *Chapter 22: Socio-economics and Tourism*. In addition, potential impacts on cultural heritage receptors both within the Development Area and the SLVIA Study Area have been fully assessed in *Chapter 17*. Any effects are identified and assessed in the respective chapter.
- 181 It is not considered that there will be any significant cumulative SLV effects arising from the interaction between the construction of the Offshore Export Cable and the Inch Cape WTGs and OSPs. The effects of the Inch Cape WTGs and OSPs in conjunction with other wind farms are separately addressed within the baseline assessment in *Section 16.12* (for existing and consented wind farms) and in *Section 16.14* below for application and scoping stage wind farms.

16.14 Cumulative Impact Assessment

16.14.1 The Project

182 It is not anticipated that there would be any significant cumulative effects on seascape, landscape or visual amenity from construction in the Development Area in addition to the construction of the OfTW or OnTW, due to the distance between the Development Area and the landfall locations and Onshore Area, as well as the limited duration of the construction.

183 There will be no cumulative effects on seascape, landscape or visual amenity from the operation of the Wind Farm, OfTW, and the OnTW due to the distance between them and nature of Export Cables (as they will be buried). It is not anticipated that the installed OnTW will be visible from any of the agreed viewpoints or other identified receptors.

16.14.2 Other Projects

184 The cumulative assessment considers the effect of the Inch Cape WTGs and OSPs in conjunction with existing and consented wind farm developments together with application and scoping stage wind farm developments (i.e. those for which applications have been or may be submitted to the relevant authority). The list of developments included in the CSLVIA was agreed with SNH, Marine Scotland and the relevant local authorities as identified in Table 16.2.

185 For the purposes of the assessment, some wind farms have been grouped together in order to keep the presentation and analysis of visibility patterns to a manageable level. Where practical, sites have been grouped based on status and geographical proximity. An initial list of cumulative sites was circulated to consultees and stakeholders on 5 September 2012. Following receipt of comments, the final agreed list of cumulative sites to be included in the assessment was circulated on 27 September 2012. These are shown in Figure 16.10. Where sites have been grouped together for ease of analysis this is also indicated in Figure 16.10. The agreed list of wind farms included in the assessment is shown in Table 16.19 below.

Table 16.19: Agreed List of Cumulative Wind Farm Developments Included for Analysis

ZTV Group	Wind Farm	Status	Number of WTGs	Blade Tip Height (m)	Approximate Distance (km) and Direction to the Nearest Inch Cape WTG
1	Clochnahill	Consented	4	81	39.7 km north
1	Hillhead of Auquhirie	Consented	3	93	39.9 km north
1	Jack's Bank	Consented	3	100	40.0 km north
1	Droop Hill	Consented	2	100	39.0 km north

ZTV Group	Wind Farm	Status	Number of WTGs	Blade Tip Height (m)	Approximate Distance (km) and Direction to the Nearest Inch Cape WTG
2	St John's Hill	Consented	9	80	32.5 km north
2	Kinneff	Application	1	77	31.8 km north
2	Ferniebrae	Application	1	67	37.8 km north
3	Tullo Farm	Existing	7	100	30.0 km north
3	Tullo Farm Extension	Application	4	100	31.0 km north
3	Easter Tulloch	Consented	5	100	30.0 km north
3	North Tullo	Consented	3	100	31.0 km north
3	Brownieleys	Application	3	100	30.7 km north
4	Brigton Farm	Application	1	81	33.0 km north
4	Steelstrath Farm	Application	1	84	34.0 km north north-west
4	Whitefield of Dun	Consented	1	67	28.8 km north north-west
4	Hill of Stracathro	Application	1	79	30.0 km north north-west
5	Woodside	Refused	1	78	36.0 km north-west
5	Pickerton Farm	Application	1	77	30.0 km north-west
6	Govals	Application	6	87	42.0 km west
6	Frawney	Application	5	100	41.4 km west
6	Dodd Hill	Application	5	126	38.0 km west
7	Kenly	Application	6	100	32.7 km south-west
7	Lingo	Application	5	100	37.0 km south-west
7	Balmouth/	Application	3	67	36.7 km south-west

ZTV Group	Wind Farm	Status	Number of WTGs	Blade Tip Height (m)	Approximate Distance (km) and Direction to the Nearest Inch Cape WTG
	Bonerbo/ Drumrack Farms				
NONE	Mains of Bridgeton	Application	1	77	25.0 km north
NONE	Nathro Hill	Application	17	135	42.9 km north-west
NONE	Glaxo Smith Kline	Refused	2	132	19.0 km north north-west
NONE	Balnacake	Application	3	68	32.5 km north-west
NONE	Finavon House	Application	3	100	37.7 km north-west
NONE	Corse Hill	Refused	7	126	22.0 km west
NONE	Tealing Airfield	Consented	1	86	42.0 km west
NONE	Michelin Tyre Factory	Existing	2	121	37.6 km west
NONE	Port of Dundee	Scoping	3	127	39.0 km west
NONE	Neart na Gaoithe	Application	80	197	10.8 km south
NONE	Firth of Forth Phase 1	Application	150	209.7	12.2 km north-east
NONE	Firth of Forth Phase 2 and 3	Scoping	Details of WTG numbers and heights for this wind farm are not yet available however SNH requested that the extents of the sites be shown on all wireline visualisations. These are shown in Figures 16.35 to 16.59.		

16.14.3 Addendum Regarding Cumulative Sites (13 January 2013)

186 A number of WTG proposals had planning applications refused in the latter part of 2012. Whilst checking the status of these developments, the following status changes have been noted. Due to the scale and location of these developments these changes are not considered to give rise to any material change in the assessment of effects contained within

this report. Therefore, the report is submitted “as is” with a note of these changes made below in Table 16.20.

Table 16.20: List of Changes to Cumulative Sites Assessed (13 January 2013)

ZTV group	Wind Farm	September 2012 Status	Status as checked 13 January 2013
2	Kinneff	Application	Consented 16/10/2012
3	Tullo Farm Extension	Application	Consented 13/09/2012
4	Brigton Farm	Application	Consented 25/10/2012
4	Steelstrath Farm	Application	Withdrawn 09/10/2012
5	Woodside	Refused	Appeal dismissed 28/12/2012
5	Pickerton Farm	Application	Consented 17/10/2012
7	Kenly	Application	Appeal in progress
NONE	Glaxo Smith Kline	Refused	Appeal in progress
NONE	Balnacake	Application	Withdrawn 07/01/2013
NONE	Finavon House	Application	Appeal dismissed 26/10/2012
NONE	Corse Hill	Refused	Appeal in progress

16.14.4 Effects of Construction

187 Construction effects have been described in *Section 16.12* and will not be repeated here. It is anticipated that the construction periods for the three FTOWDG offshore wind farms may overlap to some degree. However the likely increase in marine traffic within the SLVIA Study Area is not predicted to result in any significant SLV effects given the generally high levels of maritime traffic and activity around the Firths of Forth and Tay. Impacts arising from the construction of the WTGs may give rise to some significant effects but these will not be of a greater magnitude than the SLV effects predicted to be experienced during the operational period and have therefore not been assessed independently of this.

16.14.5 Effects of Operation and Maintenance

188 In this section, potential cumulative effects on seascape/landscape character and visual amenity assessed at the 25 viewpoints are listed in Table 16.21 below. Significant potential

effects are highlighted in bold. A detailed description of the existing view and predicted cumulative view from each viewpoint together with a description of the predicted cumulative effects is included in *Appendix 16C*. Visualisations are shown in Figures 16.35 to 16.59 in *Appendix 16G*.

Table 16.21: Summary of Potential Cumulative Effects at Representative Viewpoints

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Cumulative Magnitude of Change	Potential Cumulative Effect
	Visual Amenity Receptor			
1. Garron Point See Figures 16.35 and 16.35a for visualisations.	SA3 – Cove Bay to Milton Ness	Moderate	Low	Minor/Moderate
	Recreational users	High		Moderate
<p>The Inch Cape WTGs and OSPs will occupy a HSA of 13° at 43.74 km distance and appear in front of Neart na Gaoithe which will occupy a HSA of 4° at a closest distance of 72.39 km, therefore the Neart na Gaoithe WTGs are unlikely to be perceptible. The closest offshore wind farm is Firth of Forth Phase 1, which will be seen approximately right of centre in the open seaward view at a closest distance of 37.75 km and occupying a HSA of approximately 27°, over twice that of the Inch Cape WTGs and OSPs. The application and scoping stage onshore wind farms, where visible, will occupy a much smaller extent of the view compared to the offshore wind farms and have limited interaction with the Inch Cape WTGs and OSPs.</p>				
2. A92, North of Inverbervie See Figures 16.36 to 16.36c for visualisations.	SA3 – Cove Bay to Milton Ness	Moderate	High	Moderate/Major
	Recreational cyclists and road users	High to Moderate		Major to Moderate/Major
<p>The Inch Cape WTGs and OSPs will occupy a HSA of 18° at 30 km distance and appear in front of Neart na Gaoithe, which it will largely screen in views from this location. Of the application and scoping stage onshore wind farms, those in Group 2 and Group 3 will be noticeable features in the surrounding landscape, although not seen in the same direction as the Inch Cape WTGs and OSPs. The Inch Cape WTGs and OSPs will introduce a large group of WTGs into the only part of the sea visible from this viewpoint, at a location from which other onshore wind farms may also be seen.</p>				

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Cumulative Magnitude of Change	Potential Cumulative Effect
	Visual Amenity Receptor			
3. Beach Road, Kirkton, St Cyrus	SA4 – Montrose Bay	High	High	Major
	Recreational users	High		Major
See Figures 16.37 to 16.37c for visualisations.	Firth of Forth Phase 1 will be the closer of the two other offshore wind farms and will be seen separately and to the left of the Inch Cape WTGs and OSPs in views east south-east at a distance of 32.27 km and occupying 30° of the view. The Inch Cape WTGs and OSPs will appear to the right of Firth of Forth Phase 1 as a separate wind farm, occupying a HSA of 21° of the remaining open sea view at a distance of 24.1 km. The Neart na Gaoithe WTGs will be seen at 50.13 km distance, but overlapping with the Inch Cape WTGs and OSPs. The application and scoping stage onshore wind farms, where visible, will occupy a much smaller extent of the view compared to the Inch Cape WTGs and OSPs, although the Glaxo Smith Kline wind farm, if consented, will be seen in views along Montrose Bay as a prominent feature on the skyline.			
4. Cairn o' Mount	ABS4 – Moorland Plateaux	Moderate	Low	Minor/Moderate
	Recreational users	High		Moderate
See Figures 16.38 and 16.38a for visualisations.	Although a number of different application stage onshore wind farms will be visible from this location they will be seen in widely differing contexts. In relation to other application stage offshore wind farms, both Firth of Forth Phase 1 and Neart na Gaoithe will be visible in distant sea views although neither will overlap in the view with the Inch Cape WTGs and OSPs. Both will be seen on the horizon, at distances of 48.58 km and 67.78 km respectively. The Inch Cape WTGs and OSPs will occupy a HSA of 13° occurring in part of the remaining view of open sea from this location, and will be the closest of the offshore wind farms but will be seen at a considerable distance from the viewpoint (42.88 km) as part of a panoramic view containing many different elements.			

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Cumulative Magnitude of Change	Potential Cumulative Effect
	Visual Amenity Receptor			
5. Montrose See Figures 16.39 to 16.39c for visualisations.	SA4 – Montrose Bay	High	High	Major
	Recreational users	High		Major
<p>Of the onshore sites, a number will be visible to the north of Montrose Bay along the skyline of the adjacent inland ridge. Situated just under one kilometre from the viewpoint the Glaxo Smith Kline WTGs will form a prominent feature in views towards the Port of Montrose if consented. Neart na Gaoithe will not be visible from this location as it is screened by Scurdie Ness. Firth of Forth Phase 1 is theoretically visible at a distance of 32.71 km occupying a HSA of 28°. It will not overlap with the Inch Cape WTGs and OSPs, which will occupy a HSA of around 26° at a closest distance of 19.74 km. When considered in relation to the other offshore developments, the Inch Cape WTGs and OSPs will represent a considerable increase in the proportion of the seascape affected by wind farm development, being the closest of the offshore developments.</p>				
6. Braehead of Lunan See Figures 16.40 and 16.40a for visualisations.	SA6 – Lunan Bay	High	High	Major
	Recreational users, residents	High		Major
<p>Comparison of the wireline visualisation and photograph of the existing view in Figure 16.40a suggests that only the proposed offshore wind farms will be visible from this location. Both Firth of Forth Phase 1 and Neart na Gaoithe will be seen in views across Lunan Bay, at a closest distance of 35.42 km and 40.02 km respectively, therefore both will be visible at a further distance from the coastline than the Inch Cape WTGs and OSPs, which will be seen at a closest distance of 18.93 km occupying a HSA of 34°, and representing a considerable increase in the proportion of the sea view affected by wind farm development, being the closest of the offshore wind farms to the viewpoint.</p>				
7. Brechin See Figures 16.41 to 16.41b for visualisations.	TAY10 – Broad Valley Lowlands	Moderate	Negligible	Negligible
	Road users	Moderate		Negligible
<p>The Inch Cape WTGs and OSPs are considered unlikely to be visible from this location, due to screening provided by intervening vegetation. From the photograph of the existing view it appears that much of this vegetation is evergreen therefore there is unlikely to be a large seasonal variation in screening.</p>				

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Cumulative Magnitude of Change	Potential Cumulative Effect
	Visual Amenity Receptor			
8. White Caterthun Hill Fort See Figures 16.42 to 16.42b for visualisations.	TAY5 – Highland Foothills	Moderate	Low	Minor/Moderate
	Recreational users	High		Moderate
<p>The Inch Cape WTGs and OSPs will represent a minor addition to the proportion of the overall view affected by wind farm development occupying 19° of the view at a closest distance of 38.29 km. Several application stage onshore wind farms will also be visible. Firth of Forth Phase 1 will be seen to the left of the Inch Cape WTGs and OSPs occupying approximately the same HSA but at 52.05 km distance. Neart na Gaoithe, will be seen at a distance of 58.26 km occupying 7° of the view. Although the Inch Cape WTGs and OSPs will occupy part of the remaining view of open sea from this location, and will be the closest of the offshore wind farms, they will be seen at considerable distance from the viewpoint and as just one part of an expansive view in which there are many different elements and features.</p>				
9. Minor Road South of Cairnconon Hill See Figures 16.43 and 16.43a for visualisations.	TAY13 – Dipslope Farmland	Moderate	High	Moderate/Major
	Road users	Moderate		Moderate/Major
<p>Firth of Forth Phase 1 will be seen to the east of the viewpoint at a distance of 46.72 km and occupying a HSA of 21° of which 8.5° will overlap with the Inch Cape WTGs and OSPs, which occupy 32° of the view at a distance of 27.1 km. The Neart na Gaoithe WTGs will be seen separately and to the right of the Inch Cape WTGs and OSPs at a distance of 39.57 km and occupying 12° of the view, although intervening vegetation partially or wholly screens views of some of the WTGs. The Inch Cape WTGs and OSPs will increase considerably the amount of the seaward horizon occupied by WTGs. The application and scoping stage onshore wind farms, where visible, will be more distant and occupy a smaller extent of the view.</p>				

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Cumulative Magnitude of Change	Potential Cumulative Effect
	Visual Amenity Receptor			
10. Clifftop Path North of Victoria Park See Figures 16.44 to 16.44b for visualisations.	SA8 – Arbroath to Monifieth	Moderate	High	Moderate/Major
	Recreational users	High		Major
<p>The Inch Cape WTGs and OSPs will be visible at 18.47 km offshore occupying a HSA of 23°. Of the two other proposed offshore developments, Firth of Forth Phase 1 is not predicted to be visible. Neart na Gaoithe will be seen at a distance of 31.56 km and occupying 13° of the view, just to the right of the Bell Rock Lighthouse, when viewed from this location. It will be seen as a separate development to the Inch Cape WTGs and OSPs but further from the viewpoint and occupying a smaller horizontal proportion of the open sea view. Of the application and scoping stage onshore wind farms, the Group 7 cumulative sites will feature in distant inland views. If consented, the Corse Hill WTGs will be visible in relatively close proximity to the viewpoint and with an obvious relationship to the coastal context. However, the Inch Cape WTGs and OSPs will occupy a large proportion of the seaward horizon and will represent a considerable increase in the proportion of this view affected by wind farm development.</p>				
11. Arbroath Signal Tower See Figures 16.45 and 16.45b for visualisations.	SA8 – Arbroath to Monifieth	Moderate	High	Moderate/Major
	Recreational users	High		Major
<p>The Inch Cape WTGs and OSPs will be visible at a distance of 19.63 km occupying a HSA of 41° of the open sea view. They will appear in front of Firth of Forth Phase 1 and largely screen views of these WTGs. Neart na Gaoithe will be seen at a distance of 31.67 km and occupying 14° of the view. The Inch Cape WTGs will also be seen in conjunction with application stage onshore wind farms, with Corse Hill being the closest at a distance of 3.94 km, forming a prominent feature in the local landscape/seascape view. In this context, it is considered that the cumulative magnitude of change attributed to the Inch Cape WTGs and OSPs will be high as they will considerably increase the proportion of the open sea view occupied by wind farm development.</p>				

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Cumulative Magnitude of Change	Potential Cumulative Effect
	Visual Amenity Receptor			
12. A92 East of Muirdrum See Figures 16.46 to 16.46b for visualisations.	TAY13 – Dipslope Farmland	Moderate	High	Moderate/Major
	Recreational cyclists and road users	High to Moderate		Major to Moderate/Major
<p>Both Firth of Forth Phase 1 and Neart na Gaoithe will be visible in this view. The former will be seen at a distance of 46.81 km and occupy 21° of the view of which just over 13° will overlap with the Inch Cape WTGs and OSPs. Neart na Gaoithe will be seen as a separate wind farm at a closest distance of 33.94 km, and occupying around 15° of the view. The Inch Cape WTGs and OSPs will be seen at a distance of 25.07 km and occupying a HSA of 34° of the sea view. They will introduce a large group of WTGs into one of the remaining open areas of the sea horizon and will represent a considerable increase in the proportion of the sea view occupied by WTGs when seen in conjunction with the onshore Corse Hill WTGs, other more distant onshore wind farms and both of the other offshore developments.</p>				
13. Dodd Hill See Figures 16.47 to 16.47c for visualisations.	TAY8 – Igneous Hills	Moderate	Low	Minor/Moderate
	Recreational users	High		Moderate
<p>A large number of application and scoping stage wind farms have theoretical visibility from this viewpoint. Firth of Forth Phase 1 will be located at a distance of 59.01 km and occupying 16° of the sea horizon, about half of which will overlap with the Inch Cape WTGs and OSPs. Neart na Gaoithe will be seen at a distance of 44.38 km occupying 13° of the horizon towards the centre of the open sea view. When all other application and scoping stage developments are taken into consideration, the introduction of the Inch Cape WTGs and OSPs into the view, at a distance of 37.89 km and occupying a HSA of 24°, will represent a relatively minor addition to the complicated cumulative context, with several onshore wind farms appearing in much closer proximity.</p>				

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Cumulative Magnitude of Change	Potential Cumulative Effect
	Visual Amenity Receptor			
14. Carnoustie See Figures 16.48 to 16.48b for visualisations.	SA8 – Arbroath to Monifieth	Moderate	High	Moderate/Major
	Recreational users and residents	High		Major
	Several onshore application stage and scoping wind farms have theoretical visibility from this viewpoint; however, many will be screened by intervening vegetation and buildings. Offshore, both Firth of Forth Phase 1 and Neart na Gaoithe will be visible. The former will appear behind the Inch Cape WTGs and OSPs at a distance of 48.77 km and occupying 20° of the view. Neart na Gaoithe will be seen as a separate wind farm, visible on the open sea horizon at a distance of 32.42 km occupying around 16° of the view. If all the application and scoping stage developments, both onshore and offshore, were consented and built, the Inch Cape WTGs and OSPs will be the closest wind farm in the seaward view at a distance of 26.45 km, occupying a HSA of 32° of the open sea horizon between the other two offshore wind farms.			
15. Dundee Law See Figures 16.49 to 16.49b for visualisations.	SA9 – Dundee	Low	Low	Minor
	Recreational users	High		Moderate
	Firth of Forth Phase 1 will be located at a distance of 66.1 km and occupying a HSA of 15°, whilst Neart na Gaoithe will be seen at a distance of 45.08 km and occupying a HSA of 14°. Comparison of the wireline visualisations with the photographs of the existing view shows that several onshore wind farms are also likely to be visible. Within this context the Inch Cape WTGs and OSPs will be visible at a distance of 43.45 km occupying 20° of the remaining section of open sea horizon; however, they will be seen as just one element within a complex 360° panoramic view in which there are many different elements and features.			
16. Tentsmuir See Figures 16.50 to 16.50b for visualisations.	SA11 – St Andrews Bay	High	Moderate	Moderate/Major
	Recreational users	High		Moderate/Major
	Other application and scoping stage onshore wind farms, where visible, will appear in closer proximity to the viewpoint than the Inch Cape WTGs and OSPs, but occupying a much smaller extent of the view. Neart na Gaoithe will be seen at a distance of 32.01 km and occupying a HSA of 19°. The Inch Cape WTGs and OSPs, occupying a HSA of 25° at a distance of 33.16 km, will appear in front of Firth of Forth Phase 1 and will largely screen views of what little of these WTGs might actually be seen. It will represent a notable increase in the proportion of the view occupied with wind farm development.			

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Cumulative Magnitude of Change	Potential Cumulative Effect
	Visual Amenity Receptor			
17. Strathkinness See Figures 16.51 to 16.51b for visualisations.	FFE11 - Coastal Hills	Moderate	Low	Minor/Moderate
	Recreational cyclists, residents and road users	High to Moderate		Moderate to Minor/Moderate
<p>The Inch Cape WTGs and OSPs will be visible at a distance of 39.14 km and occupying a HSA of 22° in the view. They will be seen in front of Firth of Forth Phase 1 and largely screen views of these WTGs. Neart na Gaoithe will be seen in closer proximity to the viewpoint at a distance of 33.38 km, but occupying 13° of the view and with some WTGs screened by the intervening coastal edge. Application and scoping stage onshore wind farms, where visible, will occupy a much smaller extent of the view compared to the Inch Cape WTGs and OSPs and mostly, with the exception of Kenly and Lingo (Group 7) at a considerable distance from the viewpoint.</p>				
18. St Andrews, East Scores See Figures 16.52 to 16.52b for visualisations.	SA12 – St Andrews to Fife Ness	High	Moderate	Moderate/Major
	Recreational users and residents	High		Moderate/Major
<p>At a distance of 34.53 km and occupying 25° of the open sea view, the Inch Cape WTGs and OSPs will appear in front of Firth of Forth Phase 1 and will largely screen views of this wind farm. The Neart na Gaoithe WTGs will be seen in closer proximity to the viewpoint, at a distance of 28.56 km, occupying 19° of the view but seen against the coastal edge, which partially screens views of some of the WTGs. Although theoretical visibility of onshore application and scoping stage wind farms is indicated, many are located at considerable distance from the viewpoint, and actual visibility of the closer wind farms will be limited to WTG blade tips by the screening effects of intervening vegetation. In this context, the Inch Cape WTGs and OSPs are likely to represent a notable increase in the proportion of the view occupied with wind farm development.</p>				

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Cumulative Magnitude of Change	Potential Cumulative Effect
	Visual Amenity Receptor			
19. Largo Law See Figures 16.53 and 16.53a for visualisations.	FFE4 – Pronounced Volcanic Hills and Craigs	Moderate	Low	Minor/Moderate
	Recreational users	High		Moderate
<p>The Inch Cape WTGs and OSPs will be visible at a closest distance of 47.92 km and occupying approximately 19° of the view. Several application and scoping stage onshore wind farms have theoretical visibility from this viewpoint. Of these, the closest are the Group 7 wind farms, which will be visible at a distance of 8.91 km and also occupying 19° of the view. Firth of Forth Phase 1 will be seen behind the Inch Cape WTGs and OSPs and is unlikely to be perceived as a separate wind farm. Neart na Gaoithe will be seen at a distance of 37.45 km occupying a HSA of 18°. The Inch Cape WTGs and OSPs will be just one element in an overall 360° panoramic view which includes many different elements and features.</p>				
20. B9131 South of Dunino See Figures 16.54 to 16.54c for visualisations.	FFE6 – Lowland Open Sloping Farmland	Moderate	Moderate	Moderate
	Road users	Moderate		Moderate
<p>The Inch Cape WTGs and OSPs will be visible at a closest distance of 35.52 km and occupy a HSA of 24°. They will be seen in front of Firth of Forth Phase 1 and will largely screen views of these WTGs. Neart na Gaoithe will be seen at a slight separation from the Inch Cape WTGs and OSPs, closer to the viewpoint at 25.36 km, but occupying a similar HSA of 25°. The presence of intervening vegetation means that for about half of the WTGs visibility will be of blade tips only. Of the application and scoping stage onshore wind farms, the Group 7 cumulative sites will be prominent features in the surrounding landscape, particularly Kenly, which will be located at 2 km to the north-east of the viewpoint.</p>				

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Cumulative Magnitude of Change	Potential Cumulative Effect
	Visual Amenity Receptor			
21. Kingsbarns See Figures 16.55 to 16.55b for visualisations.	FFE6 – Lowland Open Sloping Farmland	Moderate	High	Moderate/Major
	Road users	Moderate		Moderate/Major
<p>The Inch Cape WTGs and OSPs will be visible at a distance of 29.86 km and occupying a HSA of 27°. They will be seen in front of Firth of Forth Phase 1 and will largely screen views of this wind farm. The Neart na Gaoithe WTGs will be seen as a separate wind farm from the Inch Cape WTGs and OSPs, occupying 29° of the view but closer to the viewpoint, at 20.43 km distance. Of the onshore application stage developments, Kenly Wind Farm will be seen in relatively close proximity, approximately three kilometres inland, with partial views of the Lingo WTGs beyond. However, other proposed onshore wind farms are likely to be screened from view by locally rising topography and intervening vegetation. The Inch Cape WTGs and OSPs will represent a considerable increase in the proportion of the seascape affected by wind farm development.</p>				
22. Anstruther Easter See Figures 16.56 and 16.56a for visualisations.	SA13 – East Neuk of Fife	High	Low	Moderate
	Residents and recreational users	High		Moderate
<p>The only application stage wind farms considered in this assessment that have theoretical visibility from this viewpoint are the two other proposed offshore wind farms. Firth of Forth Phase 1 will be largely screened by the Inch Cape WTGs and OSPs, whilst Neart na Gaoithe will be seen at a distance of 22.86 km and occupying a HSA of 28°. It will be visible at the centre of the open sea view between the Fife coastline and the Isle of May. The Inch Cape WTGs and OSPs will be seen at a closest distance of 35.5 km and occupying approximately 7° of the view with most of the WTGs screened by the intervening headland. When introduced into the view with other application stage offshore wind farms, they will represent a minor addition to the proportion of the seascape affected by wind farm development.</p>				

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Cumulative Magnitude of Change	Potential Cumulative Effect
	Visual Amenity Receptor			
23. Fife Ness See Figures 16.57 to 16.57b for visualisations.	SA12 – St Andrews to Fife Ness	High	Moderate	Moderate/Major
	Residents and recreational users	High		Moderate/Major
<p>The Inch Cape WTGs and OSPs will be visible at a closest distance of 27.37 km, occupying approximately 28° of the sea view. They will appear in front of Firth of Forth Phase 1 and will largely screen views of these WTGs. The Neart na Gaoithe WTGs will be seen in much closer proximity to the viewpoint at 15.88 km and occupying a greater extent of the view with a HSA of 36°. The wireline visualisations indicate the range of onshore application and scoping stage wind farms that theoretically will be visible from this location. Of these, it is considered that only the Port of Dundee, Group 6 WTGs (particularly Dodd Hill), and Corse Hill Wind Farm, will have actual visibility but at a closest distance of 27.67 km. In this context, the Inch Cape WTGs and OSPs will represent a notable increase in the proportion of the seascape affected by wind farm development.</p>				
24. Isle of May See Figures 16.58 and 16.58a for visualisations.	SA13 – East Neuk of Fife	High	Moderate	Moderate/Major
	Recreational users	High		Moderate/Major
<p>The Inch Cape WTGs and OSPs will be visible at a closest distance of 33.5 km occupying approximately 23° of the view. They will be seen in front of Firth of Forth Phase 1 and will largely screen views of this wind farm. Neart na Gaoithe will be seen at a closest distance of 16.51 km and it will occupy a greater extent, approximately 35°, of the view. The wireline visualisation in Figure 16.58a indicates the range of onshore application and scoping stage wind farms that will be theoretically visible from this location. Of these, it is considered that only Corse Hill will have actual visibility, due to the distances to the other wind farms. In this context, it is considered that the Inch Cape WTGs and OSPs will represent a notable increase in the proportion of the sea view affected by wind farm development.</p>				

Viewpoint	Seascape/Landscape Receptor	Sensitivity	Cumulative Magnitude of Change	Potential Cumulative Effect
	Visual Amenity Receptor			
25. Dunbar See Figures 16.59 and 16.59a for visualisations.	SA17 - Eyebroughy to Torness Point	Moderate	Negligible	Minor
	Residents and recreational users	High		Minor/Moderate
	The Inch Cape WTGs and OSPs will be seen at a closest distance of 50.33 km and occupying 15° of the view. Of the other offshore wind farms, only Neart na Gaoithe is likely to be visible. It will be seen at a closest distance of 28.2 km and occupying a HSA of 24°, of which approximately 9.8° will overlap with the Inch Cape WTGs and OSPs. The Inch Cape WTGs and OSPs, seen in conjunction with Neart na Gaoithe as well as the onshore existing/consented and application stage wind farms, will represent a slight increase in the proportion of the sea view affected by wind farm development. However the Inch Cape WTGs and OSPs will be seen at a much greater distance than, and partly behind, Neart na Gaoithe.			

Summary of Cumulative Effects

- 189 Significant cumulative effects on seascape and landscape character (Major or Moderate/Major) from the Inch Cape WTGs and OSPs with existing/consented wind farms as well as application and scoping stage developments are predicted at 14 of the 25 viewpoints.
- Major impacts are predicted at the same viewpoints as the non-cumulative effects (Viewpoint 5: Montrose; and, Viewpoint 6: Braehead of Lunan) together with Viewpoint 3: Beach Road, Kirkton, St Cyrus.
 - Moderate/Major impacts are also predicted at the same viewpoints as for the non-cumulative effects. Of the additional viewpoints at which Moderate/Major impacts are predicted, one relates to landscape character. Moderate/Major impacts are therefore predicted to occur at the following locations: Viewpoint 2: A92, North of Inverbervie; Viewpoint 9: Minor Road South of Cairnconon Hill; Viewpoint 10: Clifftop Path North of Victoria Park; Viewpoint 11: Arbroath Signal Tower; Viewpoint 12: A92 East of Muirdrum; Viewpoint 14: Carnoustie; Viewpoint 16: Tentsmuir; Viewpoint 18: St Andrews, East Scores; Viewpoint 21: Kingsbarns; Viewpoint 23: Fife Ness; and, Viewpoint 24: Isle of May.
- 190 Significant cumulative effects on visual amenity (Major or Moderate/Major) from the Inch Cape WTGs and OSPs with existing/consented wind farms and the application and scoping stage developments are predicted at the same viewpoints as the significant non-cumulative effects, although the level of these effects is slightly different. Two additional viewpoints are also predicted to have a significant cumulative effect. These are Viewpoint 16: Tentsmuir and Viewpoint 21: Kingsbarns.

- Major impacts are predicted at the same viewpoints as the non-cumulative effects as well as Viewpoint 3: St Cyrus, Viewpoint 12: A92 East of Muirdrum, and Viewpoint 14: Carnoustie.
- Moderate/Major impacts are also predicted at the same viewpoints as the significant non-cumulative effects, with the exception of Viewpoint 16: Tentsmuir, and Viewpoint 21: Kingsbarns; which have increase from moderate to moderate/major.

16.14.6 Effects of Decommissioning

191 Impacts arising from the process of decommissioning have been scoped out of the CSLVIA.

16.15 Mitigation

16.15.1 Development Area

192 No additional mitigation in respect of potential seascape, landscape and visual effects has been recommended or incorporated into the Inch Cape Offshore Wind Farm and OfTW apart from the embedded mitigation measures employed during the siting and layout of the Inch Cape WTGs, which are discussed in *Section 16.10*.

16.16 Residual Impacts

16.16.1 Development Area

193 The analysis of landscape, seascape and visual effects predicted at each of the representative viewpoints and reported in *Section 16.12* and *Section 16.14* has been drawn on to identify the residual effects of the WTGs and OSPs on each of the landscape, seascape and visual receptor groups.

194 The SLVIA has considered the effects of the Inch Cape WTGs and OSPs on the following receptors:

- seascape character areas, and landscape character types and associated areas;
- landscape designations including GDLs, LLAs and AGLVs; and
- visual amenity receptors including:
 - recreational users of footpaths and cycle routes;
 - road users; and
 - residents.

195 The effects on these receptors have been assessed through consideration of the predicted effects at the 25 agreed viewpoints as well as review of the ZTV plans presented to accompany this report to establish the extent of visibility of the Inch Cape WTGs and OSPs in relation to the range of seascape, landscape and visual receptors across the SLVIA Study Area. This ZTV analysis is included in *Appendix 16B* with a summary included in *Section 16.12.2*. In this section, the residual landscape, seascape and visual effects of the Inch Cape WTGs and OSPs are summarised in Table 16.22 below in relation to a baseline that includes

existing and consented wind farms within the SLVIA Study Area as listed in Table 16.19 and shown in Figure 16.10. ZTV plans are shown in *Appendix 16F*.

Table 16.22: Summary of Residual Effects on Seascape and Landscape Character

Receptor	Sensitivity to Wind Farm Development	Magnitude of Change	Residual Effect (up to)
Seascape Character			
SA3: Cove Bay to Milton Ness	Moderate	Low to High	Minor/Moderate to Moderate/Major and Moderate overall
<p>In the south of the character area, where there will be extensive visibility of the Inch Cape WTGs and OSPs, moderate effects on seascape character are predicted. Around Stonehaven, the effects will be minor/moderate. Significant effects in localised parts of the character area may occur, for example, at Viewpoint 2 (A92 North of Inverbervie). These are locations where views towards the sea are more limited and focused and where the Inch Cape WTGs and OSPs will occupy a larger proportion of the available sea view. It is important to recognise that such views, whilst possible at certain locations, do not reflect the overall character of sea views from the majority of this seascape character area. Overall therefore, it is considered that the magnitude of change relating to the introduction of the Inch Cape WTGs and OSPs into views from this character area will be moderate.</p>			
SA4: Montrose Bay	High	Moderate to High	Moderate/Major to Major and Major overall
<p>Extensive visibility of the Inch Cape WTGs and OSPs is predicted throughout SA4, with expansive open sea views possible from most parts of the coastline, as demonstrated for example in views from St Cyrus (Viewpoint 3) and Montrose (Viewpoint 5). The position of the Inch Cape WTGs and OSPs in these views will vary from being seen in an area of open sea, to being seen in conjunction with adjacent headlands. Although there will be no visibility of the Inch Cape WTGs and OSPs between Scurdie Ness and Montrose, effects on seascape character generally will be significant and range from moderate/major towards the northern end of Montrose Bay to major towards Montrose. Overall, the effect on this character area will be major and significant.</p>			
SA5: Long Craig	Moderate	High	Moderate/Major
<p>Theoretical visibility occurs throughout SA5 and there are likely to be views of the Inch Cape WTGs and OSPs from most parts of the coastal edge, where they will be seen within an expansive seawards view. Effects on seascape character are predicted to be moderate/major and significant.</p>			

Receptor	Sensitivity to Wind Farm Development	Magnitude of Change	Residual Effect (up to)
SA6: Lunan Bay	High	High	Major
	<p>Although the Inch Cape WTGs and OSPs will not be visible between the southern end of the sandy bay and the headland at Lang Craig, generally they will occupy a relatively large proportion of the expansive seawards view obtained at most points in the character area from which the sea is visible, and particularly on the coastal edge and coastline. This is demonstrated in views from Viewpoint 6 (Braehead of Lunan). Therefore, the effect on seascape character is considered to be major and significant.</p>		
SA7: Lang Craig to the Deil's Heid	High	High	Major
	<p>This is the closest seascape character area to the Development Area. There are expansive views of the open sea from the coastal edge, which possesses a wealth of small-scale detail and a strong sense of naturalness. The Inch Cape WTGs and OSPs will be a prominent feature in views towards the open sea as can be seen in the view from Viewpoint 10 (Clifftop Path North of Victoria Park). They will occupy a relatively large proportion of the horizontal view and are likely to be visible from most locations along the coastline. Therefore, the effect on seascape character is considered to be major and significant.</p>		
SA8: Arbroath to Monifieth	Moderate	Moderate to High	Moderate to Moderate/Major and Moderate/Major overall
	<p>This seascape character area is extensively developed, with the exception of the area around Barry Links and Buddon Ness. It has a strong horizontal emphasis with open and expansive sea views along the length of the coastline. There is almost continuous theoretical visibility of the Inch Cape WTGs and OSPs throughout the character area. Comparison of views at Viewpoint 11 (Arbroath Signal Tower) and Viewpoint 14 (Carnoustie) illustrates how views of the Inch Cape WTGs and OSPs will vary, becoming less prominent in the view with increasing distance. However, overall, due to the open sea views towards the Inch Cape WTGs and OSPs, it is considered that the effect on seascape character will be moderate/major and significant.</p>		
SA9: Dundee	Low	Low	Minor
	<p>Theoretical visibility of the Inch Cape WTGs and OSPs extends across many parts of the character area although actual visibility will be more limited, except in views from the coastline and hills, due to the density of built development. The view from Viewpoint 15 (Dundee Law) indicates the extent to which the Inch Cape WTGs and OSPs will be visible from elevated locations where panoramic views of the open sea can be obtained. These views typically include the Firth of Tay, and surrounding landscapes and seascapes of Fife and Angus. The Inch Cape WTGs and OSPs will introduce a large group of WTGs into seaward views but they will be seen at a considerable distance. Within this context, it is considered that the effect on seascape character will be minor.</p>		

Receptor	Sensitivity to Wind Farm Development	Magnitude of Change	Residual Effect (up to)
SA10: Inner Firth of Tay	Low	Low to Negligible	Negligible/Minor to Minor and Negligible/Minor overall
	Theoretical visibility of the Inch Cape WTGs and OSPs is limited from within this character area. The incised inner Firth of Tay is the dominant feature within this character area which is highlighted by the containment of the Sidlaw and Ochil Hills. The Inch Cape WTGs and OSPs will be seen from some parts of the character area, introducing a large group of WTGs well outside the mouth of the Inner Firth. Overall, it is considered that the effect on seascape character will be negligible/minor.		
SA11: St Andrews Bay	High	Low	Moderate
	This is a mostly large scale seascape combining a low-lying coastal landform with the expanse of the open sea. Theoretical visibility of the Inch Cape WTGs and OSPs extends across most of the character area and the predicted view from Viewpoint 16 (Tentsmuir) shows that the Inch Cape WTGs and OSPs will be a notable addition to the seascape; however, this will be in the context of an extensive view of the open sea. The overall impact on this character area is therefore considered to be moderate.		
SA12: St Andrews to Fife Ness	High	Moderate	Moderate/Major
	This seascape character area comprises the largely rocky coastline between St Andrews and Fife Ness. It has a wealth of small scale detail within the coastal edge, coupled with expansive views out to sea and north to the distant Angus coastline. Theoretical visibility of the Inch Cape WTGs and OSPs will be possible throughout the character area and it is likely to be a notable feature in seaward views occupying a large area, albeit at some distance from the coastline, as can be seen in views from Viewpoint 18 (St Andrews, East Scores) and Viewpoint 23 (Fife Ness, Lochaber Rock). The overall impact on this character area is considered to be moderate/major and significant.		

Receptor	Sensitivity to Wind Farm Development	Magnitude of Change	Residual Effect (up to)
SA13: East Neuk of Fife	High	Low to Moderate	Moderate to Moderate/Major and Moderate overall
	<p>This character area extends from Fife Ness to Chapel Ness near Earlsferry. It is a medium to high quality seascape of medium to large scale, orientated to the south and south-east. The coastline is rocky and views are mostly focused across the Firth of Forth but with open views out to sea increasing towards the east of the character area and at Fife Ness. Theoretical visibility of the Inch Cape WTGs and OSPs occurs mainly in the east, between Fife Ness and Anstruther Easter and Pittenweem. Viewpoint 23 (Fife Ness) indicates the view of the Inch Cape WTGs and OSPs where it is seen within an open sea view; however the view from Viewpoint 22 (Anstruther Easter) is considered more typical of views towards the Inch Cape WTGs and OSPs, where they will be visible adjacent to, and mostly screened by, intervening coastal headlands. Therefore, although there may be localised significant effects on seascape character within a limited area, the overall effect is considered to be moderate.</p>		
SA14: Kirkcaldy to Largo Bay	Moderate	Negligible	Minor
	<p>Theoretical visibility of the Inch Cape WTGs and OSPs within this character area is limited to a very small area on Kincaig Hill at a distance of just less than 47 km to the nearest Inch Cape WTG. In this context, the overall effect on the seascape character is considered to be minor.</p>		
SA17: Eyebroughy to Torness Point	Moderate	Negligible	Minor
	<p>This is a large scale coastline, generally open and with expansive seaward views, of which a small part lies within the SLVIA Study Area. Theoretical visibility of the Inch Cape WTGs and OSPs from within this seascape is shown along most of the coastal edge and at a distance of not less than 50 km from the closest WTG. The Inch Cape WTGs and OSPs will be visible in distant views out to sea, but only in clear weather conditions, as shown in the view from Viewpoint 25 (Dunbar). Therefore, the overall effect on this character area will be minor.</p>		
Landscape Character			
ABS2: Agricultural Heartlands	Moderate	Low	Minor/Moderate
	<p>Within the SLVIA Study Area this comprises three separate but adjacent character areas. Overall visibility of the Inch Cape WTGs and OSPs from within these areas is limited and views of the sea are not possible from the majority of the landscape which lies within Strathmore and the Howe of the Mearns. Parts of the landscape where the sea is an important component of the view are limited to the south and south-east facing slopes of the Hill of Garvock. Within this context the overall effect on landscape character is considered to be minor/moderate.</p>		

Receptor	Sensitivity to Wind Farm Development	Magnitude of Change	Residual Effect (up to)
ABS4: Moorland Plateaux	Moderate	Low	Minor/Moderate
	<p>Within the SLVIA Study Area this comprises one character area. Where visible, the sea will be just one component of the distant and panoramic view available from some of the higher locations within the south-eastern part of this landscape character area. Overall visibility of the Inch Cape WTGs and OSPs from this landscape is limited and where visible, it will be seen as a distant element within an overall expansive view, as shown in the view from Viewpoint 4 (Cairn o' Mount). The overall effect on landscape character is considered to be minor/moderate.</p>		
TAY1: Highland Glens	High	Negligible	Minor/Moderate
	<p>Although the landscape character type is accorded a high sensitivity to wind farm development on account of its medium to small scale and degree of enclosure, theoretical visibility of the Inch Cape WTGs and OSPs is limited and, where visible, they will be seen at a minimum distance of 39 km to the nearest WTG. In this context, it is considered that the overall effect on landscape character is minor/moderate.</p>		
TAY3: Highland Summits and Plateaux	Moderate to High	Low	Minor/Moderate
	<p>This character type occurs within several parts of the SLVIA Study Area, although the higher sensitivity locations (such as the Cairngorms National Park and Deeside and Lochnagar National Scenic Area) all lie outside the SLVIA Study Area. Within the SLVIA Study Area, overall visibility of the Inch Cape WTGs and OSPs will be limited and where visible, they will be seen on the distant sea horizon as just one element within an overall expansive view over the surrounding landscape. In this context, the overall effect on landscape character is minor/moderate.</p>		
TAY5: Highland Foothills	Moderate to High	Low	Minor/Moderate
	<p>There will be limited or no visibility of the Inch Cape WTGs and OSPs from the higher sensitivity parts of areas having this character type. Areas from which the Inch Cape WTGs and OSPs will be visible are the upper slopes and summits of the hills overlooking Strathmore, from which they will be seen on the distant sea horizon as one element in an overall panoramic and expansive view over the surrounding landscape. This can be seen in the view from Viewpoint 8 (White Caterthun Hill Fort). In this context, the overall effect on landscape character is minor/moderate.</p>		

Receptor	Sensitivity to Wind Farm Development	Magnitude of Change	Residual Effect (up to)
TAY8: Igneous Hills	Moderate to High	Low	Minor/Moderate
	<p>Within the SLVIA Study Area this comprises one character area. Visibility of the Inch Cape WTGs and OSPs from this character area will be limited to the less sensitive upper slopes and summits of the Sidlaw Hills overlooking the coastal farmlands of Angus and the outer Firth of Tay. In views of the surrounding landscape, which can be obtained from these locations, the Inch Cape WTGs and OSPs will be visible on the distant sea horizon as just one element in an overall panoramic view. This can be seen in the view from Viewpoint 13 (Dodd Hill). Therefore the overall effect on landscape character is considered to be minor/moderate.</p>		
TAY10: Broad Valley Lowlands	Moderate	Negligible	Minor
	<p>Within the SLVIA Study Area this comprises two character areas focused on Strathmore and the Lower South and North Esk River Valleys. There will be limited visibility of the Inch Cape WTGs and OSPs from within this largely agricultural landscape. Even where theoretically visibility is indicated, actual visibility is likely to be limited as seen in the view from Viewpoint 7 (Brechin). The overall effect on landscape character is considered to be minor.</p>		
TAY12: Low Moorland Hills	Moderate	Low	Minor/Moderate
	<p>Within the SLVIA Study Area this comprises one character area. Although theoretical visibility of the Inch Cape WTGs and OSPs is indicated over parts of this character area, these areas are often located within forest, therefore actual visibility is likely to be limited. From higher points in the character area, which are not forested, there may be views across the surrounding landscape to the distant sea in which the Inch Cape WTGs and OSPs will be seen on the horizon. Overall, the effect of the Inch Cape WTGs and OSPs on landscape character is considered to be minor/moderate.</p>		
TAY13: Dipslope Farmland	Moderate	Low to High	Minor/Moderate to Moderate/Major and Moderate overall
	<p>This landscape character type is found over a large area, stretching from the coast south of Montrose to the edge of the SLVIA Study Area west of Dundee. There is theoretical visibility of the Inch Cape WTGs and OSPs across approximately half of this area, including locations from which views of the sea are also possible. In some of these locations, particularly where the view towards the sea is focused and the Inch Cape WTGs and OSPs will occupy a large proportion of the available sea horizon, for example Viewpoint 9 (Minor Road South of Cairnconon Hill), the localised effect may be significant; however, the overall effect on landscape character is considered to be moderate.</p>		

Receptor	Sensitivity to Wind Farm Development	Magnitude of Change	Residual Effect (up to)
TAY15: Lowland Basins	Moderate	Low	Minor/Moderate
	<p>Within the SLVIA Study Area this comprises one character area. There is limited or no theoretical visibility of the Inch Cape WTGs and OSPs from within this landscape character area. In views where the Inch Cape WTGs and OSPs will be seen, visibility is likely to be limited to WTG blade tips, seen beyond a skyline comprised of trees and buildings in the surrounding landscape, rather than against a sea horizon. The overall impact on landscape character is therefore considered to be minor/moderate.</p>		
FFE3: Upland Foothills	Moderate	Low	Minor/Moderate
	<p>Within the SLVIA Study Area this comprises a number of discontinuous areas in the north-east of Fife. These are medium to large scale landscapes with extensive views across other landscape types. Theoretical visibility of the Inch Cape WTGs and OSPs is shown across parts of the character areas, mostly around the hill tops and east facing slopes. Where visible the Inch Cape WTGs and OSPs, are likely to be seen on the distant sea horizon comprising one element in extensive views across the surrounding landscape. In this context, the overall effect on landscape character is considered to be minor/moderate.</p>		
FFE4: Pronounced Volcanic Hills and Craigs	Moderate to High	Low	Minor/Moderate
	<p>There is limited visibility of the Inch Cape WTGs and OSPs from within character areas of this type, occurring mainly on the higher ground of the hill tops and east facing slopes below the summits, and therefore the higher sensitivity locations within these character areas will not be affected. As can be seen in the view from Viewpoint 19 (Largo Law), the Inch Cape WTGs and OSPs will be seen as an element on the distant sea horizon, in an extensive view over the surrounding landscape. The overall effect on landscape character is considered to be minor/moderate.</p>		
FFE 5: Lowland Hills and Valleys	Moderate to High	Low to Moderate	Minor/Moderate to Moderate and Minor/Moderate overall
	<p>This character type is found in several locations within the SLVIA Study Area with theoretical visibility of the Inch Cape WTGs and OSPs varying from area to area. In the areas where visibility is possible, which are likely to be larger scale, more open areas of the landscape having a lower sensitivity, the Inch Cape WTGs and OSPs are likely to be seen as an element on the distant sea horizon, from locations in which the sea may be just one component of the view. In this context, and taking overall patterns of visibility into account, the overall effect on this character type is considered to be minor/moderate.</p>		

Receptor	Sensitivity to Wind Farm Development	Magnitude of Change	Residual Effect (up to)
FFE 6: Lowland Open Sloping Farmland	Moderate	Low to Moderate	Minor/Moderate to Moderate and Minor/Moderate overall
	This character type occurs within two areas in Fife that lie within the SLVIA Study Area. Theoretical visibility of the Inch Cape WTGs and OSPs occurs across much of these character areas. Views of the sea are possible from parts of the landscape although it is often screened from view by intervening vegetation. In views across the landscape in which the Inch Cape WTGs and OSPs will be visible they will be seen as an element on the distant sea horizon. An example is the view from Viewpoint 20 (B9131 South of Dunino) in which the Inch Cape WTGs and OSPs occupy part of the open sea view. The overall impact on landscape character is considered to be minor/moderate.		
FFE 7: Lowland Dens	Low	Negligible to Low	Negligible/Minor to Minor and Negligible/Minor overall
	This character type occurs across several locations within the SLVIA Study Area. Although theoretical visibility of the Inch Cape WTGs and OSPs is shown in these areas, it is considered that actual visibility from within the wooded valleys will be negligible. Therefore the overall effect on landscape character is considered to be negligible/minor.		
FFE 8: Lowland Glacier Meltwater Valleys	Moderate	Negligible to Low	Minor to Minor/Moderate and Minor overall
	This character type occurs at only one location within the SLVIA Study Area and theoretical visibility of the Inch Cape WTGs and OSPs is limited. Actual visibility will be less than that indicated on the ZTV due to the screening effect of intervening woodland and buildings in the landscape. In this context it is considered that the effect on landscape character will be minor.		
FFE 11: Coastal Hills	Moderate	Low	Minor/Moderate
	This character type also occurs at only one location in the SLVIA Study Area although theoretical visibility of the Inch Cape WTGs and OSPs is shown across most of the area. Views of the sea are an important element in the character of this landscape and the Inch Cape WTGs and OSPs will be visible in these views, occupying part of the distant open sea horizon. The view from Viewpoint 17 (Strathkinness) is representative of views towards the Development Area from this area of landscape. In this context it is considered that the overall effect on landscape character will be minor/moderate.		

Receptor	Sensitivity to Wind Farm Development	Magnitude of Change	Residual Effect (up to)
FFE 12: Coastal Terraces	Moderate	Low	Minor/Moderate
	This landscape character type occurs in several locations inland of Tentsmuir Forest. Although theoretical visibility of the Inch Cape WTGs and OSPs is shown across parts of this landscape, it is considered that actual visibility will be limited due to buildings and vegetation in the surrounding landscape; however, where the Inch Cape WTGs and OSPs are visible, they may be seen on the distant sea horizon or as views of WTG blade tips over intervening skylines. It is considered that the overall effect on landscape character will be minor/moderate.		
FFE 15: Coastal Flats	Moderate	Low	Minor/Moderate
	This landscape character type occurs in several locations inland of Tentsmuir Forest. It is considered that actual visibility will be limited due to buildings and vegetation in the surrounding landscape; however, where the Inch Cape WTGs and OSPs are visible, they may be seen on the distant sea horizon or as views of WTG blade tips over intervening skylines. It is considered that the overall effect on landscape character will be minor/moderate.		

196 The residual effects on landscape designations are described in Table 16.23 below.

Table 16.23: Summary of Effects on Landscape Designations

Receptor	Sensitivity	Magnitude of Change	Residual Effect (up to)
LLA			
Craigtoun	High	Low	Moderate
	Although theoretical visibility of the Inch Cape WTGs and OSPs is possible throughout this LLA, actual visibility in many locations will be limited due to the screening effect of woodland. Therefore the overall impact on the LLA is predicted to be moderate.		
Dura Den	Moderate	Negligible	Minor
	Theoretical visibility of the Inch Cape WTGs and OSPs across this LLA is limited to scattered areas and does not occur within the Den itself. Therefore, the overall impact on the LLA is predicted to be minor.		

Receptor	Sensitivity	Magnitude of Change	Residual Effect (up to)
East Neuk	High	Low to Negligible	Moderate to Minor/Moderate and Minor/Moderate overall
	This LLA is characterised by extensive seaward views although overall theoretical visibility of the Inch Cape WTGs and OSPs is limited as a result of the south-easterly easterly aspect of the coastline. The overall impact on the LLA is predicted to be minor/moderate.		
Forth Islands	High	Moderate	Moderate/Major but limited to Isle of May
	Of the three islands within this LLA only the Isle of May lies within the SLVIA Study Area. Theoretical visibility of the Inch Cape WTGs and OSPs extends across most of the island and the predicted view from Viewpoint 24 (Isle of May) shows that the Inch Cape WTGs and OSPs will be a feature in open sea views. The impact on the part of the LLA comprising the Isle of May is therefore considered to be moderate/major and significant.		
Largo	Moderate	Low to Negligible	Minor/Moderate to Minor and Minor overall
	Much of the landscape value of this LLA derives from the pronounced form of Largo Law which contributes to the sense of place in this part of Fife. However, theoretical visibility of the Inch Cape WTGs and OSPs is limited to the summit and upper slopes of Largo Law and the impact on the LLA is predicted to be minor.		
St Andrews to Fife Ness	High	Moderate	Moderate/Major
	This LLA comprises the long stretch of rocky coastline extending from St Andrews around Fife Ness to Crail. The relationship between the landscape and coastal edge contributes to the distinctive character of this area which includes the extensive seaward views which may be obtained throughout the LLA. Theoretical visibility of the Inch Cape WTGs and OSPs extends across most of the LLA and the predicted view from Viewpoints 21 (Kingsbarns) and 23 (Fife Ness) show that the Inch Cape WTGs and OSPs will be a notable feature in open sea views. The overall impact on this designated area is therefore considered to be moderate/major and significant.		
St Andrews Links	High	Low	Moderate
	Theoretical visibility of the Inch Cape WTGs and OSPs extends across all of this LLA. Although the Inch Cape WTGs and OSPs are likely to be a notable feature in the seascape, the open sea views from this location are expansive in nature and the coastal topography is low-lying. Therefore, overall impact on this LLA is considered to be moderate.		

Receptor	Sensitivity	Magnitude of Change	Residual Effect (up to)
Tarvit and Ceres	Moderate	Low to Negligible	Minor/Moderate to Minor and Minor overall
	Theoretical visibility of the Inch Cape WTGs and OSPs across this LLA is limited to scattered areas and the overall impact on the LLA is predicted to be minor.		
Tay Coast	Moderate	Low to Negligible	Minor/Moderate to Minor and Minor overall
	Part of the Tay Coast LLA lies outside the SLVIA Study Area and theoretical visibility of the Inch Cape WTGs and OSPs across this LLA is limited to scattered areas. The overall impact on the LLA is predicted to be minor.		
Tentsmuir Coast	High	Low	Moderate
	This LLA comprises the large stretch of sandy coastline extending west and south of Tentsmuir Point and ending at the Eden Estuary. It combines a low-lying coastal landform with the expanse of the open sea. Theoretical visibility of the Inch Cape WTGs and OSPs extends across most of the LLA and the predicted view from Viewpoint 16 (Tentsmuir) shows that the Inch Cape WTGs and OSPs, although a notable feature in the seascape, will comprise just one element in the expansive and open sea views available from this area. The overall impact on this LLA is considered to be moderate.		
AGLV			
North Berwick to Dunbar Coast	High	Negligible	Minor/Moderate
	Although located at considerable distance from the Development Area, there will be views of the Inch Cape WTGs and OSPs in conditions of good visibility. In these circumstances it is considered that the effect on this coastal AGLV will be minor/moderate.		
GDLs in inland locations			
All	High	Negligible to Low	Moderate to Minor/Moderate
	For the GDLs located within inland parts of the SLVIA Study Area and having theoretical visibility of the Inch Cape WTGs and OSPs, the visibility analysis indicates that actual visibility in most cases will be limited. This is due to the mature policy woodlands that typically enclose these landscapes and screen views of the wider surroundings, including screening of distant views towards the sea. Therefore, it is predicted that effects will vary from minor/moderate to moderate.		

Receptor	Sensitivity	Magnitude of Change	Residual Effect (up to)
GDLs in coastal locations			
St Andrews Links	High	Low	Moderate
	Open sea views are possible from many places in this GDL, from which there is theoretical visibility of the Inch Cape WTGs and OSPs across most areas. The viewpoint assessment suggests that there may be up to moderate, effects on this landscape.		
Cambo	High	Moderate	Moderate/Major
	Open sea views towards the Development Area are possible from some locations within the wider designed landscape surrounding the gardens. In this case, it is considered that there may be up to moderate/major and significant effects on this landscape.		
Tynninghame	High	Negligible	Minor/Moderate
	Located at a considerable distance from the Inch Cape WTGs and OSPs, there may be views towards the Development Area from parts of this designed landscape. The landscape effects may be up to minor/moderate.		

Settlements

- 197 Whilst theoretical visibility of the Inch Cape WTGs and OSPs is shown for many settlements, it is considered that the degree of actual visibility from within settlements will, in most cases, be limited by the screening effect buildings and vegetation. The summary section contained below in Table 16.24 records what the greatest level of residual effect will be, recognising that this may only occur for a limited number of properties, which have open sea views, in settlements located within the SLVIA Study Area.

Table 16.24: Summary of Effects on Settlements

Receptor	Sensitivity	Magnitude of Change	Residual Effect (up to)
Coastal Settlements in Aberdeenshire	High	Moderate	Moderate/Major (up to 30 km distance from closest Inch Cape WTG)
	Of the settlements considered in the assessment, theoretical visibility is indicated for parts of Inverbervie and St Cyrus, together with all of Gourdon and Johnshaven. As noted above, actual visibility of the Inch Cape WTGs and OSPs is likely to be limited, however where properties have open sea view, residents may experience up to moderate/major and significant effects on visual amenity.		
Coastal Settlements in Angus	High	High	Major (up to 20 km distance from closest Inch Cape WTG) Moderate/Major (up to 26.5 km distance from closest Inch Cape WTG)
	Theoretical visibility is indicated across the whole of Monifieth, Lunan, and Auchmithie, from most of Carnoustie and Arbroath, and parts of Montrose. Actual visibility of the Inch Cape WTGs and OSPs will be much more limited; however, it is anticipated that up to major and significant effects on visual amenity may be experienced where properties have open sea views, particularly between Carnoustie and Montrose.		
Coastal Settlements in Fife	High	Moderate	Moderate/Major (up to 35 km distance from closest Inch Cape WTG)
	Of the settlements considered in the assessment, theoretical visibility is indicated across the whole of Tayport, most of St Andrews, Guardbridge, and Crail, parts of Anstruther Easter and limited parts of Pittenweem. As with other settlements having theoretical visibility of the Inch Cape WTGs and OSPs, actual visibility will be more limited than shown on the ZTV plans; however, the viewpoint analysis suggests that up to moderate/major and significant effects may be experienced where properties have open sea views in the direction of the Inch Cape WTGs and OSPs.		
Inland Settlements in Fife	High	Moderate	Moderate/Major (up to 35 km distance from closest Inch Cape WTG)
	The ZTVs indicate that theoretical visibility of the Inch Cape WTGs and OSPs is possible across all of Balmullo, Kingsbarns, Strathkinness and Dairsie, across most of Leuchars and across part of Boarhills. Actual visibility will be more limited; however, the viewpoint analysis suggests that up to moderate/major and significant effects may be experienced where properties have open sea views.		

Receptor	Sensitivity	Magnitude of Change	Residual Effect (up to)
Other Settlements	High	Low	Moderate
	Theoretical visibility of the Inch Cape WTGs and OSPs will be possible from parts of Dundee, Broughty Ferry and, at a much greater distance, Dunbar and North Berwick in East Lothian. Where properties have open sea views, residents may experience up to moderate effects on visual amenity.		

Routes

198 The routes considered in the assessment cross large areas of seascape and landscape at varying distances from the Development Area. Theoretical visibility of the Inch Cape WTGs and OSPs from along these routes may vary from no visibility to visibility over continuous stretches of road or path. Actual visibility may also vary considerably due to the screening effect of vegetation and buildings, both at the roadside, but also in the surrounding landscape or seascape. The summary section contained in Table 16.25 below records what the greatest level of residual effect will be, recognising that this may only occur for a short section or localised area of the route.

Table 16.25: Summary of Effects on Transport and Recreational Routes

Receptor	Sensitivity	Magnitude of Change	Residual Effect (up to)
Roads			
A91	Moderate	Low	Minor/Moderate
	The visibility analysis shows that the Inch Cape WTGs and OSPs are theoretically visible from the entire length of this route. In many places actual visibility may be more limited although the road does pass very close to the coastline, from where the Inch Cape WTGs and OSPs may be visible on the distant sea horizon. However, it is considered that the effect on visual amenity will be at most minor/moderate.		
A914	Moderate	Low	Minor/Moderate
	The Inch Cape WTGs and OSPs are theoretically visible for only limited sections of this route; however, it is considered that in many areas views towards the Development Area will be screened by buildings and vegetation in the intervening landscape. The effect on the visual amenity of road users is therefore considered to be at most minor/moderate.		

Receptor	Sensitivity	Magnitude of Change	Residual Effect (up to)
A915	Moderate	Low	Minor/Moderate
	There is theoretical visibility of the Inch Cape WTGs and OSPs for just less than half of the length of the route which is within the SLVIA Study Area. It is predicted that actual visibility will be possible from certain sections of the road. In these locations the Inch Cape WTGs and OSPs will be seen occupying part of the distant sea horizon. It is considered that the effect on visual amenity will be at most minor/moderate.		
A917	Moderate	Moderate	Moderate
	Theoretical visibility of the Inch Cape WTGs and OSPs is indicated for slightly less than two-thirds of this road. Along many sections of the road from which there are open views of the sea, it is likely that the Inch Cape WTGs and OSPs will be visible, occupying part of the seawards horizon. In these locations, road users may experience up to a moderate effect.		
A919	Moderate	Low	Minor/Moderate
	The Inch Cape WTGs and OSPs are theoretically visible for much of this route; however, it is considered that in many areas views towards the Development Area will be screened by buildings and vegetation in the intervening landscape. The effect on the visual amenity of road users is therefore considered to be minor/moderate at most.		
A92	Moderate	High	Moderate/Major
	The visibility analysis indicates that the Inch Cape WTGs and OSPs are theoretically visible for over two-thirds of this route. Actual visibility is most likely on sections of the road which pass in close proximity to the coastline where up to moderate/major and significant effects may occur; however, these locations will be limited to the geographical areas which are closest to the Development Area, for example, the short stretch road to the south of Arbroath, and the section to the west of Lunan Bay.		
A933	Moderate	Moderate	Moderate
	Running between Arbroath and Brechin, theoretical visibility of the Inch Cape WTGs and OSPs occurs for just under two-thirds of the route. It is considered that actual visibility will be more limited, due mostly to the effects of intervening woodland within the surrounding landscape. Therefore, the effect on visual amenity will be moderate at most.		
A935	Moderate	Low	Minor/Moderate
	The Inch Cape WTGs and OSPs are theoretically visible for just less than half of this route. ZTV analysis indicates that much of this visibility will be of WTG blade tips only and that the sea is unlikely to be visible from the road. The effect on visual amenity is likely to be at most minor/moderate.		

Receptor	Sensitivity	Magnitude of Change	Residual Effect (up to)
A937	Moderate	Low	Minor/Moderate
	Route analysis indicates that the Inch Cape WTGs and OSPs will be theoretically visible for less than half the length of this road, with the ZTVs showing that visibility will be mostly limited to WTG blade tips. It is considered that the effect on visual amenity, is likely to be, at most minor/moderate.		
Recreational Routes			
Fife Coastal Path	High	Moderate	Moderate/Major
	The Inch Cape WTGs and OSPs will be theoretically visible for much of this route and it is considered that actual visibility will be possible along many sections, particularly between Anstruther Easter and St Andrews where the footpath follows the coastal edge closely. In this context, it is likely that footpath users, who are considered to have a high sensitivity to change, may experience up to moderate/major effects on visual amenity, which will be significant.		
NCN Route 1	High	High	Major
	Users of NCN Route 1 may experience up to major and significant effects on visual amenity. Major effects are predicted along localised sections of the route as it passes through Angus, where the route runs adjacent or close to the coastal edge, and from where there will be open seaward views towards the Development Area. These areas are located mostly between Arbroath and Montrose. Up to moderate/major and significant effects may also be experienced by cyclists on this route at other locations in Angus, along localised sections between Arbroath and Carnoustie. Significant effects may also be experienced along sections of the route in Aberdeenshire, between Inverbervie and Montrose.		
Train Lines			
Edinburgh to Aberdeen	Moderate	High	Moderate/Major
	Passengers on this route may experience up to moderate/major and significant effects on visual amenity, although this is likely to be for short sections of the route only, particularly along the stretch between Carnoustie and Arbroath where there will be open sea views from the coastal edge. For much of the route, there will be no visibility of the Inch Cape WTGs and OSPs, for example where the train passes through Strathmore. In many areas where theoretical visibility is shown on the ZTVs, actual visibility may be limited due to the screening effect of trackside buildings, vegetation and cuttings.		

Other Recreational Receptors

- 199 Based on the findings of the viewpoint assessment, recreational receptors having open sea views where the Inch Cape WTGs and OSPs are an element within these views, major and significant effects on visual amenity may be experienced at locations up to 20 km distance. Where the available sea view is more focused and in locations where the Inch Cape WTGs and OSPs will occupy a greater extent of a limited sea view, major effects on visual amenity may be experienced at up to 30 km distance for high sensitivity receptors. However, it is important to recognise that such locations are likely to be limited and not generally representative of typical sea views obtained from the coastal edge within the SLVIA Study Area. Moderate/major and significant effects on visual amenity may be experienced at up to 35 km distance for high sensitivity receptors.
- 200 As identified in respect of the baseline, the Firths of Tay and Forth and adjacent outer waters in the North Sea are established shipping routes for both commercial and cruise vessels. The closer inshore waters are used for recreational water based activities including visits to the islands in the Firth of Forth, notably the Isle of May. It is anticipated that high sensitivity recreational receptors, either taking part in water based activities, visiting the Forth islands or on cruise ships will experience significant effects from the Inch Cape WTGs and OSPs, at distances similar to those at which land based effects are assessed as being significant.

16.16.2 Offshore Export Cable Study Area

- 201 Only construction activities related to the laying of the Offshore Export Cable have the potential to create SLV impacts as the Offshore Export Cable will not be visible once laid. Construction will involve cable-laying and associated support vessels and these are likely to be visible particularly from coastal areas closer to the Offshore Export Cable Corridor. However, these activities are unlikely to give rise to any impacts on seascape or visual amenity as they will take place within the Outer Firths of the Tay and Forth, in an environment where shipping movements and marine activity are commonplace.
- 202 The Offshore Export Cable landfall will be located at either Seton Sands or Cockenzie as shown on Figure 7.6. The landfall will be constructed using either horizontal directional drilling or open cut excavation or a combination of these two techniques. Due to the location of these activities on, or close, to the foreshore it is considered that there may be significant effects on seascape and visual amenity, but that these effects will be localised in extent and temporary in duration.

16.16.3 Cumulative Impacts

The Inch Cape WTGs and OSPs with the Offshore Export Cable Corridor

- 203 As the Offshore Export Cable will not be visible once installed, the possibility for cumulative effects to arise will occur only during the construction period. Installation of the Offshore Export Cable will involve a number of cable-laying and support vessels in construction activities within the Firth of Forth and between the Firth of Forth and the Development

Area. In an area of sea which is already busy with shipping it is not considered that construction activities related to the WTGs and OSPs together with construction activities related to the Offshore Export Cable Corridor will give rise to any significant cumulative effects.

The Inch Cape WTGs and OSPs with Other Application and Scoping Stage Wind Farms

- 204 The wind farms included in the CSLVIA are identified in Table 16.19 and shown in Figure 16.10. The assessment has considered the cumulative effects of the Inch Cape WTGs and OSPs on the following receptors:
- seascape character areas, and landscape character types and associated areas;
 - landscape designations including GDLs, LLAs and AGLVs; and
 - visual amenity receptors including:
 - recreational users of footpaths and cycle routes;
 - road users; and
 - residents.
- 205 The cumulative effects on these receptors have been assessed through consideration of the predicted effects at the 25 agreed viewpoints as described in *Appendix 16C* as well as review of the ZTV plans presented to accompany this report, as described in *Appendix 16B*. ZTV plans are included in *Appendix 16F*. In this section, the cumulative landscape, seascape and visual effects of the Inch Cape WTGs and OSPs are summarised in relation to both existing and consented wind farms and application and scoping stage wind farms within the SLVIA Study Area as listed in Table 16.19 and shown in Figure 16.10. Cumulative effects are summarised in Table 16.26 below.

Table 16.26: Summary of Residual Cumulative Effects on Seascape and Landscape Character

Receptor	Sensitivity to Wind Farm Development	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
Seascape Character			
SA3: Cove Bay to Milton Ness	Moderate	Low to High	Minor/Moderate to Moderate/Major and Moderate overall
	<p>The cumulative effect of the Inch Cape WTGs and OSPs when considered in relation to application and scoping stage wind farms, both onshore and offshore, will vary from minor/moderate to moderate/major and significant. The variation is due mainly to distance from the Development Area, visibility, and the character of views in which the Inch Cape WTGs and OSPs and other application and scoping stage wind farms will be seen. In general, significant cumulative effects on seascape character are only likely to occur at locations, such as Viewpoint 2 (A92 North of Inverbervie), where the Inch Cape WTGs and OSPs will occupy a considerable proportion of the view of the open sea, and from where views of other wind farms are possible at relatively close proximity, both in combination with the Inch Cape WTGs and OSPs or in succession. Overall the cumulative effect on seascape character is considered to be moderate.</p>		
SA4: Montrose Bay	High	High	Major
	<p>The cumulative effect on seascape character is considered to be major and significant. The Inch Cape WTGs and OSPs will be the closest of the offshore wind farms and from most locations in which it is visible it will be seen extending across one of the remaining sections of open sea horizon.</p>		
SA5: Long Craig	Moderate	High	Moderate/Major
	<p>The cumulative effect on seascape character is considered to be moderate/major and significant. The Inch Cape WTGs and OSPs will be the closest of the offshore wind farms and will be seen across one of the remaining sections of open sea horizon.</p>		
SA6: Lunan Bay	High	High	Major
	<p>In views towards the Development Area, although not visible between the southern end of Lunan Bay and the headland at Lang Craig, generally the Inch Cape WTGs and OSPs will occupy a relatively large proportion of the expansive seawards view and is the closest of the offshore wind farms. It will fill one of the remaining sections of open sea horizon, therefore the cumulative effect on seascape character is considered to be major and significant.</p>		

Receptor	Sensitivity to Wind Farm Development	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
SA7: Lang Craig to the Deil's Heid	High	High	Major
	This is the closest seascape character area to the Inch Cape WTGs and OSPs, which will form a prominent feature in views towards the open sea. If all the other application and scoping stage wind farms are consented, the Inch Cape WTGs and OSPs will occupy one of the remaining areas of sections of open sea horizon. Therefore, the cumulative effect on seascape character is considered to be major and significant.		
SA8: Arbroath to Monifieth	Moderate	High	Moderate/Major
	The viewpoint assessment suggests that if all the application and scoping stage wind farms are consented, the Inch Cape WTGs and OSPs will be seen in one of the remaining views of the open sea. In this context, it is considered that the cumulative effect on seascape character will be moderate/major and significant.		
SA9: Dundee	Low	Low	Minor
	The view from Viewpoint 15 (Dundee Law) indicates the extent to which the Inch Cape WTGs and OSPs will be visible in elevated panoramic views, at locations where views of the open sea may be obtained. These views typically include the Firth of Tay, and surrounding landscapes and seascapes of Fife and Angus. If all the application and scoping stage wind farms are consented, the Inch Cape WTGs and OSPs will be seen in one of the remaining views of the open sea, albeit at some distance. However, overall, it is considered that the cumulative effect on seascape character will be minor due to the limited occurrence of these elevated open views, and the more complex context of the majority of lower lying views.		
SA10: Inner Firth of Tay	Low	Low to Negligible	Negligible/Minor to Minor and Negligible/Minor overall
	Theoretical visibility of the Inch Cape WTGs and OSPs is limited from within this character area. Overall it is considered that the cumulative effect on seascape character will be negligible/minor.		
SA11: St Andrews Bay	High	Moderate	Moderate/Major
	Theoretical visibility of the Inch Cape WTGs and OSPs extends across most of the character area and the predicted cumulative view from Viewpoint 16 (Tentsmuir) shows that if all the application and scoping stage wind farms are consented, the Inch Cape WTGs and OSPs will represent a notable increase in the proportion of the open sea view in which wind farms are visible. The overall cumulative impact on this character area is therefore considered to be moderate/major and significant.		

Receptor	Sensitivity to Wind Farm Development	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
SA12: St Andrews to Fife Ness	High	Moderate	Moderate/Major
<p>Theoretical visibility of the Inch Cape WTGs and OSPs will be possible throughout the character area and it is likely to be a noticeable feature in seaward views, albeit at some distance from the coastline, as can be seen in views from Viewpoint 18 (St Andrews, East Scores) and Viewpoint 23 (Fife Ness, Lochaber Rock). If all the application and scoping stage wind farms are consented, the Inch Cape WTGs and OSPs is likely to represent a notable increase in the area of open sea occupied by wind farm development, although Neart na Gaoithe will be seen at a closer distance. The overall cumulative impact on this character area is considered to be moderate/major and significant.</p>			
SA13: East Neuk of Fife	High	Low to Moderate	Moderate to Moderate/Major and Moderate overall
<p>The view from Viewpoint 22 (Anstruther Easter) is considered typical of views towards the Development Area from this stretch of coastline, where it will be visible adjacent to, and mostly screened by, intervening coastal headlands. In these views Neart na Gaoithe will appear at a closer distance and occupying a greater proportion of the open sea view. Therefore, although there may be localised significant cumulative effects on seascape character within a limited area around Fife Ness, the overall cumulative effect on this character area is considered to be moderate.</p>			
SA14: Kirkcaldy to Largo Bay	Moderate	Negligible	Minor
<p>Theoretical visibility of the Inch Cape WTGs and OSPs is limited to a very small area on Kinraig Hill. In this context, the overall cumulative effect on the seascape character is considered to be minor.</p>			
SA17: Eyebroughy to Torness Point	Moderate	Negligible	Minor
<p>This is a large scale coastline, generally open and with expansive seaward views, of which a small part lies within the SLVIA Study Area. Theoretical visibility of the Inch Cape WTGs and OSPs from within this seascape is shown along most of the coastal edge. The view from Viewpoint 25 (Dunbar) indicates that Neart na Gaoithe will be seen at a closer distance and overlapping with the Inch Cape WTGs and OSPs in the view. In this context, the overall cumulative effect on this character area will be minor.</p>			

Receptor	Sensitivity to Wind Farm Development	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
Landscape Character			
ABS2: Agricultural Heartlands	Moderate	Low	Minor/Moderate
	Visibility of the Inch Cape WTGs and OSPs from within these areas tends to be limited to parts of the landscape where the sea forms an important component of the view, mainly around the south and south-east facing slopes of the Hill of Garvock. Within this context the overall cumulative effect on landscape character is considered to be minor/moderate.		
ABS4: Moorland Plateaux	Moderate	Low	Minor/Moderate
	Overall visibility of the Inch Cape WTGs and OSPs from this landscape is limited and where visible, they will be seen as a distant element within an overall expansive view, as shown in the view from Viewpoint 4 (Cairn o' Mount). If all the application and scoping stage wind farms are consented, then in views, the cumulative effect on landscape character associated with the introduction of the Inch Cape WTGs and OSPs into elevated, long distance views will be low. The overall cumulative effect on landscape character is considered to be minor/moderate.		
TAY1: Highland Glens	High	Negligible	Minor/Moderate
	Theoretical visibility of the Inch Cape WTGs and OSPs is limited and, where visible, they will be seen at a minimum distance of 39 km. Visibility of other application and scoping stage wind farms is also limited. In this context, it is considered that the overall cumulative effect on landscape character is minor/moderate.		
TAY3: Highland Summits and Plateaux	Moderate to High	Low	Minor/Moderate
	Overall theoretical visibility of the Inch Cape WTGs and OSPs within areas having this landscape character type is limited and where visible, they will be seen on the distant sea horizon as just one element within an overall expansive view over the surrounding landscape. Visibility of other application and scoping stage wind farms is also limited. Therefore, the overall cumulative effect on landscape character is minor/moderate.		
TAY5: Highland Foothills	Moderate to High	Low	Minor/Moderate
	There will be limited or no visibility of the Inch Cape WTGs and OSPs from the higher sensitivity parts of areas having this character type. The cumulative effect on landscape character arising from the introduction of the Inch Cape WTGs and OSPs into views from this landscape, when considered in relation to all the other application and scoping stage wind farms, will be minor/moderate.		

Receptor	Sensitivity to Wind Farm Development	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
TAY8: Igneous Hills	Moderate to High	Low	Minor/Moderate
	<p>Within the SLVIA Study Area this comprises one character area. Theoretical visibility of the Inch Cape WTGs and OSPs from this character area is limited to the upper slopes and summits of the Sidlaw Hills overlooking the coastal farmlands of Angus and the outer Firth of Tay. In views of the surrounding landscape which can be obtained from these locations, and if all the application and scoping stage wind farms are consented, the Inch Cape WTGs and OSPs will represent a minor addition to the proportion of the landscape affected by wind farm development. This can be seen in the view from Viewpoint 13 (Dodd Hill). Therefore the overall cumulative effect on landscape character is considered to be minor/moderate.</p>		
TAY10: Broad Valley Lowlands	Moderate	Negligible	Minor
	<p>Focused on Strathmore, there will be limited visibility of the Inch Cape WTGs and OSPs from within this largely agricultural landscape. The overall cumulative effect on landscape character is considered to be minor.</p>		
TAY12: Low Moorland Hills	Moderate	Low	Minor/Moderate
	<p>Within the SLVIA Study Area this comprises one character area. Although theoretical visibility of the Inch Cape WTGs and OSPs is indicated over part of this character area, these areas are often located within forest therefore actual visibility is likely to be limited. The overall cumulative effect on landscape character is considered to be minor/moderate.</p>		
TAY13: Dipslope Farmland	Moderate	Low to High	Minor/Moderate to Moderate/Major and Moderate overall
	<p>Where the view towards the sea is focused and the Inch Cape WTGs and OSPs will occupy a large proportion of the available sea horizon the localised cumulative effect on landscape character may be significant, for example at Viewpoint 9 (Minor Road South of Cairnconon Hill) and Viewpoint 12 (A92 East of Muirdrum). However, the overall cumulative effect on landscape character is considered to be moderate.</p>		
TAY15: Lowland Basins	Moderate	Low	Minor/Moderate
	<p>Within the SLVIA Study Area this comprises one character area. There is limited, or no, theoretical visibility of the Inch Cape WTGs and OSPs from within this landscape character area. The overall cumulative impact on landscape character is therefore considered to be minor/moderate.</p>		

Receptor	Sensitivity to Wind Farm Development	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
FFE3: Upland Foothills	Moderate	Low	Minor/Moderate
	Theoretical visibility of the Inch Cape WTGs and OSPs is shown in parts of the areas having this character type. If all the application and scoping stage wind farms are consented, the Inch Cape WTGs and OSPs are likely to represent a noticeable increase in the proportion of the distant sea horizon occupied by views of wind farms. However, the overall cumulative effect on landscape character across the area is considered to be minor/moderate.		
FFE4: Pronounced Volcanic Hills and Craigs	Moderate to High	Low	Minor/Moderate
	In views from locations where the Inch Cape WTGs and OSPs will be visible, such as Viewpoint 19 (Largo Law), it will represent a noticeable increase in the proportion of the distant sea horizon occupied by views of wind farms. However, there is limited visibility of the Inch Cape WTGs and OSPs from within character areas of this type, and it will not affect the higher sensitivity locations. Therefore, the overall cumulative effect on landscape character is considered to be minor/moderate.		
FFE 5: Lowland Hills and Valleys	Moderate to High	Low to Moderate	Minor/Moderate to Minor and Minor/Moderate overall
	In the areas where visibility is possible, which are likely to be larger scale, more open areas of the landscape having a lower sensitivity, the Inch Cape WTGs and OSPs will represent a notable increase in the proportion of the distant sea horizon occupied by views of wind farms. In this context, the overall cumulative effect on character areas having this type is considered to be minor/moderate.		
FFE 6: Lowland Open Sloping Farmland	Moderate	Low to High	Minor/Moderate to Moderate/Major and Minor/Moderate overall
	This character type occurs within two areas in Fife that lie within the SLVIA Study Area. Theoretical visibility of the Inch Cape WTGs and OSPs occurs across much of these character areas. In views across the landscape in which the Inch Cape WTGs and OSPs will be visible, it will be seen as an element on the distant sea horizon and in the cumulative context will represent a notable increase in the proportion of the distant sea horizon occupied by views of wind farms. However, there is limited or no visibility of the Inch Cape WTGs and OSPs from many areas of landscape of this character type. The overall cumulative impact on landscape character is considered to be minor/moderate.		

Receptor	Sensitivity to Wind Farm Development	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
FFE 7: Lowland Dens	Low	Negligible to Low	Negligible/Minor to Minor and Negligible/Minor overall
	It is considered that actual visibility of the Inch Cape WTGs and OSPs from within the wooded valleys will be negligible, although there may be visibility from surrounding agricultural land which also lies within the boundary of areas having this character type. In this context, the overall cumulative effect on landscape character is considered to be negligible/minor.		
FFE 8: Lowland Glacier Meltwater Valleys	Moderate	Negligible to Low	Minor/Moderate to Minor and Minor overall
	This character type occurs at only one location within the SLVIA Study Area and theoretical visibility of the Inch Cape WTGs and OSPs is limited. In this context it is considered that the cumulative effect on landscape character will be minor.		
FFE 11: Coastal Hills	Moderate	Low	Minor/Moderate
	This character type also occurs at only one location in the SLVIA Study Area although theoretical visibility of the Inch Cape WTGs and OSPs is shown within most of this area. Views of the sea are an important element in the character of this landscape. If all the application and scoping stage wind farms are consented then the Inch Cape WTGs and OSPs will represent a notable increase in the proportion of the landscape in view, which is occupied by wind farm development. However at this distance, it is considered that the overall cumulative effect on landscape character will be minor/moderate.		
FFE 12: Coastal Terraces	Moderate	Low	Minor/Moderate
	Although theoretical visibility of the Inch Cape WTGs and OSPs is shown across parts of this landscape it is considered that actual visibility will be limited. Therefore, the overall cumulative effect on landscape character will be minor/moderate.		
FFE 15: Coastal Flats	Moderate	Low	Minor/Moderate
	It is considered that actual visibility of the Inch Cape WTGs and OSPs will be limited due to buildings and vegetation in the surrounding landscape. Therefore, the overall cumulative effect on landscape character will be minor/moderate.		

206 Cumulative effects on landscape designations are described in Table 16.27 below.

Table 16.27: Summary of Cumulative Effects on Landscape Designations

Receptor	Sensitivity	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
LLA			
Craigtoun	High	Low	Moderate
	Theoretical cumulative visibility of application and scoping stage wind farms is possible throughout the LLA; however, due to the presence of woodland in many areas the overall cumulative impact of the Inch Cape WTGs and OSP is predicted to be moderate.		
Dura Den	Moderate	Negligible	Minor
	Theoretical cumulative visibility of the application and scoping stage wind farms across this LLA is limited to scattered areas and does not occur within the Den itself, therefore the overall cumulative impact on the LLA of the Inch Cape WTGs and OSPs is predicted to be minor.		
East Neuk	High	Low to Negligible	Moderate to Minor/Moderate and Minor/Moderate overall
	Theoretical cumulative visibility of the application and scoping stage wind farms across this LLA is limited mostly to the stretch of coastline between Crail and Anstruther Easter. Therefore, the overall cumulative impact of the Inch Cape WTGs and OSPs on the LLA is therefore predicted to be minor/moderate.		
Forth Islands	High	Moderate	Moderate/Major but limited to Isle of May
	Of the three islands within this LLA only the Isle of May lies within the SLVIA Study Area. Theoretical cumulative visibility of several application and scoping stage wind farms occurs across most parts of the island. The cumulative impact resulting from the Inch Cape WTGs and OSPs on the part of the LLA comprising the Isle of May is therefore considered to be moderate/major and significant.		
Largo	Moderate	Low to Negligible	Minor/Moderate to Minor and Minor overall
	Theoretical cumulative visibility of most application and scoping stage wind farms is possible, but is confined to the summit and upper slopes of Largo Law. Therefore, the overall cumulative impact of the Inch Cape WTGs and OSPs on the LLA is predicted to be minor.		

Receptor	Sensitivity	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
St Andrews to Fife Ness	High	Moderate to High	Moderate/Major to Major and Moderate/Major overall
	Theoretical cumulative visibility of most application and scoping stage wind farms considered in this assessment is possible across most of the LLA. The predicted cumulative view from Viewpoints 21 (Kingsbarns) and 23 (Fife Ness, Lochaber Rock) show that the Inch Cape WTGs and OSPs will represent a notable, to considerable, increase in the proportion of the open sea view affected by wind farm development. The overall cumulative impact on this designated area resulting from the Inch Cape WTGs and OSPs is therefore considered to be moderate/major and significant.		
St Andrews Links	High	Moderate	Moderate/Major
	Several application and scoping stage wind farms have theoretical cumulative visibility across this LLA and the Inch Cape WTGs and OSPs are likely to represent a notable increase in the proportion of the open sea views which are affected by wind farm development. The overall cumulative impact on this LLA resulting from the Inch Cape WTGs and OSPs is therefore considered to be moderate/major and significant.		
Tarvit and Ceres	Moderate	Low to Negligible	Minor/Moderate to Minor and Minor overall
	Although there is theoretical cumulative visibility of most application and scoping stage developments considered in this assessment, this is limited to scattered areas and the overall cumulative impact on the LLA resulting from the Inch Cape WTGs and OSPs is predicted to be minor.		
Tay Coast	Moderate	Low to Negligible	Minor/Moderate to Minor and Minor overall
	Part of the LLA lies outside the SLVIA Study Area and theoretical cumulative visibility of application and scoping stage developments across this LLA is limited to scattered areas. The overall impact on the LLA is considered to be minor.		
Tentsmuir Coast	High	Moderate	Moderate/Major
	Theoretical cumulative visibility of the several application and scoping stage developments occurs across most of the LLA and the predicted view from Viewpoint 16 (Tentsmuir) shows that the Inch Cape WTGs and OSPs will represent a notable increase in the proportion of the open sea views which will be affected by wind farm development. The overall cumulative impact on this LLA resulting from the Inch Cape WTGs and OSPs is considered to be moderate/major and significant.		

Receptor	Sensitivity	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
AGLV			
North Berwick to Dunbar Coast	High	Negligible	Minor/Moderate
	Located at considerable distance from the Development Area, there will be views of the Inch Cape WTGs and OSPs in conditions of good visibility. The view from Viewpoint 25 (Dunbar) indicates that Neart na Gaoithe will be seen at a closer distance and overlapping with the Inch Cape WTGs and OSPs in views from this part of the East Lothian coastline. In this context, the overall cumulative effect from the addition of the Inch Cape WTGs and OSPs as seen from this coastal AGLV will be minor/moderate.		
GDLs in inland locations			
All	High	Negligible to Low	Moderate to Minor/Moderate
	Of the GDLs within the SLVIA Study Area having theoretical visibility of the Inch Cape WTGs and OSPs, the visibility analysis has shown that actual visibility in most cases will be limited. This is due to the mature policy woodlands that typically enclose these landscapes and screen views of the wider surroundings which, from inland locations, may only occasionally include distant views of the sea. The ZTV analysis shows that in most cases, visibility of other application and scoping stage wind farms is also limited. In this context, it is considered that the cumulative effect arising from the Inch Cape WTGs and OSP will vary from minor/moderate up to moderate.		
GDLs in coastal locations			
St Andrews Links	High	Moderate	Moderate/Major
	Open sea views are possible from many places in this GDL from which there is theoretical visibility of the Inch Cape WTGs and OSPs across most areas. The viewpoint assessment suggests if all the other application and scoping stage wind farms are consented then the Inch Cape WTGs and OSPs will represent a notable increase in the proportion of the sea view occupied by wind farm development. Therefore, it is anticipated that there may be up to moderate/major and significant cumulative effect on this coastal designed landscape.		
Cambo	High	Moderate	Moderate/Major
	If all the application and scoping stage wind farms are consented then the Inch Cape WTGs and OSPs will represent a notable increase in the proportion of the distant sea horizon occupied by views of wind farm development. In locations within the wider designed landscape surrounding the gardens, from which open sea views are possible, it is therefore considered that there may be up to moderate/major and significant cumulative effect on this landscape.		

Receptor	Sensitivity	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
Tynninghame	High	Negligible	Minor/Moderate
<p>Located at a considerable distance from the Inch Cape WTGs and OSPs, there may be views towards the Development Area from parts of this designed landscape. The cumulative effect may be up to minor/moderate.</p>			

Settlements

207 Whilst theoretical visibility of the Inch Cape WTGs and OSPs is shown for many settlements it is considered that the degree of actual visibility from within settlements will, in most cases, be limited by the screening effects of buildings and vegetation. This will also be the case for the other application and scoping stage wind farms considered in this assessment. Table 16.28 (below) records what the greatest level of residual cumulative effect will be, recognising that this may only occur for a limited number of properties, which have open sea views.

Table 16.28: Summary of Cumulative Effects on Settlements

Receptor	Sensitivity	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
Coastal Settlements in Aberdeenshire	High	Moderate	Moderate/Major (up to 30 km distance from closest Inch Cape WTG)
<p>Of the settlements considered in the assessment, theoretical visibility of the Inch Cape WTGs and OSPs is indicated for parts of Inverbervie and St Cyrus, together with all of Gourdon and Johnshaven. Theoretical cumulative visibility of the Inch Cape WTGs and OSPs with other onshore application and scoping stage wind farms is limited, particularly in Inverbervie; however, theoretical cumulative visibility is indicated for both application stage offshore wind farms in conjunction with the Inch Cape WTGs and OSPs. Therefore it is predicted that residents may experience up to moderate/major and significant cumulative effects on visual amenity from properties which have open sea views in the direction of the Inch Cape WTGs and OSPs.</p>			

Receptor	Sensitivity	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
Coastal Settlements in Angus	High	High	<p>Major (up to 20 km distance from closest Inch Cape WTG)</p> <p>Moderate/Major (up to 26.5 km distance from closest Inch Cape WTG)</p>
			<p>Theoretical visibility of the Inch Cape WTGs and OSPs is indicated across the whole of Monifieth, Lunan, and Auchmithie, across most of Carnoustie and Arbroath, and parts of Montrose. Theoretical cumulative visibility of the Inch Cape WTGs and OSPs with application and scoping stage onshore wind farms does not occur in Lunan and Auchmithie and is limited in Carnoustie and Monifieth. However, a number of onshore cumulative sites show visibility in conjunction with the Inch Cape WTGs and OSPs from parts of Arbroath and Montrose. Theoretical cumulative visibility is indicated in most of these settlements for both application stage offshore wind farms in conjunction with the Inch Cape WTGs and OSPs, with the exception of Montrose and Lunan from where there will be no cumulative visibility of Neart na Gaoithe. Actual visibility of the Inch Cape WTGs and OSPs will be much more limited; however, it is anticipated that up to major and significant cumulative effects on visual amenity may be experienced where properties have open sea views, particularly between Carnoustie and Montrose.</p>
Coastal Settlements in Fife	High	Moderate	<p>Moderate/Major (up to 35 km distance from closest Inch Cape WTG)</p>
			<p>Of the settlements considered in the assessment, theoretical visibility of the Inch Cape WTGs and OSPs is indicated across the whole of Tayport, most of St Andrews, Guardbridge, and Crail, parts of Anstruther Easter and limited parts of Pittenweem. Theoretical cumulative visibility of the Inch Cape WTGs and OSPs with application and scoping stage onshore wind farms occurs only for the Group 7 sites in Crail, Anstruther Easter and Pittenweem. For Tayport, Guardbridge and St Andrews, there is theoretical cumulative visibility of a greater number of onshore sites including the Group 6 wind farms, Corse Hill, Tealing Airfield, Michelin Tyre Factory and Port of Dundee. Of the offshore sites, there is theoretical cumulative visibility of Neart na Gaoithe from within all of these settlements. Firth of Forth Phase 1 will not be visible from the East Neuk settlements. Actual visibility will be much more limited than theoretical visibility due the screening effects of buildings and vegetation within and around these settlements. However, the viewpoint analysis suggests that up to moderate/major and significant cumulative effects may be experienced where properties have open sea views in the direction of the Inch Cape WTGs and OSPs.</p>

Receptor	Sensitivity	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
Inland Settlements in Fife	High	Moderate	Moderate/Major (up to 35 km distance from closest Inch Cape WTG)
	<p>The ZTVs indicate that theoretical visibility of the Inch Cape WTGs and OSPs is possible across all of Balmullo, Kingsbarns, Strathkinness and Dairsie, across most of Leuchars and across part of Boarhills. Cumulative theoretical visibility is indicated with various application and scoping stage onshore wind farms considered in the assessment as described in <i>Appendix 16B</i>, with different patterns of visibility being displayed for different settlements. Visibility of the offshore wind farms in conjunction with the Inch Cape WTGs and OSPs is also indicated across all of these settlements. Actual visibility will be more limited; however, the viewpoint analysis suggests that up to moderate/major and significant cumulative effects may be experienced where properties have open sea views in the direction of the Inch Cape WTGs and OSPs.</p>		
Other Settlements	High	Low	Moderate
	<p>Theoretical visibility of the Inch Cape WTGs and OSPs will be possible from parts of Dundee, Broughty Ferry and, at a much greater distance, Dunbar and North Berwick in East Lothian. Cumulative visibility of the Inch Cape WTGs and OSPs with onshore application and scoping stage wind farms is limited. The other offshore wind farms at Firth of Forth Phase 1 and Neart na Gaoithe also demonstrate theoretical visibility in conjunction with the Inch Cape WTGs and OSPs from all of these settlements. It is considered that actual visibility will be more limited than indicated on the ZTVs however, where properties have open sea views, residents may experience up to moderate cumulative effects on visual amenity.</p>		

Routes

- 208 The routes considered in the assessment cross large areas of seascape and landscape at varying distances from the Development Area. Theoretical visibility of the Inch Cape WTGs and OSPs from these routes varies from no visibility, to visibility over continuous stretches of road or path. Actual visibility will also vary considerably, due to the screening effect of vegetation and buildings, both at the roadside but also in the surrounding landscape or seascape. The summary section contained below in Table 16.29 records what the greatest level of residual effect will be, recognising that this may only occur for a short section or localised area of the route. Cumulative visibility of the Inch Cape WTGs and OSPs may be either combined or sequential. Combined visibility may be simultaneous (where several wind farms are seen within a single arc of vision i.e. approximately 90°) or in succession (where wind farms occur in several arcs of vision at the same location).
- 209 Other application and scoping stage wind farms that will be seen simultaneously with the Inch Cape WTGs and OSPs are likely to be the other offshore wind farms, Neart na Gaoithe and Firth of Forth Phase 1. From certain locations there may also be simultaneous views of

the Inch Cape WTGs and OSPs in conjunction with wind farms that are located on the coastal edge, for example Corse Hill and Glaxo Smith Kline. Cumulative visibility of the Inch Cape WTGs and OSPs with other application stage onshore wind farms is more likely to be sequential, or combined but in succession views.

Table 16.29: Summary of Cumulative Effects on Transport and Recreational Routes

Receptor	Sensitivity	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
Roads			
A91	Moderate	Low	Minor/Moderate
<p>The visibility analysis shows that the Inch Cape WTGs and OSPs will be theoretically visible throughout the length of this route. Cumulative visibility with other application and scoping stage wind farms is theoretically possible, but in practice may be limited as described in the visibility analysis. Within this context, it is considered that the cumulative effect on visual amenity arising from the Inch Cape WTGs and OSPs will be at most minor/moderate.</p>			
A914	Moderate	Low	Minor/Moderate
<p>The Inch Cape WTGs and OSPs are theoretically visible from limited sections of this route; however, it is considered that in many areas views towards the Development Area will be screened by buildings and vegetation in the intervening landscape. Therefore, the cumulative effect on the visual amenity of road users is considered to be at most minor/moderate.</p>			
A915	Moderate	Low	Minor/Moderate
<p>There is theoretical visibility of the Inch Cape WTGs and OSPs for just less than half of this route, where it crosses the SLVIA Study Area. In these locations it will be seen occupying part of the distant sea horizon and will represent a noticeable increase in the proportion of the seawards view occupied by wind farm development. Theoretical cumulative visibility is indicated along this stretch of route for the Inch Cape WTGs and OSPs with a variety of application and scoping stage wind farms, both onshore and offshore, but with the exception of the Group 7 sites, these are mostly located at some distance from the road. Therefore, it is considered that the cumulative effect on visual amenity resulting from the Inch Cape WTGs and OSPs will be at most minor/moderate.</p>			
A917	Moderate	Moderate	Moderate
<p>Theoretical visibility of the Inch Cape WTGs and OSPs is indicated for slightly less than two-thirds of this road. Along many sections of the road from which there are open views of the sea, it is likely that the Inch Cape WTGs and OSPs will be visible, occupying part of the seawards horizon. When considered alongside other application and scoping stage wind farms it will be seen occupying part of the distant sea horizon and will represent a noticeable increase in the proportion of the seawards view occupied by wind farm development. Therefore, in these locations, road users may experience up to a moderate cumulative effect on visual amenity.</p>			

Receptor	Sensitivity	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
A919	Moderate	Low	Minor/Moderate
	The Inch Cape WTGs and OSPs are theoretically visible for much of this route; however, it is considered that in many areas, views towards the Development Area will be screened by buildings and vegetation in the intervening landscape. This is likely to be the same for other application and scoping stage wind farms. Therefore, the cumulative effects on the visual amenity of road users resulting from the Inch Cape WTGs and OSPs are considered to be minor/moderate at most.		
A92	Moderate	High	Moderate/Major
	The visibility analysis indicates that the Inch Cape WTGs and OSPs are theoretically visible for over two-thirds of this route. Cumulative visibility with both onshore and offshore application and scoping stage wind farms is also possible. Actual visibility of the Inch Cape WTGs and OSPs is most likely on sections of the road which pass in close proximity to the coastline, where up to moderate/major and significant cumulative effects may occur, particularly in conjunction with the other offshore sites and onshore wind farms located in coastal areas. However, these locations will be limited to the geographical areas which are closest to the Development Area. In inland locations there is likely to be sequential cumulative visibility with several wind farms considered in this assessment, for example where the road passes through Strathmore there will be views of the Group 3 wind farms on the Hill of Garvock. Overall, there will be a variety of cumulative effects on visual amenity throughout the length of the route; however, it is considered that significant effects arising from the Inch Cape WTGs and OSPs will be limited in duration and extent.		
A933	Moderate	Moderate	Moderate
	Limited visibility of the Inch Cape WTGs and OSPs is predicted from this route, mostly due to the effects of intervening woodland within the surrounding landscape. Therefore, the cumulative effect on the visual amenity of road users will also be moderate at most.		
A935	Moderate	Low	Minor/Moderate
	The Inch Cape WTGs and OSPs are theoretically visible for just less than half of this route, with actual visibility predicted to be lower due to the screening effect of trees and buildings in the surrounding landscape. The cumulative effect on visual amenity is likely to be at most minor/moderate.		
A937	Moderate	Low	Minor/Moderate
	As with the A935, the route analysis indicates that the Inch Cape WTGs and OSPs will be theoretically visible for less than half of this road, with the ZTVs showing that visibility will be mostly limited to WTG blade tips. Cumulative visibility, both combined and sequential, of the Inch Cape WTGs and OSPs with other application stage wind farms will be possible; however, it is considered that the overall cumulative effect on the visual amenity of road users is likely to be at most minor/moderate.		

Receptor	Sensitivity	Cumulative Magnitude of Change	Residual Cumulative Effect (up to)
Recreational Routes			
Fife Coastal Path	High	Moderate	Moderate/Major
	There will be cumulative visibility of the Inch Cape WTGs and OSPs with the Group 7 wind farms for much of this route. There will also be cumulative visibility of the Inch Cape WTGs and OSPs with the two other application stage offshore wind farms, particularly between Fife Ness and St Andrews, from where there will also be in views of other application and scoping stage onshore wind farms across the Firth of Tay. In this context, it is likely that footpath users, who are considered to have a high sensitivity to change, may experience up to moderate/major cumulative effects on visual amenity, which will be significant.		
NCN Route 1	High	High	Major
	Users of NCN Route 1 may experience up to major and significant cumulative effects on visual amenity. Major cumulative effects are predicted along localised sections of the route as it passes through Angus, where the route runs adjacent or close to the coastal edge, and from where there will be open seaward views of the Inch Cape WTGs and OSPs in conjunction with other application stage offshore wind farms and onshore wind farms located close to the coastline, such as Corse Hill. These areas are located mostly between Arbroath and Montrose. Up to moderate/major and significant cumulative effects may also be experienced by cyclists on this route at other locations in both Angus and Fife, along localised sections between Arbroath and Carnoustie, and to the west of St Andrews. Significant cumulative effects may also be experienced along sections of the route in Aberdeenshire, between Inverbervie and Montrose, although these effects will be localised.		
Train Lines			
Edinburgh to Aberdeen	Moderate	High	Moderate/Major
	The Inch Cape WTGs and OSPs will be seen in combination with other applications stage offshore wind farms, particularly along the stretch of this route between Carnoustie and Arbroath where there will be open sea views from the coastal edge. Therefore, rail passengers may experience up to moderate/major and significant cumulative effects on visual amenity, but only for relatively short sections of the route.		

Other Recreational Receptors

- 210 Based on the findings of the viewpoint assessment, recreational receptors having open sea views where the Inch Cape WTGs and OSPs are an element within these views, major and significant cumulative effects on visual amenity may be experienced at locations up to 26.5 km distance. Where the available sea view is more focused and in locations where the Inch Cape WTGs and OSPs will occupy a greater extent of a limited sea view, major cumulative effects on visual amenity may be experienced at up to 30 km distance for high sensitivity receptors; however, it is important to recognise that such locations are likely to be limited and not generally representative of typical sea views obtained from the coastal

edge within the SLVIA Study Area. Moderate/major and significant cumulative effects on visual amenity may be experienced at up to 35 km distance for high sensitivity receptors.

- 211 As identified in respect of the baseline, the Firths of Tay and Forth and adjacent outer waters in the North Sea are established shipping routes for both commercial and cruise vessels. The closer inshore waters are used for recreational water based activities including visits to the islands in the Firth of Forth, notably the Isle of May. It is anticipated that high sensitivity recreational receptors taking part in water based activities, visiting the Forth islands or on cruise ships will experience significant effects from the Inch Cape WTGs and OSPs, considered cumulatively with the other offshore wind farms at Neart na Gaoithe and Firth of Forth Phase 1, at distances similar to those at which land based cumulative effects are assessed as being significant.

16.17 Conclusion

- 212 The SLVIA has assessed the construction and operational effects arising from the Inch Cape WTGs and OSPs on seascape and landscape character and visual amenity within the 50 km SLVIA Study Area. A worst case scenario has been assessed as described in *Section 16.9*. A description of maritime navigational lighting and aviation hazard lighting has also been included in the assessment.
- 213 Included within the assessment are 11 existing or consented wind farms. Included in the cumulative assessment are 24 wind farms at application or scoping stage. The effects arising from the Inch Cape WTGs and OSPs in conjunction with any existing and consented wind farms in the landscape have been considered in the context of the existing baseline, alongside a cumulative assessment in which the additional effects of the Inch Cape WTGs and OSPs have been assessed in relation to existing and consented wind farms together with application and scoping stage wind farms, both onshore and offshore.

16.17.1 Inch Cape WTGs and OSPs in Conjunction with Existing and Consented Wind Farms

- 214 The existing and consented wind farms considered in the assessment in conjunction with the Inch Cape WTGs and OSPs are all located either in or around Dundee, or towards the north of the SLVIA Study Area in Aberdeenshire. The SLVIA has established that there will be significant effects from the Inch Cape WTGs and OSPs considered on its own, or with these existing and consented wind farms, on seascape character areas SA4: Montrose Bay, SA5: Long Craig, SA6: Lunan Bay, SA7: Lang Craig to the Deil's Heid, SA8: Arbroath to Monifieth and SA12: St Andrews to Fife Ness. With the exception of SA12, which is in Fife, all of these character areas are located within Angus at a closest distance of between 15.4 km to 32.5 km from the closest WTG within the Development Area.
- 215 There are not predicted to be any significant impacts on landscape character types and associated character areas within the SLVIA Study Area resulting from the Inch Cape WTGs and OSPs considered on their own or in conjunction with other existing and consented wind farms. However, there may be localised significant effects on landscape character, for

example, parts of the Dipslope Farmland (TAY13) landscape in which sea views are an important element of the landscape.

- 216 Significant landscape effects on GDLs are limited to the garden at Cambo, which is located on the north-east Fife coastline and are likely to have open sea views towards the Inch Cape WTGs and OSPs from locations within its grounds. Significant landscape effects on designated areas are limited to two coastal LLAs in Fife, namely the St Andrews to Fife Ness LLA, and the Forth Islands LLA (Isle of May only).
- 217 Overall visibility of the Inch Cape WTGs and OSPs from within both coastal and inland settlements is likely to be limited. However, significant effects on visual amenity may occur where properties have views of the open sea in the direction of the Inch Cape WTGs and OSPs. These effects may be up to Major within coastal settlements and properties in Angus, and up to Moderate/Major for coastal settlements and properties on the Fife and Aberdeenshire coastlines. There may also be up to Moderate/Major effects on visual amenity for a limited number of settlements within Fife which are located just inland of the coastline, for example Kingsbarns.
- 218 Significant effects on the visual amenity of road users, walkers and recreational cyclists are predicted along limited sections of the A92, the Fife Coastal Path, NCN Route 1 and for the Edinburgh to Aberdeen railway line.

Inch Cape WTGs and OSPs in Conjunction with Application and Scoping Stage Wind Farms together with Existing and Consented Stage Wind Farms

- 219 Significant cumulative effects on seascape character are predicted for character areas SA4: Montrose Bay, SA5: Long Craig, SA6: Lunan Bay, SA7: Lang Craig to the Deil's Heid, SA8: Arbroath to Monifieth, SA11: St Andrews Bay and SA12: St Andrews to Fife Ness. Significant cumulative effects on landscape character types and associated character areas are not predicted to occur although there may be localised significant effects in certain locations (e.g. TAY13 Dipslope Farmland).
- 220 Significant cumulative landscape effects on GDLs are limited to St Andrews Links and Cambo, both of which are located on the north-east Fife coastline and are likely to have open sea views towards the Inch Cape Development Area from locations within their grounds. Significant cumulative effects on designated areas are limited to those coastal LLAs in Fife in which open sea views are a distinctive feature and where the aspect of the coastline is easterly or north-easterly, namely the Forth Islands LLA (Isle of May only), the St Andrews to Fife Ness LLA, the St Andrews Links LLA, and the Tentsmuir Coast LLA.
- 221 Significant cumulative effects on visual amenity follow the same pattern as described above in respect of the effects of the Inch Cape WTGs and OSPs on their own or with existing/consented wind farms, in terms of the level and geographical coverage of these effects.

16.17.2 Summary

222 It is generally recognised that commercial wind energy developments are likely to give rise to some significant effects on seascape/landscape character and visual amenity. The Inch Cape Offshore Wind Farm will consist of 213 WTGs up to 215m tall, occupying an extensive sea area but located at distances of over 15.4 km from the coast. It is predicted to give rise to a number of significant effects when considered on its own, or with existing and consented wind farms, and in conjunction with application and scoping stage developments. These effects have been described and summarised in the assessment. In general, significant effects are predicted at ranges greater than would typically be experienced with onshore wind energy developments. This is due to the size and scale of the Inch Cape WTGs, both in terms of numbers and heights, and OSPs, but also in relation to the area of the sea which the Development Area occupies. It is important to note that the assessment has assumed a worst case scenario in that the Inch Cape WTGs and OSPs has been assessed in conditions of good weather and bright daylight when visibility will be at its clearest. Analysis of the visibility data in Graph 16.i shows that at a distance of around 27 km from the Development Area, visibility of the WTGs is only likely to occur for on average, 50 per cent of the year.

References

Aberdeen City Council and Aberdeenshire Council (2009). *Aberdeen City and Shire Structure Plan*.

Available at: <http://www.aberdeencityandshire-sdpa.gov.uk/nmsruntime/saveasdialog.asp?IID=423&SID=8>

Aberdeen City Council (2012). *Aberdeenshire Local Development Plan 2012*. Available at:

<http://www.aberdeencity.gov.uk/nmsruntime/saveasdialog.asp?IID=42278&SID=9484>

Aberdeenshire Council (2004). *The Renewable Energy Strategy : A Strategy to Promote the Generation of Energy from Renewable Sources*. Available at:

http://www.aberdeenshire.gov.uk/green/renewable_energy2.pdf

Aberdeenshire Council (2005a). *Use of Wind Energy in Aberdeenshire Part One – Guidance for Developers*. Available at:

http://www.aberdeenshire.gov.uk/planning/supplementary/wind_developers06.pdf

Aberdeenshire Council (2005b). *Use of Wind Energy in Aberdeenshire Part Two – Guidance for Assessing Wind Energy Developments*. Available at:

http://www.aberdeenshire.gov.uk/planning/supplementary/wind_assessing06.pdf

Aberdeenshire Council (2009). *Use of Wind Energy in Aberdeenshire Part One Guidance for Developers – Addendum, Broad Areas of Search for Wind Farms*. Available at:

http://www.aberdeenshire.gov.uk/planning/plans_policies/2009_1Part1WindEnergyDevelopmentsS PGBroadAreaofSearchmapsAddendumv2PDF.PDF

Aitchison, C. (2004). *The Potential Impact of Fullabrook Wind Farm Proposal, North Devon: Evidence Gathering of the Impact of Wind Farms on Visitor Numbers and Tourist Experience*, Bristol: University of the West of England/Devon Wind Power.

Aitchison, C. (2012). *Tourism Impact of Wind Farms: Submitted to Scottish Government Renewables Inquiry*, Edinburgh: University of Edinburgh.

Allegra Strategies (2007). *UK Attitudes to Energy Efficiency and Alternative Energy Sources*. Allegra Strategies.

Angus Council (2008). *Angus Windfarms Landscape Capacity and Cumulative Impacts Study*.

Available at:

<http://www.angus.gov.uk/devcontrol/LandscapeCapacityandCumulativeImpactAssessmentFinal.pdf>

Angus Council (2009). *Angus Local Plan Review*.

Argonne National Laboratory (2011). *Preliminary Assessment of Offshore Wind Turbine Visibility and Visual Impact Threshold Distances*, Argonne: Illinois. Accessed at:

<http://visualimpact.anl.gov/offshorevitd/docs/OffshoreVITD.pdf>

British Wind Energy Association (2002). *Research Study Conducted for Scottish Renewables Forum & the British Wind Energy Association*, BWEA.

Countryside Agency and Scottish Natural Heritage (2002). *Landscape Character Assessment: Guidance for England and Scotland*.

Countryside Council for Wales, Brady Shipman Martin, University College Dublin (2001). *Guide to Best Practice in Seascape Assessment*. Available at: <http://www.ccw.gov.uk/pdf/Guide-to-best-practice-in-seascape-assessment.pdf>

Department for Trade and Industry (2005). *Guidance on the Assessment of the Impact of Offshore Wind Farms: Seascape and Visual Impact Report*. Available at: <http://webarchive.nationalarchives.gov.uk/+http://www.berr.gov.uk/files/file22852.pdf>

Dundee Council and Angus Council (2002). *Dundee & Angus Structure Plan 2001-2016 "Joining the Links"*. Available at: http://www.dundeeccity.gov.uk/sites/default/files/publications/publication_585.pdf

Dundee Council (2005). *Dundee Local Plan Review*. Available at: http://www.dundeeccity.gov.uk/dundeeccity/uploaded_publications/publication_587.pdf

Fife Council (2008). *Fife Wind Energy Supplementary Planning Guidance*. Available at: http://admin.1fife.org.uk/uploadfiles/publications/c64_WindEnergyfinal.pdf

Fife Council (2009). *Fife Structure Plan 2006 – 2026*. Available at: http://publications.1fife.org.uk/uploadfiles/publications/c64_structureplan09.pdf

Fife Council (2011). *Fife Shoreline Management Plan Review SMP2 , Appendix – C1*. Fife Council.

Fife Council (2012). *St Andrews & East Fife Local Plan*. Available at: http://publications.1fife.org.uk/uploadfiles/publications/c64_WrittenStatement.pdf

Great Britain Parliament (1989). *Electricity Act 1989*. Available at: <http://www.legislation.gov.uk/ukpga/1989/29/contents>

Her Majesty's Government (2011). *UK Marine Policy Statement*. Available at: <http://www.defra.gov.uk/publications/files/pb3654-marine-policy-statement-110316.pdf>

Historic Scotland (2012). *Inventory of Gardens and Designed Landscapes in Scotland, A Guide for Owners, Occupiers and Managers*. Available at: <http://www.historic-scotland.gov.uk/gardens.pdf>

National Oceanography Centre Data (2013). Data [online]. Accessed at: <http://www.pol.ac.uk/ntsIf/tides/datum.html>

Natural England (2012). *An Approach to Seascape Character Assessment*.

Scottish Government (2008). *The Economic Impacts of Wind Farms on Scottish Tourism*. Available at: <http://www.scotland.gov.uk/Resource/Doc/214910/0057316.pdf>

Scottish Government (2010). *Scottish Planning Policy*. Available at: <http://www.scotland.gov.uk/Resource/Doc/300760/0093908.pdf>

Scottish Government (2010). *Scotland's Offshore Wind Route Map - Developing Scotland's Offshore Wind Industry to 2020 and Beyond*.

Scottish Government (2011). *Scotland's National Marine Plan: Pre-Consultation Draft*. Available at: <http://www.scotland.gov.uk/Resource/Doc/346796/0115349.pdf>

Scottish Natural Heritage (1998). *South and Central Aberdeenshire: landscape character assessment*. (Review No. 102). Available at: <http://www.dpea.scotland.gov.uk/Documents/qA331219/A4851170.PDF>

Scottish Natural Heritage (1999a). *Fife landscape character assessment* (Review No. 113). Available at: <http://www.snh.org.uk/publications/on-line/LCA/fife.pdf>

Scottish Natural Heritage (1999b). *Tayside landscape character assessment*. (Review No 122). Available at: <http://www.snh.org.uk/pdfs/publications/review/122.pdf>

Scottish Natural Heritage (2000). *SNH's Policy on Renewable Energy* (Policy Statement No. 01/02). Available at: <http://www.snh.org.uk/pdfs/polstat/renewenergy.pdf>

Scottish Natural Heritage (2004). *Marine Renewable Energy and the Natural Heritage: An Overview and Policy Statement*(Policy Statement No. 04/01). Available at: <http://www.snh.gov.uk/docs/A327477.pdf>

Scottish Natural Heritage (2005a). *An Assessment of the Sensitivity and Capacity of the Scottish Seascape in Relation to Offshore Windfarms*. Available at: http://www.snh.org.uk/pdfs/publications/commissioned_reports/f03aa06.pdf

Scottish Natural Heritage (2005b). *Guidance - Cumulative Effect of Windfarms*. Available at: <http://www.snh.org.uk/pdfs/strategy/cumulativeeffectsonwindfarms.pdf>

Scottish Natural Heritage (2006). *Visual Representation of Windfarms - Good Practice Guidance*. Available at: <http://www.snh.gov.uk/docs/A305436.pdf>

Scottish Natural Heritage (2008). *Guidance on Landscape/Seascape Capacity for Aquaculture*. Available at: <http://www.catpaisatge.net/fitxers/guies/aquicultura/aquaculture.pdf>

Scottish Natural Heritage (2009). *Siting and Designing Windfarms in the Landscape*. Available at: <http://www.snh.gov.uk/docs/A337202.pdf>

Scottish Natural Heritage (2012a). *Assessing the Cumulative Impact of Onshore Wind Energy Developments*. Available at: <http://www.snh.gov.uk/docs/A675503.pdf>

Scottish Natural Heritage (2012b). *Offshore Renewables – Guidance on Assessing the Impact on Coastal Landscape and Seascape*. Available at: <http://www.snh.gov.uk/docs/A702206.pdf>

Scottish Natural Heritage and Marine Scotland (2011). *Advice Note: Offshore Windfarm Landscape/Seascape, Visual and Cumulative Assessment: Recommended Outputs*.

Scottish Parliament (2011). *The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011*. Available at:
<http://www.legislation.gov.uk/ssi/2011/139/contents/made>

The Strategic Development Planning Authority for Dundee, Angus, Perth and North Fife (2012). *Scotland's SusTAYnable Region: Strategic Development Plan (SDP) 2012-2032*. Available at:
<http://www.tayplan-sdpa.gov.uk/FINAL%20Approved%20Plan%20June%202012%20low%20res.pdf>

The Council of the European Communities (1985). *Council Directive of 27 June 1985 on the Assessment of the Effects of Certain Public and Private Projects on the Environment (The EIA Directive) as Amended*. Available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1985L0337:20090625:EN:PDF>

The Landscape Institute and the Institute of Environmental Management and Assessment (2002). *Guidelines for Landscape and Visual Impact Assessment* (2nd Edition), Spon Press.