Environmental Impact Assessment Report

Volume 1, Chapter 17: Seascape, Landscape and Visual

MarramWind Offshore Wind Farm

December 2025

MarramWind

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17. Seascape, Landscape and Visual

17.1 Introduction

17.1.1.1 The offshore infrastructure components of the Project that will occur above the sea surface are remote from the coastline, in an area of open sea with limited visual receptors. Based on the maximum design parameters of the above-surface offshore components, no part of the seascape, landscape and visual impact assessment (SLVIA) study area would overlap with any land-based receptors. There are limited sea-based visual receptors and few who would have a seascape appreciation / recreational interest in the sea views within the study area and these have a low sensitivity to the Project. It is therefore unlikely that there would be any significant, residual effects on seascape, landscape and visual receptors resulting from the construction, operation and maintenance (O&M) and decommissioning of the offshore components of the Project.

17.1.1.2 This conclusion was stated in the Scoping Report (MarramWind Limited, (2023). *MarramWind Offshore Wind Farm Environmental Impact Assessment – Scoping Report*) and supported by Scottish Ministers via the Scoping Opinion. The latter confirmed that offshore elements located within the Option Agreement Area (OAA) (notably the wind turbine generators (WTG) and offshore substations) could be scoped out of the Environmental Impact Assessment (EIA) Report (Scottish Government, 2023a). This judgement is further supported by the Draft updated Sectoral Marine Plan: Strategic Environmental Assessment Environmental Report (2025) which considered WTG's in excess of 300m high together with the intervening distance (between the WTG's and the coast of Aberdeenshire) and concluded that the residual landscape or seascape effects would be negligible.

17.1.1.3 In respect of offshore components located outwith the OAA (namely up to two reactive compensation platforms (RCPs)), Scottish Ministers requested additional post consultation information[1].

17.1.1.4 This information also confirms that no part of the SLVIA study area for the RCPs (based on the maximum design parameters) would overlap with any land-based receptors. Equally, the limited sea-based receptors within the study area would have a low sensitivity to the Project. Therefore, it is unlikely there would be any significant, residual effects on seascape, landscape and visual receptors resulting from the construction, O&M and decommissioning of the RCPs. Logically therefore (and as agreed via engagement in 2025 the Marine Directorate – Licensing Operations Team (MD-LOT) and NatureScot that has confirmed the approach subject to confirmation with), all of the SLVIA for the offshore components of the Project have been scoped out of this assessment.

17.1.1.5 NatureScot have reviewed this approach and confirmed all of the offshore components of the Project should be scoped out of this assessment, noting their support for the SLVIA approach and conclusion that there would be no significant effects on seascape, landscape, visual receptors.

17.1.1.6 This seascape, landscape and visual chapter of the EIA Report therefore reviews and updates the Scoping Report information that led to the Scoping Opinion (Scottish Government, 2023) and provides additional post consultation information. This Chapter, is supported by the following four figures in **Volume 2**:

- **Figure 17.1: SLVIA study area**;

[1] Post consultation information in the form of a draft copy of this chapter and supporting figures was provided to MD-LOT and NatureScot in September 2025.

- **Figure 17.2: Zone of Theoretical Visibility (ZTV) for WTGs within the OAA**;
- **Figure 17.3: ZTV for Reactive compensation platforms**; and
- **Figure 17.4: Wirelines: Aberdeen to Lerwick Ferry and Rattray Head**.

17.1.1.7 It should be read in conjunction with the project description provided in **Chapter 4: Project Description** and the relevant parts of the following chapters and appendices:

- **Chapter 15: Shipping and Navigation**: The lighting and marking requirements for the offshore elements of the Project may also increase their landscape, seascape and visual effect. These requirements have been considered as part of the additional post consultation information reported in this Chapter.
- **Chapter 16: Marine Archaeology and Cultural Heritage**: Changes to seascape, landscape and visual receptors have the potential to affect associated sensitive marine archaeology and cultural heritage receptors. The information from this Chapter has informed the marine archaeology and cultural heritage assessment.
- **Chapter 27: Landscape and Visual**: The landscape and visual effects resulting from the construction, O&M and decommissioning of the onshore Project are reported here.

17.1.1.8 This Chapter describes:

- the legislation and policy context that has informed the scope of the SLVIA (**Section 17.2: Relevant legislative and policy context**);
- the outcome of consultation and engagement that has been undertaken to date, including how matters relating to seascape, landscape and visual have been addressed (**Section 17.3: Consultation and engagement**);
- the scope of the assessment for seascape, landscape and visual (**Section 17.4: Scope of the assessment**);
- the maximum design parameters for the offshore components of the Project that have been used to inform the decision to scope out the SLVIA **(Section 17.5: Basis for the EIA Report**);
- the SLVIA methodology which has been used to inform the decision to scope the offshore elements of the Project out of the SLVIA **(Section 17.6: Methodology for EIA Report**);
- **Section 17.7: Transboundary effects**;
- **Section 17.8: Inter-related effects**;
- **Section 17.9: Assessment of cumulative effects**;
- a reference list is provided (**Section 17.10: References**); and
- a glossary of terms and abbreviations is provided (**Section 17.11: Glossary and abbreviations**).

17.2 Relevant legislative and policy context and technical guidance

17.2.1 Legislative and policy context

17.2.1.1 This Section identifies the relevant legislation and policy context that has informed the scope of the SLVIA. Further information on policies relevant to the EIA and their status is set out in **Chapter 2: Legislative and Policy Context**, which provides an overview of the relevant legislative and policy context for the Project. **Chapter 2** is supported by **Volume 3, Appendix 2.1: Planning Policy Framework**, which provides a detailed summary of international, national, marine and local planning policies of relevance to the EIA. Individual policies of specific relevance to this assessment and associated appendices have been taken into account.

17.2.1.2 This summary provides a foundation for understanding the specific requirements that this Chapter must address in assessing and mitigating impacts on seascape, landscape and visual receptors and relevant environmental issues.

17.2.1.3 The legislation relevant to seascape, landscape and visual include:

- The European Landscape Convention 2006; and
- Electricity Act 1989.

17.2.1.4 The policies relevant to seascape, landscape and visual include:

- Draft updated Sectoral Marine Plan: Strategic Environmental Assessment Environmental Report, (Scottish Government, 2025);
- National Planning Framework 4 (NPF4) (Scottish Government, 2023b);
- Sectoral Marine Plan for Offshore Wind, (Scottish Government, 2020);
- Scottish National Marine Plan (Scottish Government, 2015); and
- UK Marine Policy Statement (HM Government, 2011).

17.2.2 The Relevant technical guidance

17.2.2.1 Other information and technical guidance relevant to the assessment undertaken for seascape, landscape and visual include:

- Guidance on Aviation Lighting Impact Assessment (NatureScot, 2024).
- Visual Representation of Development Proposals, Technical Guidance Note 06/19 (Landscape Institute, 2019).
- An Approach to Seascape Sensitivity Assessment (Marine Management Organisation (MMO), 2019).
- Guidance note: Coastal Character Assessment (Scottish Natural Heritage (SNH), 2018).
- Visual Representation of Wind Farms, Version 2.2 (SNH, 2017).
- Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (GLVIA3) (Landscape Institute and Institute for Environmental Management and Assessment (IEMA), (2013).

- Offshore Renewables – Guidance on Assessing the Impact on Coastal Landscape and Seascape (SNH, 2012).

17.3 Consultation and engagement

17.3.1 Overview

17.3.1.1 This Section describes the consultation and stakeholder engagement undertaken for the Project in relation to seascape, landscape and visual. This includes the outcome of early engagement, the Project's Statutory Consultation, Scoping Opinions (Scottish Government, 2023a and Aberdeenshire Council, 2023) made in response to the Scoping Report, and later post-Scoping engagement. An overview of engagement undertaken for the Project as a whole can be found in Section 5.5 of **Chapter 5: Approach to the EIA**.

17.3.2 Key issues

17.3.2.1 A summary of the key issues raised during Statutory Consultation and engagement specific to seascape, landscape and visual, is outlined below in **Table 17.1**, together with how these issues have been considered in the production of this EIA Report.

Table 17.1 Stakeholder issues responses – seascape, landscape and visual

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
Marine Directorate – Licensing Operations Team (MD-LOT) **NatureScot**	367, 368, 493, 494 and 989	12 May 2023, MD-LOT Scoping Opinion for MarramWind Offshore Wind Farm (Scottish Government, 2023a).	The Scoping Opinion was informed by MD-LOT and NatureScot and resulted in the following concluding statement: "*given the distance from shore, the Scottish Ministers support NatureScot's representation and are content that the Seascape, Landscape and Visual Impact Assessment for the offshore elements located within the Developments OAA [Option Agreement Area] can be scoped out of the EIA Report*." (Paragraph 5.13.1).	Noted – this part of the SLVIA has been scoped out, only the information supporting this opinion has been included. A draft copy of this Chapter and supporting figures (including ZTV and wirelines for the RCP) was provided to MD-LOT and NatureScot in September 2025. This information has been repeated in this Chapter. The offshore substations are located within the OAA and therefore scoped out.
			"*Regarding offshore elements located out with the OAA, the Scottish Ministers advise that further discussion with NatureScot, relevant local authorities, and the Scottish Ministers is required. During the discussion, a zone of theoretical visibility and wireframes from the closest viewpoints should be provided alongside a drawing of the likely design of the HVDC substation and reactive compensation platform*." (Paragraph 5.13.2).	
		15 September 2025, email response from NatureScot to draft SLVIA Chapter.	*"NatureScot advice:* *Thank you for early sight of the draft Seascape, Landscape and Visual EIA chapter. We support the proposed approach of defining two study areas:* • SLVIA 50km study area: offshore elements located within the OAA; and • *SLVIA 25km study area: offshore elements located outwith the OAA.* *Our advice at EIA Scoping stage was that that elements within the OAA could be scoped out of assessment. Your assessment states that these elements will have no impacts on land-based receptors, and low impacts on any sea-based receptors. We support the conclusion that these elements will have no significant effects on seascape, landscape, visual receptors.*	

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
			At EIA Scoping stage we advised that elements outwith the OAA (2x Reactive Compensation Platforms (RCPs)) may benefit from collaborative work to understand likely impacts. We welcome the assessment presented in this draft chapter and support the conclusion these elements will have no significant effects on seascape, landscape, visual receptors."	
		16 September 2025, email response to draft SLVIA Chapter.	*"It is useful to see the results of the initial CRM, which we briefly discussed at the MD-LOT Quarterly Catch Up meeting on 19 June 2025.* *We appreciate the technical and economic drivers influencing the air gap parameter, and welcome the initial estimated impact values for kittiwake, great black-backed gull and gannet.* *We would always seek to minimise the impacts of development on nature, but we recognise that derogation is a route to consent. Decreasing the air gap, and consequent increased impacts on SPA populations, will require proportionate changes to compensation measures.* *As your application and derogation case develop we will continue to advise on these issues. We will not provide detailed advice on these draft CRM outputs, but instead wait to be consulted on your application and derogation case. In part this is due to us handling very high levels of statutory consultation casework currently, and in part due to the imminence of your application submission target date."*	
UK Chamber of Shipping	581	12 May 2023, MD - LOT Scoping Opinion Appendix I: Consultation Responses and Advice (Scottish	"*Figure 5.12.1 SLVIA study area shows that Green Volt Wind Farm is shaded as pre-planning status. This is incorrect as MS-LOT has recently held the Section 36 consultation on the proposed development. Up to date and correct status of developments through the planning process is essential for cumulative impacts to be considered correctly.*."	Cumulative baseline has been updated and reflected in **Volume 2, Figure 17.1** to **Figure 17.3**.

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in the EIA Report
		Government, 2023a).		
NatureScot	12	9 August 2022, on-line Teams Meeting	*"Key discussion points:* • *NatureScot advised SLVIA to be included in MD-LOT scoping workshop. It was noted that the 50km study area did not include any land-based receptors, proposed to scope out SLVIA, including the night-time assessment.* • *NatureScot agreed use of GLVIA 3 methodology, informed by other guidance documents."*	All noted and advice followed and agreed in respect of scoping out and methodology.

17.4 Scope of the assessment

17.4.1 Overview

17.4.1.1 This Section sets out the scope of the EIA for seascape, landscape and visual. This scope has been developed as the Project's design has evolved and responds to stakeholder feedback received to-date, as set out in **Section 17.3**.

17.4.1.2 For the avoidance of doubt, SLVIA of the offshore elements of the Project have been scoped out and are not assessed further. This Section provides further detail and justification to support this approach taken.

17.4.2 Spatial scope and study area

17.4.2.1 There are two SLVIA study areas for the Project, the spatial scope of which has been guided by technical guidance from the Scottish Natural Heritage (2017) *Visual Representation of Wind Farms, Version 2.2* and professional judgement based on the Project's scale (maximum parameters) and a review of study areas used for similar projects including Green Volt, Moray West, Moray East and other cumulative offshore wind farms illustrated in **Volume 2, Figure 17.1**.

17.4.2.2 The two SLVIA study areas relate to the offshore elements within the OAA (namely the WTGs and offshore substation) and offshore elements outwith the OAA (although within the offshore Red Line Boundary). Both SLVIA study areas are illustrated in **Volume 2, Figure 17.1** and explained further below.

SLVIA 50km study area: offshore elements located *within* the OAA

17.4.2.3 The Scottish Natural Heritage (2017) *Visual Representation of Wind Farms, Version 2.2* advises that the study area or zone of theoretical visibility (ZTV) for WTGs exceeding 150m to blade tip height, is 45km from the outer-most wind turbine positions. The document advises on page 12 that "*greater distances may need to be considered for the larger turbines used offshore*." For context, the SLVIA study areas for the GreenVolt, Moray West and Moray East offshore wind farms (all of which had blade tip heights exceeding 150m) were 50km from the outer-most wind turbine positions and 40km in respect of the Beatrice offshore wind farm.

17.4.2.4 Accordingly, the SLVIA study area for those offshore elements of the Project located within the OAA is a 50km radius study area, drawn from the outer-most wind turbine marker positions on the edge of the OAA. This represents the maximum possible area from the WTGs. Although the maximum blade tip height of the WTGs is 350m above mean sea level (MSL), the ZTV illustrated in **Volume 2, Figure 17.2** is shown to cease at a distance of approximately 76km from the outer-most wind turbine positions on the edge of the OAA due to the earth curvature. There would be no visibility of the WTGs from areas of open sea beyond this distance due to the screening effect of the earth curvature. Theoretically the WTGs would be visible from elevated land areas beyond 76km, although in practice it is likely they would be barely visible in good weather conditions and no significant effects would be likely. By way of example a wireline from Viewpoint 2: Rattray Head is shown in **Volume 2, Figure 17.4b**.

17.4.2.5 The maximum height of the offshore substations, located within the OAA is 80m (100m including mast, lighting conductor and crane) and would therefore fall well within the SLVIA 50km study area.

17.4.2.6 The maximum study area for visible aviation warning lights mounted on the nacelles of the WTGs is advised by NatureScot to be 20km (NatureScot (2024) *Guidance on Aviation Lighting Impact Assessment*). This 20km study area would also fall well within the SLVIA 50km study area and no land-based receptors would be affected.

SLVIA 25km study area: offshore elements located *outwith* the OAA

17.4.2.7 The Scottish Natural Heritage (2017) *Visual Representation of Wind Farms, Version 2.2* advises that the study area or zone of theoretical visibility (ZTV) for wind turbines 71-85m to blade tip height, is 25km from the outer-most wind turbine positions. This advice is therefore applicable to the maximum 80m height of the RCP. A mast, lighting conductor and a crane located on the RCP would increase this height to 100m. However, these features have a low visibility profile comprising a very narrow width or cross section, typically 20-30mm for a lightning conductor or comprise semi-permeable lattice structures for cranes or communications masts that lack solidity and would not justify an increase in the SLVIA 25km study area.

17.4.2.8 Accordingly, the SLVIA 25km study area for the two RCP offshore elements of the Project (located outwith the OAA) is a study area, drawn, 25km from the outer-most positions on the edge of the RCP 5km corridor. A ZTV based on a maximum height of 80m is illustrated in **Volume 2, Figure 17.3** is shown to cease at a distance of approximately 40km from the outer-most RCP marker positions, shown on the edge of the RCP 5km corridor due to the earth curvature. There would be no visibility of the RCPs from areas of open sea beyond this distance due to the screening effect of the earth curvature and the SLVIA 25km study area does not extend to any land areas.

17.4.2.9 The RCP and associated communications mast, lighting conductor and a crane would be below the Civil Aviation Authority (CAA) requirement for visible aviation warning lights (i.e. for obstacles taller than 150m). However, lighting would be required by the Maritime and Coastguard Agency (MCA) and the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) guidance for the marking of man-made offshore structures (IALA, 2021). This requires visible marine navigation lights (flashing yellow, synchronized and flashing white) with a visibility range of up to 10nm (18.52km). Further information on these requirements is provided in **Chapter 15: Shipping and Navigation**.

17.4.2.10 Considering the maximum study area advised by NatureScot to be 20km (NatureScot (2024) *Guidance on Aviation Lighting Impact Assessment*), this area would fall within the SLVIA 25km study area and no land-based receptors would be affected.

17.4.3 Temporal scope

17.4.3.1 The temporal scope of the assessment of seascape, landscape and visual is the entire lifetime of the Project, which therefore covers the construction, O&M, and decommissioning stages. It is anticipated that the construction of the Project will commence in 2030, with the first phase becoming fully operational by 2037. It is anticipated that the second phase of the Project would become fully operational by 2040 and the third phase by 2043. The operational lifetime of the Project for each phase is expected to be 35 years

17.4.3.2 All of these periods are regarded in the SLVIA as ‘long-term’ duration, although the construction and decommissioning periods are temporary and in all cases the effects on the seascape and visual receptors will be fully reversible.

17.4.4 Identified receptors

17.4.4.1 The spatial and temporal scope of the assessment enables the identification of receptors that may experience a change as a result of the Project. The offshore above-surface

components of the Project are remote from the coastline, in an area of open sea with limited receptors and no part of the SLVIA study areas would overlap with any land-based receptors. Sea-based receptors have been outlined in **Table 17.2**.

Table 17.2 Identified seascape, landscape and visual receptors

Receptor group	Receptors included within group
Seascape / landscape receptors within the SLVIA 50km and 25km study area	
Scottish Seascape Area 4: North East Coast	**Scottish Seascape Area 4: North East Coast** The Scottish Natural Heritage (2005) *Commissioned Report No. 103: An Assessment of the Sensitivity and Capacity of the Scottish Seascape in relation to Windfarms*, identifies this national seascape within the SLVIA study areas with the following key characteristics: • "*long, east-facing generally 'straight' coastline with many small indentations and few significant headlands and with open views out to North Sea;* • *mix of long broad sandy beaches backed by dunes and low cliffs/rocky coastline;* • *farmland predominantly backs coast; flat and low lying against deposition coast; gently rolling against rocky headlands/cliffs – some remnant heathland in places eg Findon Moor;* • *frequent fishing villages and harbours and several sizeable urban settlements;* and • *industry is infrequent but large scale where it occurs eg St Fergus and Peterhead power stations are highly visible features within the lower lying north east.*" The Commissioned Report also finds that the Seascape Area 4: North East Coast has a very high-capacity rating and low visibility / sensitivity ratings for offshore windfarm development.
Visual receptors within the SLVIA 50km and 25km study areas	
Mariners	It is essential that mariners / people on vessels within the open sea, including ferry crew are able to see the offshore infrastructure components of the Project for navigational reasons. This is assisted by navigational marking and lighting.
Aberdeen to Lerwick ferry	Passengers on the Aberdeen to Lerwick Ferry will include people travelling through the landscape who may have a recreational / aesthetic or scenic appreciation of the landscape / seascape. The route of the Aberdeen to Lerwick Ferry is illustrated on **Volume 2, Figure 17.1**. The timetable (https://www.northlinkferries.co.uk/book/routes-times-and-prices/timetables/ shown below) indicates this service operates through the evening and overnight and consequently passengers on this ferry route would not view the offshore elements of the Project during daylight hours. Sailing times may be subject to weather related or technical delays. The route stops at Kirkwall on alternate days in each direction. The viewing height of passengers on the main ferry deck has been modelled at approximately 26.5m above MSL.

Receptor group	Receptors included within group				
	1st April to 31st October 2025 Aberdeen to Kirkwall to Lerwick (Northbound).				
		Depart Aberdeen	Arrive Kirkwall	Depart Kirkwall	Arrive Lerwick
	Mon, Wed and Friday	19:00	–	–	07:30
	Tues, Thurs, Sat and Sunday	17:00	23:00	23:45	07:30
	1st April to 31st October 2025 Lerwick to Kirkwall to Aberdeen (Southbound).				
		Depart Lerwick	Arrive Kirkwall	Depart Kirkwall	Arrive Aberdeen
	Mon, Wed and Friday	17:30	23:00	23:45	07:00
	Tues, Thurs, Sat and Sunday	19:00	-	-	07:00
	1st November to 31st December 2025 Aberdeen to Kirkwall to Lerwick (Northbound).				
		Depart Aberdeen	Arrive Kirkwall	Depart Kirkwall	Arrive Lerwick
	Mon, Tues, Wed and Friday	19:00	–	–	07:30
	Thurs, Sat and Sunday	17:00	23:00	23:45	07:30
	1st November to 31st December 2025 Lerwick to Kirkwall to Aberdeen (Southbound).				
		Depart Lerwick	Arrive Kirkwall	Depart Kirkwall	Arrive Aberdeen
	Mon, Tues, Thurs, Sat and Sunday	19:00	–	–	07:00
	Wed and Friday	17:30	23:00	23:45	07:00

17.4.5 Effects scoped out of assessment

17.4.5.1 A number of potential effects have been scoped out from further assessment, resulting from a conclusion of no likely significant effect. These conclusions are based on the knowledge of the baseline environment, the nature of planned works and the professional judgement of the assessors. The conclusions follow existing best practice. Each scoped out activity or impact is considered in turn in **Table 17.3**.

Table 17.3 Activities or effects scoped out of assessment

Activity or impact	Rational for scoping out
Offshore elements located *within* the OAA	
Construction, operation and maintenance, and decommissioning activities associated with the: • **WTGs; and** • **offshore substations**	MD-LOT and NatureScot provided a Scoping opinion that SLVIA for the offshore elements within the OAA (WTG and offshore substation) could be scoped out of the EIA Report. This was based on the following rational: • The offshore elements within the OAA are 76km distance from the land at the closest point and no land-based receptors are located within the 50km study area. • Seascape receptors within the 50km study area are limited to the Scottish Seascape Area 4: North East Coast which has a low sensitivity to the Project and is unlikely to be significantly affected. • Mariners / people at work will have a low sensitivity to the offshore infrastructure components of the Project and they are therefore excluded from further assessment. • Visual receptors who may have an appreciation of the seascape within the 50km study area are limited to people on the Aberdeen to Kirkwall and Lerwick Ferry routes which travel overnight through the study area. Consequently, there would be no daytime visual effects, excepting those evening summer views of low to very low magnitude as illustrated in the wirelines. Assuming a medium sensitivity, these effects would not be significant see **Table 17.5**. (See Viewpoints 1 and 3 shown as wirelines in **Volume 2, Figure 17.4a and c**). • The study area for visible aviation warning lights mounted on the turbine hubs is advised to be 20km from the OAA, which would place passengers viewing the lit WTGs and offshore substations at night beyond the study area. This assessment is supported by the following **Volume 2** figures: • **Figure 17.1**; • **Figure 17.2**; and • **Figure 17.4a** to **b.**
Construction, and operation and maintenance activities associated with the array cables	Significant effects not likely due to location of cables below the sea.
Offshore elements located *outwith* the OAA	
Construction O&M and decommissioning activities associated with the: • **RCP(s) (if required)**	Design evolution and assessment review confirms that significant effects would be unlikely due to the following rational: • The two RCPs would be a minimum of 29km distance from the land at the closest point and no land-based receptors are located within the 25km study area. • Seascape receptors within the 25km study area are limited to the Scottish Seascape Area 4: North East Coast which has a low sensitivity to the Project and is unlikely to be significantly affected.

Activity or impact	Rational for scoping out
	• Visual receptors within the 25km study area are limited to people on the Aberdeen to Lerwick Ferry routes which travels overnight through the study area. Consequently, there would be no daytime visual effects, excepting those evening summer views of low to very low magnitude as illustrated in the wirelines, which would not be significant in EIA terms see **Table 17.5**. (See Viewpoint 3 shown as a wireline in **Volume 2, Figure 17.4c**). • Lighting associated with the RCPs would be theoretically visible at night, viewed by passengers and crew on the Aberdeen to Kirkwall / Lerwick Ferry routes. It is assumed that the numbers would be low and in line with the NatureScot (2024) Guidance on Aviation Lighting Impact Assessment the susceptibility of people travelling through the sea / landscape at night would be low. Viewing lights on the two RCPs at a minimum distance of 8km is unlikely to be significant due to the lower (medium) sensitivity of the receptors and the lower magnitude of the visible lights located on these structures, the latter of which appear as small features illustrated in the wirelines. (See Viewpoint 3 shown as a wireline in **Volume 2, Figure 17.4c**). This assessment is supported by the following **Volume 2** figures: • **Figure 17.1**; • **Figure 17.3**; and • **Figure 17.4**.
Construction, operation and maintenance, and decommissioning activities associated with the: • **transport of turbines and other offshore elements from selected port to OAA**	The holding and transport of WTG components and other offshore components would be greatest during the construction period and result in increased activity at the selected port with increased construction related vessels operating offshore. These activities are unlikely to result in a significant effect for the following reasons: • The number of construction vessels operating within 25km of the land would be limited in number, with most vessels operating beyond this distance and / or within the OAA. This is unlikely to lead to a significant seascape or visual effects. • The storage / loading / unloading of turbine components and other offshore elements at the selected port would appear in-keeping with the usual seascape / landscape and visual character of industrial port activities.
Construction, and operation and maintenance activities associated with the offshore export cables	Significant effects not likely due to location of cables below the sea.

17.4.6 Data limitations

17.4.6.1 There are no known data limitations at the time of this study that affect the robustness of the decision to scope the offshore components of the Project out of the SLVIA.

17.5 Basis for EIA Report

17.5.1 Maximum design scenario

17.5.1.1 The maximum design parameters for the offshore components of the Project that have been used to inform the decision to scope out the SLVIA are listed in **Table 17.4**.

Table 17.4 Maximum design scenario for seascape, landscape and visual impacts

Impact / activity	Maximum design scenario parameter	Justification
Construction		
Construction activities within the OAA and the construction of WTG and offshore substations	**SLVIA: offshore elements within the OAA:** • construction duration of up to 12 years; • 225 WTGs and 182m height above MSL to hub height and 350m above MSL to blade tip; • colour of WTGs is assumed to be white with additional markings / numbering for marine and air navigational safety; • up to 4 offshore substations; height: 80m above lowest astronomical tide (LAT); width 70m; and length 106m; • excludes mast, lightening rod and crane (increasing total height to 100m above LAT); and • lighting - CAA requirement for visible aviation warning lights (obstacles taller than 150m). It is anticipated that approximately 10 vessels would be on site at any one time during the construction of the Project. It is estimated that approximately 3,838 individual vessel transits would be required during the construction of the Project. Associated construction vessels operating within the OAA will not exceed the height of the WTGs.	These are the maximum numbers, heights and dimensions, with the tallest offshore elements (WTGs) located along the edge of the OAA to illustrate the maximum theoretical visibility as illustrated in the ZTVs and wirelines.
Construction activities outwith the OAA and the construction of RCP	**SLVIA: offshore elements outwith the OAA:** • construction duration of up to 12 years overall (3 years for each RCP); • up to 2 RCPs (if required); height: 80m above LAT; width 50m; and length 50m and located maximum 150m apart; • excludes mast, lightening rod and crane (increasing total height to 100m above LAT);	These are the maximum numbers, heights and dimensions, with the tallest offshore elements (RCPs) located along the edge of the RCP 5km corridor to illustrate the maximum theoretical visibility as illustrated in the ZTVs and wirelines. The communications mast, lighting conductor and a crane located on the RCP would increase the overall height to 100m. However, these

Impact / activity	Maximum design scenario parameter	Justification
	• lighting - visible marine navigation lights (flashing yellow, synchronized and flashing white) with a visibility range of up to 10nm (18.52km). It is anticipated that approximately 10 vessels would be on site at any one time during the construction of the Project. It is estimated that approximately 3,838 individual vessel transits would be required during the construction of the Project. Associated construction vessels will not exceed the height of the RCPs.	features have a low visibility profile comprising a very narrow width or cross section, typically 20 to 30mm for a lightning conductor / rod or comprise semi-permeable lattice structures for cranes or communications masts that lack solidity and would not justify an increase in the SLVIA 25km study area.
Operation and maintenance		
O&M activities for all offshore elements of the Project	• O&M duration of 35 years per phase; • peak of up to 7 O&M vessels offshore with up to 641 round trips to port per year. • all other parameters as described under construction.	As above
Decommissioning		
Decommissioning activities for all offshore elements of the Project	• all other parameters as described under construction.	As above

17.5.2 Embedded environmental measures

17.5.2.1 No embedded environmental measures associated with the offshore elements of the Project are relevant to the scoping out of the SLVIA.

17.6 Methodology for EIA Report

17.6.1 Introduction

17.6.1.1 The project-wide approach to assessment is set out in **Chapter 5: Approach to the EIA.** Whilst this has informed the approach it is necessary to set out how this methodology has been applied and adapted to address the specific needs of the SLVIA and the decision to scope the offshore elements of the Project out of the SLVIA.

17.6.1.2 The SLVIA assesses the likely effects of the Project on the seascape, landscape and visual resource, encompassing effects on seascape character, visual effects and cumulative effects.

17.6.1.3 The seascape, landscape and visual effects (and whether they are significant) are determined by an assessment of the 'sensitivity' of each receptor or group of receptors and the 'magnitude of change' that would result from the Project. The evaluation of sensitivity takes account of the value and susceptibility of the receptor to the Project. This is combined with an assessment of the magnitude of change, which takes account of factors such as the size and scale of the proposed change and the geographical extent. Other factors regarding the nature of the effect such as the duration of change and whether the effect is cumulative are also noted. By combining assessments of sensitivity and magnitude of change, a level of effect as well as the nature of that effect can be evaluated and the significance of the effect determined.

17.6.1.4 The resulting level of effect is described in terms of whether it is significant or not significant and the type or nature of effect is described as either direct or indirect; temporary or permanent (reversible); cumulative; and positive, neutral or negative.

17.6.1.5 SLVIA unavoidably involves a combination of both quantitative and subjective assessment and wherever possible a consensus of professional opinion has been sought through consultation, internal peer review, and the adoption of a systematic, impartial, and professional approach. Importantly each effect results from its own unique set of circumstances which have been assessed on a case-by-case basis.

17.6.2 Significance evaluation methodology

Overview

17.6.2.1 The matrix presented in **Table 17.5** is used as a guide to determine the level of effect and whether it is significant or not significant. In line with the emphasis placed in GLVIA 3 upon the application of professional judgement, an overly mechanistic reliance upon a matrix is avoided through the provision of clear narrative explanation of the rationale underlying the assessment made for each receptor.

17.6.2.2 In accordance with the relevant EIA Regulations, it is important to determine whether the assessed effects, resulting from the Project, are likely to be significant. Significant seascape, landscape and visual effects in most cases, relate to all those effects that result in a '**Substantial**', '**Substantial to Major**', '**Major**' or a '**Major** to **Moderate**' effect as

indicated in **Table 17.5.** '**Moderate**' levels of effect can also be assessed as significant, subject to application of the assessor's professional judgement that should be clearly explained as part of the assessment.

17.6.2.3 White or un-shaded boxes in **Table 17.5** indicate a non-significant effect, which may for example result from the combination of a receptor of lower sensitivity and / or a lower magnitude of the change caused by the offshore elements of the Project.

17.6.2.4 In those instances where there would be no effect, the magnitude has been recorded as '**zero**' and the level of effect as '**none**' or '**no view**'.

Table 17.5 Evaluation of landscape and visual effects

Magnitude of Change	Landscape and Visual Sensitivity		
	High	Medium	Low
High	Substantial	Major	Moderate
High to medium	Substantial to Major	Major to Moderate	Moderate to Minor
Medium	Major	Moderate	Minor
Medium to low	Major to Moderate	Moderate to Minor	Minor to Negligible
Low	Moderate	Minor	Negligible
Low to very low	Moderate to Minor	Minor to Negligible	Negligible
Very low	Minor	Negligible	Negligible
Zero	None / No View		

17.7 Transboundary effects

17.7.1.1 Transboundary effects arise when impacts from a development with one European Economic Area (EEA) State affects the environment of another EEA State(s). A screening of transboundary effects has been carried out and is presented in Appendix 4B of the Scoping Report (MarramWind Ltd., 2023). There would be no transboundary effects on seascape, landscape and visual receptors from the Project.

17.8 Inter-related effects

17.8.1.1 The offshore components of the Project have been scoped out and would not make a significant contribution to any inter-related effects arising from the onshore elements of the Project.

17.9 Assessment of cumulative effects

17.9.1.1 The offshore components of the Project have been scoped out and would not make a significant contribution to any cumulative effects in addition to, or in combination with other cumulative development, including other existing or consented offshore wind farm

development and applications of other offshore wind farm development as described in **Chapter 33: Cumulative Effects Assessment**.

17.10 References

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17.11 Glossary and abbreviations

17.11.1 Abbreviations

Acronym	Definition
CAA	Civil Aviation Authority
EIA	Environmental Impact Assessment
GLVIA3	Guidelines for Landscape and Visual Impact Assessment, 3rd Edition, Landscape Institute and IEMA (2013)
IALA	International Association of Marine Aids to Navigation and Lighthouse Authorities
MCA	Maritime and Coastguard Agency
MD-LOT	Marine Directorate – Licensing Operations Team
MSL	Mean sea level
NPF4	National Planning Framework 4
OAA	Option Agreement Area
O&M	Operation and maintenance
RCP	Reactive Compensation Platforms
SLVIA	Seascape, Landscape and Visual Impact Assessment
WTG	Wind Turbine Generators
ZTV	Zone of Theoretical Visibility

17.11.2 Glossary of terms

Term	Definition
Seascape / landscape effects*	Effects on the landscape (including the seascape) as a resource in its own right. An assessment of landscape effects deals with the effects of change and development on landscape as a resource. The concern here is with how the proposal will affect the elements that make up the landscape, the aesthetic and perceptual aspects of the landscape and its distinctive character. (GLVIA 3 2013, Para 5.1).
Seascape / landscape sensitivity	The sensitivity of the landscape to a particular development considers the susceptibility of the landscape and its value.
Seascape / landscape value*	The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons.

Term	Definition
	The value of the Landscape Character Types or Areas that may be affected, based on review of any designations at both national and local levels, and, where there are no designations, judgements based on criteria that can be used to establish landscape value.
Seascape	Landscapes with views of the coast or seas, and coasts and adjacent marine environments with cultural, historical and archaeological links with each other.
Susceptibility*	The ability of a defined landscape or visual receptor to accommodate the specific Proposed Development without undue negative consequences.
Type or nature of effect	Whether an effect is direct or indirect, temporary or permanent, beneficial (positive), neutral or adverse (negative) solus or cumulative.
Visual effect*	Effects on specific views and on the general visual amenity experienced by people.
Visual receptors*	Individuals and/or defined groups of people who have the potential to be affected by a proposal.
Visual sensitivity	The sensitivity of visual receptors such as residents, relative to their location and context, to visual change proposed by development.
Wireline / wireframe	A computer-generated line drawing of the DTM (digital terrain model) and the Project from a known location.
Zone of theoretical visibility*	A map, usually digitally produced, showing areas of land within which, a development is theoretical visible.
*Note: Those definitions marked with an asterisk are repeated from GLVIA 3.	

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