

A photograph showing the backs of two people wearing high-visibility yellow-green jackets and hard hats (one white, one yellow) looking out over a calm sea under a cloudy sky. The person on the left is wearing a white hard hat with 'concept' written on it. The person on the right is wearing a yellow hard hat.

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Environmental Impact Assessment Report
Volume 1, Chapter 33: Cumulative Effects Assessment
MarramWind Offshore Wind Farm

December 2025

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33. Cumulative Effects Assessment

33.1 Introduction

- 33.1.1.1 A Cumulative Effects Assessment (CEA) has been carried out for the offshore and onshore elements of the Project within this Environmental Impact Assessment (EIA) Report. It will examine the combined impacts of the Project with 'other developments' / plans on the same singular receptor / receptor group. It should be read in conjunction with the project description provided in **Chapter 4: Project Description**.
- 33.1.1.2 The assessment presented within this Chapter has drawn upon individual chapter's relevant assessment of effects and conclusions (**Chapter 6 to Chapter 31** and their associated appendices in this EIA Report).
- 33.1.1.3 This Chapter describes:
- the legislation, planning policy and guidance and other documentation that has informed the assessment (**Section 33.2: Relevant legislation and policy context**);
 - the outcome of consultation and engagement that has been undertaken to date, including how matters relating to CEA have been addressed (**Section 33.3: Consultation and engagement**);
 - the approach and methodology used for CEA (**Section 33.4: Approach and methodology**);
 - the CEA Stage 1 and Stage 2 (**Section 33.5: Cumulative Effects Assessment – Stage 1 and Stage 2**);
 - the CEA Stage 3 and Stage 4 (**Section 33.6: Cumulative Effects Assessment – Stage 3 and Stage 4**);
 - a summary of the CEA (**Section 33.7: Summary of CEA**);
 - a reference list is provided (**Section 33.8: References**); and
 - a glossary of terms and abbreviations is provided in (**Section 33.9: Glossary of terms and abbreviations**).
- 33.1.1.4 This Chapter is supported by the following appendices in **Volume 3**:
- **Appendix 33.1: Identification of Offshore 'Other Developments' for CEA**;
 - **Appendix 33.2: Onshore 'Short List' of 'Other Developments'**;
 - **Appendix 33.3: Marine Mammals CEA**;
 - **Appendix 33.4: Offshore and Intertidal Ornithology CEA**; and
 - **Appendix 33.5: Commercial Fisheries CEA**.

33.1.2 Chapters scoped out of the CEA

Underwater noise

- 33.1.2.1 **Chapter 8: Underwater Noise** provides a summary of the underwater noise modelling (**Volume 3, Appendix 8.1: Underwater Noise Modelling**) to inform other chapters that have identified receptors having sensitivity to underwater noise. Therefore, cumulative

effects from underwater noise are addressed in the relevant technical aspect sections (see **Sections 33.6.5 and 33.6.7**).

Electromagnetic fields

- 33.1.2.2 **Chapter 9: Electromagnetic Fields** provides a summary of electromagnetic field (EMF) emissions to inform other chapters that have identified receptors having sensitivity to EMF. Therefore, cumulative effects from EMF are addressed in the relevant sections (see **Sections 33.6.4 to 33.6.8**).

Seascape, landscape and visual

- 33.1.2.3 The offshore components of the Project have been scoped out of the EIA process in relation to their potential impacts on visual receptors as described in **Chapter 27: Seascape, Landscape and Visual**. This is because 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.
- 33.1.2.4 Consequently, the Project 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.
- 33.1.2.5 NatureScot has 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 conclusion that there would be no significant effects on seascape, landscape, visual receptors.

Climate resilience

- 33.1.2.6 The climate change resilience assessment assesses the resilience of the Project to projected climate change. The resilience of the Project assets is unaffected by the 'other developments', as such the climate change resilience assessment has no additional consideration of cumulative effects.

Greenhouse gases

- 33.1.2.7 The global atmosphere is the receptor for the greenhouse gas (GHG) assessment. Emissions of GHGs to the atmosphere have the potential to contribute to climate change, and therefore the effects are global and cumulative in nature. This is considered in defining the receptor (for instance, the global atmosphere) as having high sensitivity. Institute of Environmental Management and Assessment (IEMA) guidance (IEMA, 2022a) states that effects of GHG emissions from specific cumulative projects should not be individually assessed, as there is no basis for selecting which projects to assess cumulatively over any other. The GHG assessment is therefore considered to be inherently cumulative, and no additional consideration of cumulative effects is required.

33.1.3 Key definitions

33.1.3.1 **Table 33.1** provides key definitions the Project has used for the CEA.

Table 33.1 Key definitions for CEA

Term	Definition
Reasonably foreseeable	Reasonably foreseeable projects are taken to include those that are: <ul style="list-style-type: none"> identified in development plans; projects in other plans and programmes as may be relevant; offshore renewable energy projects that have The Crown Estate Agreement for Lease (AfL) / Crown Estate Scotland (CES) AfL; offshore renewable projects that have been scoped for EIA; and major infrastructure or national projects (as defined by Aberdeenshire Council) that require consent under the Town and Country Planning Act and are accompanied by an EIA.
‘Other developments’	‘Other developments’ are taken to include existing developments and existing plans and projects that are reasonably foreseeable (Planning Inspectorate, 2024). ‘Other developments’ for inclusions in the CEA are those likely to proceed or already underway, with sufficient information available for consideration.

33.2 Relevant legislation, policy context and technical guidance

33.2.1.1 This Section identifies the relevant legislation and policy context that has informed the scope of the CEA. 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 legislation and policy context for the Project. **Chapter 2: Legislative and Policy Context** is supported by **Volume 3, Appendix 2.1: Planning Policy Framework**, which provides a detailed summary of national, marine and local planning policies of relevance to the EIA.

33.2.1.2 The legislation relevant to CEA include:

- Schedule 4 of the Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017 (Scottish Government, 2017a);
- Schedule 4 of The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations (Scottish Government, 2017b);
- Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017;

33.2.1.3 **Schedule 3 of the Marine Works (Environmental Impact Assessment) Regulations 2007 requires that cumulative effects of the development should be described in this EIA Report.** The Sectoral Marine Plan (SMP) in force (Scottish Government, 2020) and the draft Updated SMP Strategic Environmental Assessment Report (Scottish Government, 2025a) includes consideration of potential cumulative environmental effects associated with development in multiple Option Agreement Areas (OAAs) at a regional and national level, and also in-combination with other plans and projects. In relation to the North East SMP region, this relates primarily to marine mammals, offshore ornithology, and navigational

safety. These are given due consideration in this assessment in **Section 33.6.5**, **Section 33.6.6**, and **Section 33.6.9** respectively.

- 33.2.1.4 There is currently no specific Scottish guidance on the methodological framework for assessing cumulative effects in general. PAN 1/2013 (Scottish Government, 2013) acknowledges that "*assessment methods for cumulative impacts and interactions vary*" and that it is a "*matter of professional judgement to ensure the relevant projects and activities - and their environmental effects - are identified, taking into account the circumstances of the individual proposal and its location*". As such, the approach to the CEA has been informed by several guidance documents including:
- the Planning Inspectorate's Advice on Cumulative Effects Assessment (Planning Inspectorate, 2024);
 - the Nationally Significant Infrastructure Projects (NSIP): Advice on Cumulative Effects (UK Government, 2024)
 - National Planning Framework 4 (NPF4) (Scottish Government, 2023a); and
 - Planning Circular 1 / 2017 (Scottish Government, 2017d).
- 33.2.1.5 Specifically for the offshore element of the CEA, this includes the Planning Inspectorate's Advice on Cumulative Effects Assessment (Planning Inspectorate, 2024); :
- the Marine Directorate guidance on offshore wind, wave and tidal energy applications, which provides guidance on the types of projects to include in a CEA (Scottish Government, 2018a); and
 - the RenewableUK and the Natural Environment Research Council published guidelines (RenewableUK, 2013) on the undertaking of CEA.

33.3 Consultation and engagement

- 33.3.1.1 This Section describes the consultation and stakeholder engagement undertaken on the Project in relation to CEA. This also includes the outcome of and response to the Scoping Opinions (Scottish Government, 2023; Aberdeenshire Council, 2023a) in relation to the CEA, and the Project's Statutory Consultation. An overview of engagement undertaken for the Project as a whole can be found in Section 5.15 of **Chapter 5: Approach to the EIA**.
- 33.3.1.2 A summary of the key issues raised during Statutory Consultation and engagement, specific to cumulative effects is outlined in **Table 33.2**, together with how these issues have been considered in the production of this EIA Report.

Table 33.2 Stakeholder issues responses - CEA

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
Aberdeenshire Council	43	22 March 2023, Aberdeenshire Council's Scoping Opinion (Aberdeenshire Council, 2023a).	<u>Ground conditions and contamination:</u> “Should you become aware of other developments using a similar corridor route to your proposed, or that may affect the same area, consideration should be given to potential cumulative impacts with those developments.”	Cumulative impacts are considered in Section 33.6.12 .
Aberdeenshire Council	50	22 March 2023, Aberdeenshire Council's Scoping Opinion (Aberdeenshire Council, 2023a).	<u>Air Quality:</u> “It is agreed that transboundary effects from air quality are unlikely. Consideration of other construction projects within 350m of the development within the air quality assessment is welcomed.”	The assessment considered construction projects within 250m of the Project, in line with the latest Institute of Air Quality Management (IAQM) (2024) guidance that amended the buffer from 350m to 250m (see Section 33.6.13).
Aberdeenshire Council	88	22 March 2023, Aberdeenshire Council's Scoping Opinion (Aberdeenshire Council, 2023a).	<u>Onshore Archaeology and Cultural Heritage:</u> “There is however scope for cumulative impacts with other construction work should they happen in a similar area and at a similar time with this development, as is noted in the Scoping Report.”	Engagement was undertaken with Aberdeenshire Council on assets to be scoped in for cumulative effects (8 August 2025). Cumulative effects have been assessed in Section 33.6.17 .
Aberdeenshire Council	92	22 March 2023, Aberdeenshire Council's Scoping Opinion (Aberdeenshire Council, 2023a).	“Should this and other developments occur in the same vicinity at the same time, there may be cumulative impacts. Consideration of this is welcomed.”	The consideration of cumulative effects is presented in Chapter 33: Cumulative Effects Assessment .

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
Aberdeenshire Council	130	22 March 2023, Aberdeenshire Council's Scoping Opinion (Aberdeenshire Council, 2023a).	<i>"We advise that the EIA Report should explore fully any impacts arising from in-combination and cumulative effects with any other relevant plans or projects."</i>	This EIA Report addresses these environmental issues within; Chapter 32: Inter-Related Effects and Chapter 33: Cumulative Effects Assessment .
Aberdeenshire Council	201	22 March 2023, Aberdeenshire Council's Scoping Opinion (Aberdeenshire Council, 2023a).	<i>"Salamander Offshore Wind Farm is working with Marram Wind through the Peterhead Developers Forum, including regarding offshore survey planning to minimise disruption to other sea users and wishes to engage in any discussions and be kept informed of your proposals so that the two projects may consider each other cumulatively through the development process."</i>	The Project has been engaged with the Salamander Offshore Wind Farm project. The Salamander Offshore Wind Farm project has been included within the CEA, Chapter 33: Cumulative Effects Assessment...
Aberdeenshire Council	691	27 June 2023, Meeting.	<i>"Aberdeenshire Council asked whether there would be other projects considered for a cumulative operational noise impact? The Project will definitely consider cumulative assessment."</i>	The consideration of cumulative effects is presented in Chapter 33: Cumulative Effects Assessment .
Aberdeenshire Council	915	Email, 1 July 2025.	MarramWind issued Aberdeenshire Council an Onshore Cumulative Effects Assessment Technical Note, which provided the approach to identifying 'other developments', including the proposed cut-off date and the onshore 'short list' of 'other developments' to be included within the CEA. Stephanie McMillian confirmed on 1 July 2025 she was happy with the 'short list' of 'other developments' to be considered within the onshore CEA.	Noted.
NatureScot	130	22 March 2023, Aberdeenshire Council's Scoping Opinion	<i>"We advise that the EIA Report should explore fully any impacts arising from in-combination and cumulative effects with any other relevant plans or projects."</i>	The EIA Report addresses these environmental issues within Chapter 32: Inter-Related Effects and this Chapter.

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
		Representation (Scottish Government, 2023b).		
Salamander Offshore Wind Farm	197, 640	22 March 2023, Aberdeenshire Council's Scoping Opinion Representation. 12 May 2023, Marine Directorate – Licencing Operations Team (MD-LOT) Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<p><i>“Salamander Offshore Wind Farm wishes to respond to the Marram Wind Offshore Wind Farm Scoping Report.</i></p> <p><i>Salamander Offshore Wind Farm is being developed by Simply Blue Energy (Scotland) Limited, a joint venture partnership between Ørsted, Simply Blue Group and Subsea7.</i></p> <p><i>Ørsted develops, constructs, and operates offshore and onshore wind farms, solar farms, energy storage facilities, and bioenergy plants, and provides energy products to its customers. Globally, Ørsted is the market leader in offshore wind and owns and operates the world’s biggest offshore wind farms off the East Coast of the UK and thus we value the opportunity to participate in this consultation process.</i></p> <p><i>Simply Blue Group is a leading blue economy developer focused on enabling a range of marine renewable energies. It develops pioneering blue economy projects – floating offshore wind, e-Fuels, wave energy, and low-impact aquaculture – all in harmony with the oceans.</i></p> <p><i>Subsea7 is a global leader in the delivery of offshore projects and services for the evolving energy industry. Subsea7 creates sustainable value by being the industry’s partner and employer of choice in delivering the efficient offshore solutions the world needs.”</i></p>	This comment is acknowledged. Salamander Offshore Wind Farm (offshore and onshore works) have been considered within the CEA. Salamander Offshore Wind Farm has been considered in Volume 3, Appendix 33.1 and within Section 33.6 .
Salamander Offshore Wind Farm	198	22 March 2023, Aberdeenshire Council's Scoping Opinion Representation	<p><i>“We would like to take this opportunity to clarify the stage of the Salamander Offshore Wind Farm:</i></p> <ul style="list-style-type: none"> <i>• Salamander Offshore Wind Farm is being developed under the innovation track of the Innovation for</i> 	The Salamander Offshore Wind Farm project (onshore and offshore) is considered in Chapter 3: Site Selection and Consideration of

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
		(Aberdeenshire Council, 2023a).	<p><i>Targeted Oil and Gas (INTOG) leasing round and submitted its EIA Scoping and Habitats Regulations Appraisal (HRA) Screening Reports in February 2023;</i></p> <ul style="list-style-type: none"> <i>• The Offshore Array Area for Salamander Offshore Wind Farm is approximately 35 kilometres (km) off the coast of Peterhead;</i> <i>• The Offshore Export Cable is proposed to make landfall north of Peterhead, near Lunderton and Kirkton; and</i> <i>• The Onshore Export Cable Corridor and other onshore infrastructure will be located north of Peterhead, close to the Export Cable landfall."</i> 	Alternatives and within this this Chapter.
Salamander Offshore Wind Farm	200	22 March 2023, Aberdeenshire Council's Scoping Opinion Representation (Aberdeenshire Council, 2023a).	<p><i>"The Marram Wind Offshore Wind Farm has a Scoping Boundary which directly overlaps with the Scoping Boundary (both offshore and onshore) of the Salamander Offshore Wind Farm. We understand that the Marram Wind export cable routes under consideration would require crossing(s) of our export cables (either Marram crossing Salamander or vice versa depending on construction timelines). Therefore, there is the potential for our respective projects to interact and for both developments to have cumulative environmental effects on other receptors. We would therefore expect any EIA in respect of your proposals to fully consider the potential effects on, and potential cumulative effects with, our Salamander Offshore Wind Farm."</i></p>	<p>The Project has been engaging with the with Salamander Offshore Wind Farm project.</p> <p>The Salamander Offshore Wind Farm project (onshore and offshore elements) has been included within this CEA, see Volume 3, Appendix 33.1 and Section 33.6. The Salamander Offshore Wind Farm project (onshore and offshore elements) has been included within this CEA, see Volume 3, Appendix 33.1 and Appendix 33.2 and Section 33.6.</p>
Salamander Offshore Wind Farm	201	22 March 2023, Aberdeenshire Council's Scoping Opinion Representation (Aberdeenshire Council, 2023a).	<p><i>"Salamander Offshore Wind Farm is working with Marram Wind through the Peterhead Developers Forum, including regarding offshore survey planning to minimise disruption to other sea users and wishes to engage in any discussions and be kept informed of your proposals so that the two projects may consider</i></p>	

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
			<i>each other cumulatively through the development process."</i>	
Salamander Offshore Wind Farm	642	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>"The Marram Wind Offshore Wind Farm has a Scoping Boundary which directly overlaps with the Scoping Boundary (both offshore and onshore) of the Salamander Offshore Wind Farm. We understand that the Marram Wind export cable routes under consideration would require crossing(s) of our export cables (either Marram crossing Salamander or vice versa depending on construction timelines). Therefore, there is the potential for our respective projects to interact and for both developments to have cumulative environmental effects on other receptors. We would therefore expect any EIA in respect of your proposals to fully consider the potential effects on, and potential cumulative effects with, our Salamander Offshore Wind Farm."</i>	
NatureScot	222	29 September 2022, Meeting - Scoping Workshop.	<i>"Lots of pipelines and cables come ashore in study area, looking to gain collaboration for data gathering with wider projects in ScotWind and wider industries. NatureScot would support."</i>	Comment is acknowledged by the Applicant.
NatureScot	223	29 September 2022, Meeting - Scoping Workshop.	<i>"Any data currently available to reduce cumulative impact of multiple boats in and out of Peterhead?"</i>	Port access is included in the risk assessment for Shipping and Navigation, inclusive of Peterhead Port, in Sections 15.9 to 15.11 in Volume 3, Appendix 15.1: Navigational Risk Assessment.
MD-LOT	225	29 September 2022, Meeting - Scoping Workshop.	<i>"Regional assessment / CEA - any guidance on which projects to include for regional assessment / CEA? Or at least projects at which stage of development."</i>	The Project submitted a Cumulative Cut-Off Technical Note which included the offshore 'other

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
			<i>NatureScot advises to submit an advice request on the issue to MD-LOT. “</i>	developments’ long list (see IDs 908 to 912).
MD-LOT	258	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023b).	<i>“Onshore Planning 2.3.1 The Scottish Ministers are aware the Developer has sought a separate Scoping Opinion from Aberdeenshire Council for the associated onshore transmission infrastructure. It is essential that the EIA Report concerning onshore works will be available at the time that the EIA Report for the Proposed Development is being considered so that all the information relating to the project as a ‘whole’ is presented. The EIA Report for the Proposed Development must consider the cumulative impacts of the onshore works.”</i>	The Applicant has submitted a whole-project EIA Report, so includes both the offshore and onshore works. Section 33.6 covers Stage 3 and Stage 4 of the CEA, where the cumulative impacts of both the offshore and onshore works are considered.
MD-LOT	297	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023b).	<i>“5.2.5 With regards to the cumulative effects on marine geology, oceanography, and physical processes, the Scottish Ministers agree with the proposed approach considered by the Developer in sections 5.1.46 and 5.1.47 of the Scoping Report.”</i>	A full assessment of the cumulative effects in relation to marine geology, oceanography and physical processes is set out in Section 33.6.2 .
NatureScot	540	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>“We are content with the proposed approach to cumulative assessment described in Sections 5.1.46-47.”</i>	

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
MD-LOT	309	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023b).	<i>“5.5.3 Regarding the potential for cumulative effects on EMF to arise, the Scottish Ministers agree with the proposed approach considered by the Developer in sections 5.4.25 and 5.2.26 of the Scoping Report. The Scottish Ministers highlight the Green Volt representation.”</i>	Potential for cumulative effects on receptors sensitive to EMF which include: benthic, epibenthic and intertidal ecology; marine mammals; offshore and intertidal ornithology; fish ecology; and commercial fisheries are provided in Section 33.6.4 to Section 33.6.8 .
MD-LOT	313	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023b).	<i>“5.6.4 The Scottish Ministers, in line with the NatureScot Representation, are broadly content with the impacts scoped in and out of the EIA Report, as described in Table 5.5.12 of the Scoping Report. Additionally, whilst some potential impacts are scoped out, they may still contribute to cumulative impacts. In line with the NatureScot representation, the Scottish Ministers advise that there does not need to be a spatial or temporal overlap for there to be cumulative impacts.”</i>	Section 33.6.4 and Section 33.6.7 provides the CEA for benthic, epibenthic and intertidal ecology, and fish ecology respectively.
MD-LOT	314	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023b).	<i>“5.6.5 Regarding cumulative impacts, the Scottish Ministers are broadly content with the cumulative assessments described within the Scoping Report, however, highlight the concerns raised by NatureScot on the likelihood of multiple offshore export cables making landfall in the area around Peterhead. NatureScot notes the potential for cumulative impacts arising from construction and associated geophysical, geotechnical, and environmental survey programmes. The Scottish Ministers support NatureScot’s recommendation that this is assessed in the EIA Report.”</i>	

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
MD-LOT	318	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023b).	<p>“5.7.4 <i>The Scottish Ministers are broadly content with the approach to assessment set out in sections 5.6.65 to 5.6.72. However, in line with the NatureScot representation, the Developer must fully implement the advice regarding passive acoustic monitoring and collision risk and engage with NatureScot and Marine Scotland on this as required. Additionally, the Cumulative Effects Framework (CEF) should be utilised in the cumulative assessment, if available at the time. However, the approach to cumulative impact assessments for marine mammal interests, requires agreement with NatureScot, before the submission of the EIA Report.”</i></p>	<p>The CEF was not available at the time of writing the EIA Report; therefore, the interim Population Consequences of Disturbance (iPCoD) modelling tool is used to assess population-level consequences of disturbance for the five key species, from the project alone and cumulatively. Other species are assessed qualitatively due to lack of demographic data as discussed in email correspondence (November 2024 to May 2025).</p>
MD-LOT	332	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023b).	<p>“5.8.13 <i>The Scottish Ministers are broadly content with the proposed approach towards cumulative assessment but disagree with the Developer’s decision to scope out cumulative impacts during the construction and decommissioning stages. At this stage, the Scottish Ministers advise these impacts should be scoped in. This is in line with NatureScot’s advice. The Scottish Ministers advise that CEF should be used when available.”</i></p>	
MD-LOT	345	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023).	<p>“5.9.11 <i>With regards to cumulative effects, the Scottish Ministers advise in line with the NatureScot representation that the Developer must consider the cumulative effects of key impacts such as habitat loss or change, especially concerning diadromous fish as well as key fish and shellfish species that contribute to ecological importance as a prey resource.”</i></p>	<p>Section 33.6.4 considers cumulative effects of key impacts such as habitat loss or change for key shellfish species. Section 33.6.7 considers cumulative effects of key impacts such as habitat loss or change concerning diadromous fish and key fish species.</p>

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MD-LOT	362	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023b).	<p>“5.11.10 <i>The Scottish Ministers confirm that cumulative and in-combination effects on shipping routes must be considered. This should consider the proximity to other offshore renewable development, other infrastructure, and the impact on navigable sea room. This is in line with Maritime and Coastguard Agency (MCA) and UK Chamber of Shipping (CoS) representation. Coordination with other projects may be necessary to avoid vessel deviation far as possible. The Scottish Ministers advise in line with the UKCoS representation that the potential cumulative impacts identified in section 7.4.25 of the Scoping Report should also include a reduction in Search and Rescue (SAR) capability and cumulative displacement of vessels.”</i></p>	This is covered by the standard Navigational Risk Assessment (NRA) (Volume 3, Appendix 15.1) process with cumulative effects considered in Section 23 of Volume 3, Appendix 15.1 .
MD-LOT	371	12 May 2023, MD-LOT Scoping Opinion (Scottish Government, 2023b).	<p>“5.14.3 <i>In addition to the cumulative effects noted in section 5.13.53, the Developer should consider the likely cumulative and in-combination effects on shipping routes as well as the proximity to other wind farm developments, other infrastructure, and the impact on safe navigable sea room within the EIA Report. This is in line with the representations from UK CoS, Scottish and Southern Electricity Networks (SSEN), Green Volt Offshore Windfarm and the Salamander Offshore Windfarm.”</i></p>	Navigational issues for other marine users are considered within Chapter 15: Shipping and Navigation and in Volume 3, Appendix 15.1 . Recreational craft are also included in Chapter 30: Socio-economics . The CEA for infrastructure and other marine users is within Section 33.6.11 .
Green Volt Offshore Wind Limited	411	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<p><i>“MarramWind is located approximately 9km from the Green Volt windfarm site and 20km from the offshore export cable route. Although, the MarramWind Scoping Report refers to the Green Volt offshore scoping report (2021), the applicant should be aware that the section 36 and marine licence applications for the Green Volt Offshore Windfarm were submitted to MD-LOT on 20</i></p>	<p>The Project has been engaging with Green Volt Offshore Wind Farm Limited.</p> <p>The Green Volt Offshore Farm project (offshore and onshore elements) has been included within</p>

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			<p><i>January 2023. The applicant may wish to revisit the EIA scope for the proposed project considering the proximity of both projects and that the Green Volt offshore applications have now been submitted with up-to-date project data and EIA information.</i></p> <p><i>The Green Volt offshore applications are available on the Green Volt website and on the Marine Scotland's website."</i></p>	this CEA (see Volume 3, Appendix 33.1 and Appendix 33.2 and Section 33.6).
Green Volt Offshore Wind Limited	412	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>"Following an initial review of the MarramWind Offshore Wind Farm Scoping Report, we note that the proposed project's landfall search area extends from Sandhaven on the north coast of Aberdeenshire (west of Fraserburgh) to Sandford Bay (south of Peterhead). Therefore, there is potential for overlap with the primary landfall option for the Green Volt Offshore Windfarm (St Fergus South) that may require consideration by the applicant."</i>	<p>The Green Volt Offshore Wind Farm project (onshore and offshore elements) has been included within this Chapter.</p> <p>Chapter 3: Site Selection and Consideration of Alternatives outlines the site selection taken place since Scoping.</p>
Green Volt Offshore Wind Limited	413	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>"Additionally, it is noted the MarramWind offshore cable corridors are not yet defined due to ongoing engineering studies, and therefore there is potential for the offshore cables from the proposed project to cross the Green Volt offshore export cable corridors (Buzzard and landfall)."</i>	<p>Volume 2, Figure 33.5: Offshore wind farm projects up to 510km from the Project illustrates the potential for offshore cables from the Project to cross the Green Volt offshore export cable corridors.</p> <p>Section 33.6 has assessed the Project with Green Volt Offshore Wind Farm.</p>
Green Volt Offshore Wind Limited	414	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<p><i>"Based on these potential interactions with Green Volt, we would anticipate that the offshore EIA for the proposed MarramWind project would consider the following: □ impacts on the offshore elements of the Green Volt Offshore Windfarm project, including:</i></p> <ul style="list-style-type: none"> <i>• windfarm site;</i> 	

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
			<ul style="list-style-type: none"> offshore export corridor between the windfarm site and the Buzzard platform complex; offshore export corridor between the offshore substation to the landfall, with two potential landfall options, including St Fergus South (north of Peterhead) primary option and the NorthConnect Parallel (south of Peterhead) secondary option; and increased vessel traffic and from the physical presence of MarramWind infrastructure that may lead to disruption or obstruction of the Green Volt activities." 	
Green Volt Offshore Wind Limited	417	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<p>"Given the potential for both the MarramWind and Green Volt projects to have a grid connection at New Deer, we would anticipate that the MarramWind onshore EIA would consider the following:</p> <ul style="list-style-type: none"> direct impacts on the onshore elements of the Green Volt, including onshore cable and substation." 	
Green Volt Offshore Wind Limited	415	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	"Green Volt has an operational target date of 2027 and should be included in any cumulative assessments."	Green Volt Offshore Wind Farm has been included within this Chapter. Volume 3, Appendix 33.1 includes the construction and operational dates that were included in Green Volt Offshore Wind Farm's EIA Report (Green Volt Limited, 2023).
Green Volt Offshore Wind Limited	416	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<p>"It is noted that the proposed MarramWind project has two options for grid connection:</p> <ul style="list-style-type: none"> a 3 Gigawatts (GW) connection in the vicinity of Peterhead; or 	<p>The Project has been engaging with Green Volt Offshore Wind Farm Limited.</p> <p>The Green Volt Offshore Farm project (offshore and onshore</p>

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			<ul style="list-style-type: none"> a 1.5GW connection in the vicinity of Peterhead, with the residual assumption of a 1.5GW connection to New Deer. <p>Green Volt has been offered a grid connection at New Deer, subject to the Holistic Network Design Follow Up Exercise confirmation. The Scoping Report for the onshore elements of the Green Volt Offshore Windfarm has been submitted to Aberdeenshire Council and is available on the Green Volt website, with submission of the onshore application and Onshore EIA Report for Green Volt planned for early summer 2023.”</p>	elements) has been included within this CEA (see Volume 3, Appendix 33.1 and Appendix 33.2 and Section 33.6).
Green Volt Offshore Wind Limited	418	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	“We would welcome ongoing engagement with the MarramWind team throughout the EIA process, and particularly on the outcomes of any cumulative impact assessment undertaken by them. The Green Volt team can be contacted at hello@greenvoltoffshorewind.com ”	
Maritime and Coastguard Agency	428	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	“The development area carries a moderate amount of traffic with several important commercial shipping routes to / from UK ports and the North Sea. Attention needs to be paid to routing, particularly in heavy weather so that vessels can continue to make safe passage without large-scale deviations. The likely cumulative and in-combination effects on shipping routes should be considered for this project. It should consider the proximity to other windfarm developments, other infrastructure, and the impact on safe navigable sea room.”	Adverse weather and vessel deviations are considered in Section 14 of the NRA (Volume 3, Appendix 15.1) with careful consideration to adverse weather routes if present.

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NatureScot	471	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>"We are broadly content with the proposed approach to cumulative assessment described in Sections 5.7.54-57. However, the Scoping Report states (Section 5.7.55) that cumulative impacts during construction and decommissioning stages are anticipated to be scoped out. We advise that this should be scoped in to assessment at this stage."</i>	As requested, the Project has further considered the potential for cumulative effects during the construction and decommissioning stages for relevant effect pathways as presented Volume 3, Appendix 33.4: Offshore and Intertidal Ornithology Cumulative Effects Assessment . In accordance with a proportional approach to EIA, the potential for a significant cumulative effect was confidently be ruled out. This is due to all effect pathways during such stages being both spatially and temporally limited, significantly limiting the potential for a cumulative effect to occur. Further for Impact C1 and C2, The Project has also committed to installation using horizontal directional drilling (HDD) (or similar trenchless technique) further reducing the potential for a cumulative effect to occur. In relation to trenchless crossings, HDD has been presented in the EIA. Whilst other trenchless methods are available, HDD is presented herein as it is likely to have the largest construction impact.
NatureScot	472	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice	<i>"Section 4.2.53 of the Scoping Report states the intention to use the CEF when available, we support this intention. The CEF is expected in April 2023, so we anticipate it will be in place for use in the EIA Report and HRA for this project."</i>	In the absence of the CEF, the NEEOG have developed an alternative approach that has been agreed by NatureScot. MarramWind using round 2 numbers published in

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		(Scottish Government, 2023b).		March 23. See Volume 3, Appendix 33.4.
MD-LOT	734	20 June 2024, Meeting.	<p><i>“MarramWind explained that Royal HaskoningDHV has prepared a baseline dataset for in-combination and cumulative ‘totals’ for six seabird species to be used in cumulative impact assessments for ornithology for use in the absence of the CEF. The Project noted that the North East and East Offshore Wind Developers Group (NEEOG) had advised that the approach had been presented to MD-LOT and NatureScot. The NEEOG have suggested that any projects submitting between now and June 2025 should join Group 1 for baseline numbers and any submitting after June 2025 should join Group 2 as the numbers will be re-evaluated. As MarramWind is planning to submit EIA Report in September 2025 by June 2025 the report will expect to be in the final stages. The Project explained that MarramWind is planning to participate in Group 1 of this cumulative impact assessment, rather than Group 2, as this would align more appropriately with the submission date for the Project and prevent delays to the programme. MD-LOT and NatureScot noted that they are not aware of the Group data concept. DE and MF advised that this should be outlined in an email and sent to MD-LOT and NatureScot for a response.”</i></p>	
NatureScot	478	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<p><i>“Can MD-LOT advise on what point in time the cumulative effect assessment should start, e.g. forward from MarramWind, or from the first offshore wind project in Scotland, or some other time?</i></p> <p><i>We defer to MD-LOT to respond to this point.”</i></p>	As per MD-LOT guidance, the offshore ‘other developments’ considered are included in paragraph 33.4.1.6.

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
NatureScot	489	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>“The approach to cumulative impacts assessment for marine mammal interests for HRA, EIA and European Protected Species licencing requirements will also require agreement in advance of submission of the application.”</i>	In the absence of the CEF, the approach for marine mammal cumulative assessment will follow the standard method using iPCoD, integrating piling schedules across projects (see Volume 3, Appendix 10.2: Population Distribution Modelling and Volume 3, Appendix 33.3).
MD-LOT	673	16 June 2023, Email.	<i>“CEF The migratory Collision Risk Modelling report and outputs are being finalised ready for publication. This will hopefully be published in the next month or so. Marine Science Scotland are working closely with UK Centre for Ecology and Hydrology to ensure this is published ASAP, however its likely to be several weeks.”</i>	
NatureScot	501	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>“We are broadly content with the impacts that are to be scoped in / out of assessment, as described in Table 5.5.12, and Sections 5.5.59-63, noting that whilst some potential impacts may be screened out, they may still contribute to cumulative impacts. There does not need to be a spatial or temporal overlap for there to be cumulative impacts.”</i>	The CEA for benthic, epibenthic and intertidal ecology is covered in Section 33.6.4 .
NatureScot	505	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>“We are broadly content with the proposed approach to cumulative assessment described in Sections 5.5.60-47. However we are concerned with the likelihood of multiple offshore export cables making landfall in the area around Peterhead, and the potential for cumulative impacts arising from construction and associated geophysical, geotechnical and environmental survey programmes. We recommend that this is assessed in the EIA Report.”</i>	The Applicant provided a position statement to MD-LOT on 19 January 2024 stating geophysical, geotechnical and environmental survey impacts to be assessed through other relevant licencing and is considered stand alone, not in this EIA Report. MD-LOT responded on 20 February 2024 stating “MD-LOT has reviewed MarramWind’s position

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				<p><i>statements in response to the Scoping Opinion and notes the approaches noted by MarramWind."</i></p> <p>Therefore, geophysical, geotechnical and environmental surveys are not assessed further in this EIA Report.</p>
NatureScot	527	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<p><i>"Changes in prey species availability More consideration is required in the EIA Report to ensure that impacts to key prey species (such as sandeel, herring, mackerel and sprat) and their habitats are considered for this development and in combination with other wind farms. As mentioned above we recognise that most EIA Reports concentrate on receptor specific impacts. However, increasingly we need to understand impacts at the ecosystem scale. Therefore, consideration across key trophic levels will enable better understanding of the consequences (positive or negative) of any potential changes in prey distribution and abundance on marine mammal (and other top predator) interests and how this may influence population level impacts. Consideration of how this loss and or disturbance may affect the recruitment of key prey (fish) species through impacts to important spawning or nursery ground habitats should also be assessed. In addition, the PrePARED (Predators and Prey Around Renewable Energy Developments)³⁷ project will also assist in the understanding of predator-prey relationships in and around offshore wind farms which started in 2022 and will run for five years."</i></p>	<p>An ecosystem-level assessment has been provided within Chapter 32: Inter-Related Effects.</p>

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
NatureScot	531	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>"We note the anticipated list of impacts likely to be scoped into cumulative assessment in Section 5.8.66. The cumulative assessment should consider the cumulative effect of key impacts such as habitat loss / change particularly in relation to diadromous fish, as well as key fish and shellfish species that contribute ecological importance as a prey resource. This may differ depending on the life stage being considered."</i>	These impacts have been assessed in Section 33.6.7 .
NatureScot	549	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>"We are content with the proposed approach to cumulative assessment described in Sections 5.3.22-23."</i>	Potential for cumulative effects on receptors sensitive to underwater noise which include: benthic, epibenthic and intertidal ecology; marine mammals; fish ecology; commercial fisheries; and socio-economics are provided in Section 33.6.4 to Section 33.6.8 and Section 33.6.21 .
Northern Lighthouse Board	551	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>"NLB also note the inclusion of Cumulative Effects (Section 7.4.23 – 25) within this Chapter, and the factors upon which other cumulative projects will be screened in or out of the assessment."</i>	The civil and military aviation CEA is provided in Section 33.6.22 .
UK Chamber of Shipping	578	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>"The Chamber would strongly agree with the MCA's ruling that the Project (once operational) could have cumulative vessel route impacts in the north to south direction and also out of the Moray Firth and their recommendation that coordination with other projects to avoid vessel deviation as much as possible would be essential."</i>	Cumulative re-routing of main commercial routes is assessed in Section 14.6 of the NRA (Volume 3, Appendix 15.1) and detailed where necessary in the cumulative risk assessment in Section 23 of the NRA (Volume 3, Appendix 15.1).

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UK Chamber of Shipping	581	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>“Figure 5.12.1 seascape, landscape and visual impact assessment (SLVIA) study area shows that Green Volt Wind Farm is shaded as pre-planning status. This is incorrect as MD-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.”</i>	The CEA has had a six-month cut-off date of including or updating any further ‘other developments’ see paragraph 33.4.1.8 . At the time of writing Green Volt Offshore Wind Farm status is consented.
UK Chamber of Shipping	584	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>“Paragraph 7.4.25 fails to include reduction in SAR [Search and Rescue] capability as an impact from the Project that has the potential to act cumulatively with impacts from other developments to contribute to cumulative effects and should be included. Furthermore under 7.4.25, whilst it is also correct that there is increased vessel to vessel collision risk resulting from cumulative displacement, it is also true that cumulative displacement from multiple developments result in potentially significant impacts to vessel’s deviation, and accordingly scheduling, environmental impact and economic / business cost basis and should be fully considered. This is especially true given the proximity of oil and gas fields adjacent to the proposed developments and their respective decommissioning schedules if relevant.”</i>	Acknowledged in the cumulative risk assessment for Shipping and Navigation (see Section 23 of Volume 3, Appendix 15.1).
Scottish Fishermen’s Federation (SFF)	616	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>“The SFF finds it absurd that on P4.17, para 4.2.56, it is proposed to narrow down the scope of cumulative impact assessment to new projects within 3 months of scoping. The SFF would contend that there is ample information to develop a worst case scenario for the entire ScotWind portfolio.”</i>	The CEA has had a six-month cut-off date of including or updating any further ‘other developments’ see paragraph 33.4.1.8 . Table 33.5 provides tiers used for screening and assessment of ‘other developments’ (offshore).

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
Salamander Offshore Wind Farm	643	12 May 2023, MD-LOT Scoping Opinion Appendix 1: Consultation Responses and Advice (Scottish Government, 2023b).	<i>“Salamander Offshore Wind Farm is working with Marram Wind through the Peterhead Developers Forum, including regarding offshore survey planning to minimise disruption to other sea users and wishes to engage in any discussions and be kept informed of your proposals so that the two projects may consider each other cumulatively through the development process.”</i>	<p>The Project has been engaging with the with Salamander Offshore Wind Farm project.</p> <p>The Salamander Offshore Wind Farm project (onshore and offshore elements) has been included within this CEA, see Volume 3, Appendix 33.1, Appendix 33.2 and Section 33.6.</p>
MD-LOT	697b	18 May 2022, Meeting.	<i>“MD-LOT queried on the timing of the EIA Report after scoping and the validity of Marine Scotland's Scoping Opinion (valid for a year once issued). If the EIA Report was to come in after that time, there might need to be some validation exercise undertaken. Marine Scotland has taken learning from previous leasing rounds that the Scoping Opinion needs to be accurate, particularly in relation to cumulative effects given the volume of project under ScotWind.”</i>	<p>It is acknowledged that MD-LOT made the following comments regarding the duration of Scoping Opinion within the Scoping Opinion: <i>“In the event that the Developer does not submit applications for a Section 36 (s.36) consent under the 1989 Act and marine licences under the 2010 Act and the 2009 Act for the Proposed Development within 12 months of the date of this Scoping Opinion, the Scottish Ministers strongly recommend that the Developer seeks further advice from them regarding the validity of the Scoping Opinion.”</i></p> <p>In January 2024, the Applicant informed MD-LOT that given uncertainty with the grid connection and project timescales, the application submission date would extend beyond 12 months from the receipt of the Scoping Opinion. MD-</p>

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
				<p>LOT noted no immediate concerns with the s.36 being submitted more than 12 months from receipt of the EIA Scoping Opinion and provided advice stating that the Applicant should ensure:</p> <ul style="list-style-type: none"> the cumulative projects considered in this EIA Report are up to date at submission; the Applicant should seek to validate their Scoping Opinion and include justification to this at application stage. <p>It is noted that MD-LOT have now removed original guidance that set out the advisory requirement to submit s.36 consent within 12 months of receipt of EIA Scoping Opinion.</p> <p>Notwithstanding this point, the Project retains the view that the project being assessed within this EIA Report has not materially changed from that considered at EIA Scoping stage.</p>
MD-LOT	855	19 September 2024, Meeting.	<p>Cumulative Project Cutoff Date</p> <p>The Project outlined that March 2025 is the Project's preferred cut-off date for assessing cumulative projects. This date is 6 months before the consent application submission date in September 2025. The Project outlined that MarramWind selected the 6-month cut-off date by comparing other ScotWind</p>	<p>The Project issued a 'Cumulative Cut-Off Technical Note' to MD-LOT to set out the rationale for a six-month cut-off date for cumulative project inclusion (see ID 908 to 912).</p>

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
			projects. MD-LOT outlined <i>“that the appropriate cut-off date is to be agreed on a project-by-project basis and as such, MarramWind should send a list of projects (via email) that are being considered for MD LOT attention. MarramWind should outline which projects are being included / excluded and why. The Project asked when this needs to be agreed by. MD-LOT explained that as soon as the Project has a list then to provide this.”</i>	
MD-LOT	908	17 July 2025, Email.	<p>The Project issued a 'Cumulative Cut-Off Technical Note' to MD-LOT to set out the rationale for a 6-month cut-off date to consider projects. The Project asked MD-LOT: Does MD-LOT agree with the Project's proposal for a 6-month cut-off date for cumulative project inclusion? If not, what adjustments or alternatives would MD-LOT propose?</p> <p><i>“MD-LOT is content with this approach. MD-LOT caveat, a number of applications are anticipated end of 2025 and 2026. Obviously, should the application submission date change MarramWind may wish to re-assess.”</i></p>	The Applicant is still intending to submit to the agreed timescales. As such all projects up until the six-month cut-off (including planning status) have been assessed in this Chapter.
MD-LOT	909	17 July 2025, Email.	<p>The Project issued a 'Cumulative Cut-Off Technical Note' to MD-LOT to set out the rationale for a 6-month cut-off date to consider projects. The Project asked MD-LOT: Is MD-LOT seeking to implement a standardised cut-off period across ScotWind projects for consistency, or will project-specific approach continue to apply?</p> <p><i>“MD-LOT is not considering this at this time and it's currently a case-by-case approach.”</i></p>	This comment is acknowledged.

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
MD-LOT	910	17 July 2025, Email.	<p>The Project issued a 'Cumulative Cut-Off Technical Note' to MD-LOT to provide the proposed offshore CEA approach. The Project asked MD-LOT: Are there any additional projects or developments beyond those presented in Appendix 1.1: MarramWind Project's 'Other Development' Long List that MD-LOT believes should be included in the Project's long list for cumulative assessment?</p> <p><i>"Given its location, MarramWind may wish to include Levenmouth Demonstration Project off the coast of Methil in Fife."</i></p>	Levenmouth Demonstration Project has now been included in the long list provided in Volume 3, Appendix 33.1 with a CEA ID of OWF-136).
MD-LOT	911	17 July 2025, Email.	<p>The Project issued a 'Cumulative Cut-Off Technical Note' to MD-LOT to provide the proposed offshore CEA approach. The Project asked MD-LOT: Does MD-LOT agree with the proposed tiered approach to screening and assessing 'other developments' for CEA as presented in Section 3.2.3? Are there specific modifications or additional consideration MD-LOT recommend for Tier 2 and Tier 3 developments?</p> <p><i>"MD-LOT agree the proposed tiered system is appropriate, on the understanding that variation applications received fall under tier 1d 'submitted applications'."</i></p>	This comment is acknowledged, and approach is followed (see).
MD-LOT	912	24 July 2025, Email.	<p>The Project issued a 'Cumulative Cut-Off Technical Note' to MD-LOT to provide the proposed offshore CEA approach. The Project asked MD-LOT: 5. Are the proposed search area extents (for example, 50km for aggregate, dredging, and disposal; 500km for offshore energy) appropriate for the scope of cumulative impact assessments? If not, what adjustments would MD-LOT suggested?</p>	Table 33.3 has reflected this guidance to include the furthest species for offshore and intertidal ornithology, which is 509km for gannet.

Stakeholder	Stakeholder issue ID	Date, document, forum	Stakeholder comment	How is this addressed in this EIA Report
			<p><i>"With regards to ornithological receptors, MD-LOT suggest the threshold for MarramWind should be governed by seabird foraging ranges and Biologically Defined Minimum Population Scale (BDMPS) regions. Foraging ranges will be greater than 500km for some species, and at sea distances should be used to determine projects within foraging range.</i></p> <p><i>Species-specific foraging ranges as per Guidance Note 3 should be used to determine connectivity in the breeding season, and the relevant BDMPS region in the non-breeding season – which would be the UK North Sea region plus channel where appropriate (as opposed to the western waters region). For the BDMPS region, any project located within the region would be considered to have connectivity with birds from that BDMPS population in the non-breeding season.</i></p> <p><i>This is consistent with NatureScot advice and recent feedback given to similar projects.</i></p> <p><i>For clarity, excluding ornithological receptors, the proposed search extents are considered appropriate."</i></p>	

33.4 Approach and methodology for the CEA (onshore and offshore)

33.4.1 Overview

33.4.1.1 This Section sets out the approach and methodology for CEA. This scope has been developed as the Project design has evolved and responds to feedback received to date as set out in **Section 33.4**.

33.4.1.2 Cumulative effects can be the following:

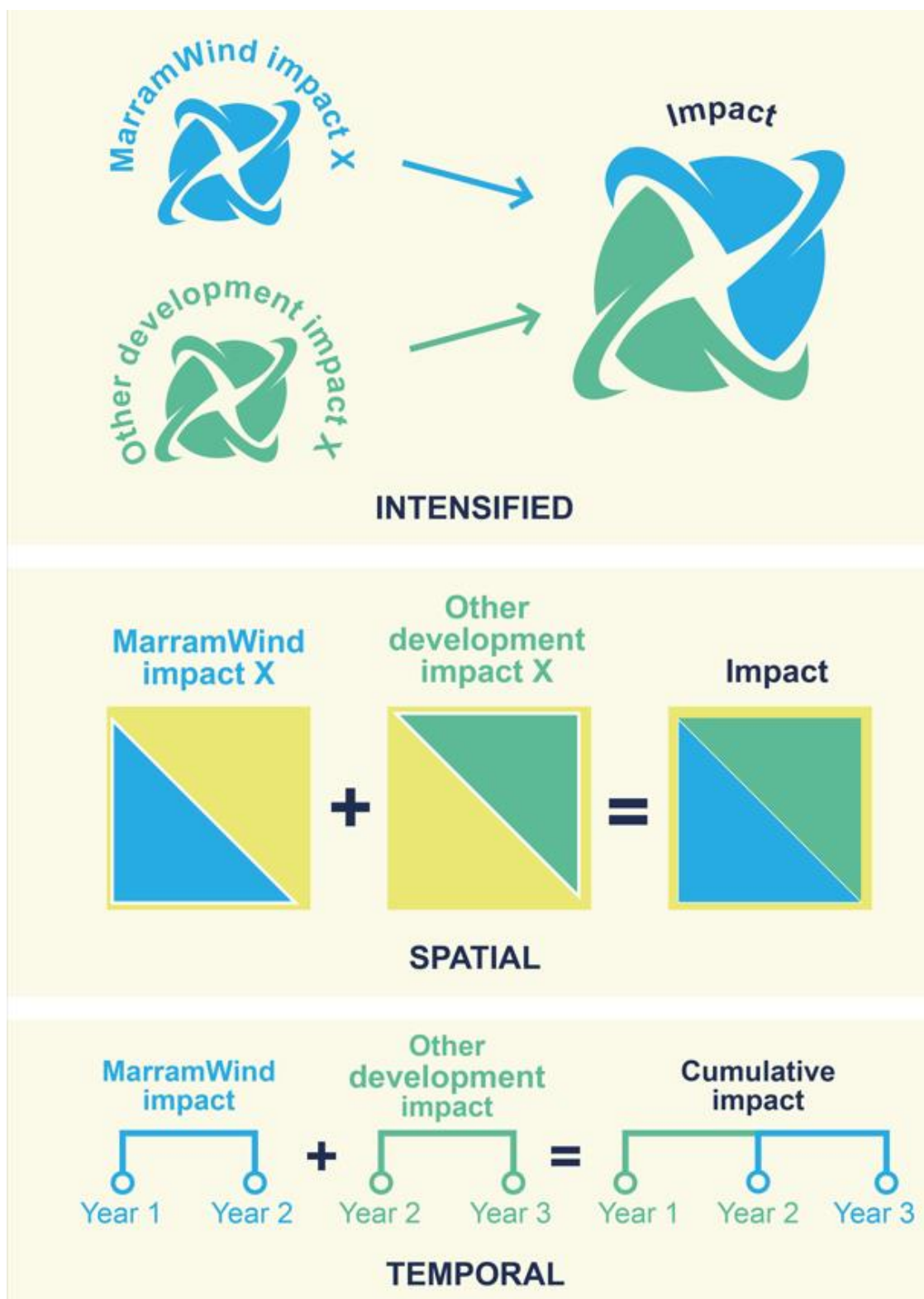
- **Inter-project cumulative effects**, which arise due to the interaction of the Project with 'other developments' and / or plans within the zone of influence (ZOI) of the Project. Cumulative effects are those that result from changes caused by other past, present or reasonably foreseeable developments and / or plans together with the Project.
- **Intra-project cumulative effects**, which occur where a single receptor is affected by more than one source of effect arising from different aspects of the Project. This is also referred to as receptor-led inter-related effects and will be covered in **Chapter 32: Inter-Related Effects**.

33.4.1.3 Impacts can occur cumulatively with 'other developments' in different ways:

- **Intensified cumulative impacts:** An environmental impact from the Project affecting a particular receptor could be intensified through its accumulation with impact(s) from another development occurring at the same time. For example, noise or air quality impacts resulting from construction traffic, along with increased traffic volumes on local roads generated from 'other developments'.
- **Spatially cumulative impacts:** An environmental impact from the Project combined with impacts from 'other developments' in the same geographic area, resulting in a greater overall effect on a particular environmental receptor. For example, habitat loss impacts from the Project could be exacerbated with habitat loss from 'other developments'.
- **Temporal cumulative impacts:** An environmental impact that is experienced over a given period can be exacerbated where it precedes or follows another similar impact. For example, prolonged noise impacts from construction of consecutive 'other developments' affecting the same community.

33.4.1.4 **Plate 33.1** illustrates the different ways impacts can occur cumulatively with 'other developments'.

Plate 33.1 Cumulative impacts with 'other developments'



‘Other developments’

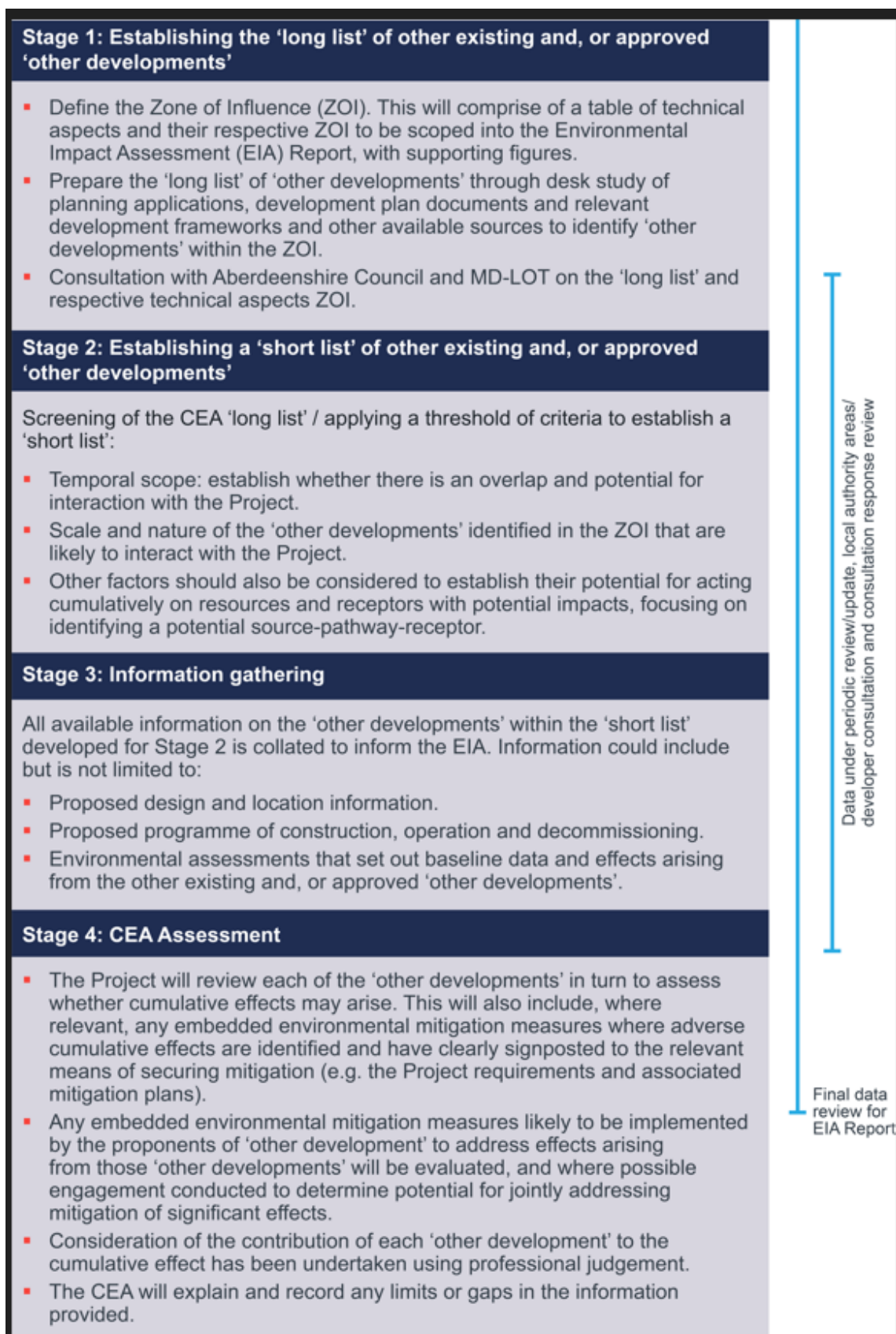
- 33.4.1.5 In accordance with the above guidance documents (see **Section 33.2**), ‘other developments’ for inclusion within the CEA are those likely to proceed or already underway within the planning system, with sufficient information available for consideration.
- 33.4.1.6 For the purposes of the CEA, the types of ‘other developments’ that are proposed for consideration include:
- operational wind farms;
 - developments that are under construction;
 - developments that have planning permission, Section 36 (s.36) consent or marine licences;
 - developments for which planning, s.36 or marine licence applications have been submitted to the relevant authority; and
 - developments that are ‘reasonably foreseeable’ (for example, projects identified in development plans, projects in other plans and programmes as may be relevant, offshore renewable energy projects that have a CES AfL or the Crown Estate AfL).
- 33.4.1.7 The CEA focuses on ‘other developments’ in proximity to the Project that may have effects on the same resources and receptors. Generally, only ‘other developments’ where an EIA is required are considered appropriate for inclusion in the CEA. This is because these developments are most likely to result in effects of a magnitude sufficient to lead to likely significant effects either on their own or in combination with the Project, and they are also most likely to have sufficient information in order to undertake a meaningful assessment. The CEA includes ‘other developments’ that may begin construction or operation or be decommissioned within the same period as the Project’s construction, O&M or decommissioning.
- 33.4.1.8 A cut-off date is not specified in any legislation or guidance; however a six-month cut-off date was agreed as being appropriate with MD-LOT and Aberdeenshire Council. As such, as part of the screening of the ‘long list’ of ‘other developments’, ‘other developments’ were reviewed monthly up until six months before the planned submission date of the Town and Country Planning (Scotland) Act 1997 planning application, s.36 consent application and marine licence applications to determine whether the ‘other developments’ should fall within the CEA and to allow adequate time for incorporation of ‘other developments’ into the assessment (see **paragraphs 33.4.2.18 to 33.4.2.20**).
- 33.4.1.9 Where there may be future baseline changes caused by ‘other developments’ that will occur over time and will be representative of the anticipated baseline at the start of each assessment stage (construction, O&M and decommissioning), these changes are considered in the future baseline.
- 33.4.1.10 The CEA considers impacts upon receptors during each stage arising from the Project alongside all past (unless incorporated within the baseline), present or reasonably foreseeable projects, programmes or plans that result in an additive effect with any element (onshore or offshore) of the Project to those impacts.
- 33.4.1.11 The CEA methodology is divided into four stages and follows the Planning Inspectorate’s NSIP: Advice on Cumulative Effects Assessment (Planning Inspectorate, 2024):
- Stage 1: establishing the long list of ‘other developments’;
 - Stage 2: establishing the short list of ‘other developments’;

- Stage 3: information gathering; and
- Stage 4: assessment.

33.4.1.12 The CEA has also been informed by the guidance documents specified in **Section 33.2**.

33.4.1.13 **Plate 33.2** outlines the CEA process.

Plate 33.2 CEA process



- 33.4.1.14 The CEA for each aspect will be detailed in **Section 33.5**. Further details on the criteria used to identify 'other developments' are included in **Section 33.5** and the 'short list' of 'other developments' considered in the assessment set out in **Section 33.5**.

33.4.2 Stage 1: Establishing the long list of 'other developments'

Approach to the 'long list'

- 33.4.2.1 The first stage of the CEA is to produce a 'long list' of other relevant projects, plans and activities ('other developments').
- 33.4.2.2 For offshore specifically, 'other developments' on the 'long list' includes those in Scotland, England and adjoining international jurisdictions and is based on publicly available information at the time of preparation.
- 33.4.2.3 A ZOI / search area is developed which enables the identification of the 'long list' of 'other developments'. Once generated, the ZOI will enable a transparent and justifiable search area for locating 'other developments' to be included in the 'long list'.

Search area / zone of Influence around the Project.

Offshore search area

- 33.4.2.4 The search areas defined in **Table 33.3** was applied in developing the 'long list' of offshore 'other developments'. It should be noted that these initial screening ranges are based on what are considered to be the maximum extents of potential impacts from those activities and are therefore considered to be highly precautionary. Impact-specific screening ranges used for individual topics may use reduced ranges depending on topic-specific criteria. The offshore search areas are shown in:
- **Volume 2, Figure 33.1: Aggregate, dredging and disposal projects up to 50km distance from the Project;**
 - **Volume 2, Figure 33.2: Cable and pipeline projects up to 50km distance from the Project;**
 - **Volume 2, Figure 33.3: Oil and gas projects up to 200km distance from the Project;**
 - **Volume 2, Figure 33.4: Carbon capture storage projects up to 510km from the Project;**
 - **Volume 2, Figure 33.5; and**
 - **Volume 2, Figure 33.6: Wave and tidal projects up to 510km from the Project.**
- 33.4.2.5 Individual aspect ZOIs are shown in **Table 33.4**.

Table 33.3 Search area extents for the offshore elements of the CEA

Offshore elements	Search area extent
Aggregate, dredging and disposal	Up to 50km from the Project OAA and offshore export cable corridor.
Cables and pipelines	Up to 50km from the Project OAA and offshore export cable corridor.
Commercial fisheries	Up to 200km from the Project OAA and offshore export cable corridor.
Oil and gas	Up to 200km from the Project OAA and offshore export cable corridor.
Military, aviation and radar	Up to 200km from the Project OAA and offshore export cable corridor.
Coastal works	Up to 200km from the Project OAA and offshore export cable corridor.
Offshore energy (including offshore wind, wave and tidal)	Up to 510km from the Project OAA and offshore export cable corridor.
Carbon capture	Up to 510km from the Project OAA and offshore export cable corridor.
Socio-economics	UK wide (which therefore excludes the Irish Republic land mass).

Onshore search area

- 33.4.2.6 The onshore search area for the development of the onshore CEA 'long list' (as agreed with Aberdeenshire Council) is based on the environmental aspect with the largest ZOI.
- 33.4.2.7 To inform the development of a 'long list', a search area of 5km from the onshore Red Line Boundary to mean high water springs has been applied based on the proposed Landscape and Visual ZOI. For the visual impact assessment, the ZOI is based on professional judgement, which aims to include those areas which are potentially affected by the Project. This judgement is based on early understanding of the local landscape character and the scale of the construction and development proposed within the Red Line Boundary (onshore), as well as a review of ZOIs used for similar projects including SSEN Netherton Hub, Muir Mhór Offshore Wind Farm, Green Volt Offshore Wind Farm, Salamander Offshore Wind Farm and SSEN's Spittal to Peterhead Substation.
- 33.4.2.8 The onshore ZOI is detailed in **Volume 2, Figure 33.7: Onshore CEA 'other developments'**. Individual aspect ZOIs are shown in **Table 33.4**.
- 33.4.2.9 The onshore ZOIs are shown in:
- **Volume 2, Figure 33.17: 'Other developments' screened into the CEA for ground conditions and contamination;**
 - **Volume 2, Figure 33.18: 'Other developments' screened into the CEA for water resources and flood risk;**

- **Volume 2, Figure 33.19: ‘Other developments’ screened into the CEA for air quality;**
- **Volume 2, Figure 33.20: ‘Other developments’ screened into the CEA for land use;**
- **Volume 2, Figure 33.21: ‘Other developments’ screened into the CEA for terrestrial ecology and ornithology;**
- **Volume 2, Figure 33.22: ‘Other developments’ screened into the CEA for onshore archaeology and cultural heritage;**
- **Volume 2, Figure 33.23: ‘Other developments’ screened into the CEA for onshore noise and vibration;**
- **Volume 2, Figure 33.24: ‘Other developments’ screened into the CEA for traffic and transport;**
- **Volume 2, Figure 33.25 a-o: ‘Other developments’ screened into the CEA for landscape and visual;**
- **Volume 2, Figure 33.27: ‘Other developments’ onshore screened into the CEA for socio-economics; and**
- **Volume 2, Figure 33.28: ‘Other developments’ onshore screened into the CEA for civil and military aviation.**

Zone of Influence

33.4.2.10 The ZOI for the offshore, onshore and whole project elements of the CEA has been determined through identification of ZOIs by each aspect, taking into consideration the areas / receptors likely to be affected by the Project (see **Table 33.4**). Effects from unplanned but predictable potential effects caused by the Project that may occur later or at a different location have also been considered.

Table 33.4 ZOI criteria for offshore, onshore and whole-project elements of the CEA

Aspect	ZOI Criteria
Marine geology, oceanography and physical processes	<p>See Volume 2, Figure 33.8: ‘Other developments’ screened into the CEA for marine geology, oceanography and physical processes which includes the following ZOIs.</p> <p>The distance away from the Project that suspended sediment plumes may be advected (and interact with potentially sensitive receptors). This has been defined by a spring tidal excursion ellipse buffer around the OAA and offshore export cable corridor.</p> <p>The distance up / down drift from the landfall that littoral processes could theoretically be impacted by offshore infrastructure associated with the Project. This has been defined through consideration of coastal sub-cell information set out in Ramsay and Brampton (2000a; 2000b); and</p> <p>The distance from the OAA that wave blockage impacts could theoretically be detected. This has been informed by expert judgement, drawing upon the evidence base from other projects and consideration of the prevailing wave directions.</p>
Marine water and sediment quality	15km.

Aspect	ZOI Criteria
	Study area (edge of buffer zone) plus an additional 15km (which is the maximum spring tidal excursion in the area).
Benthic, epibenthic and intertidal ecology	<p>15km.</p> <p>The longest-range impact is seabed disturbance and the potential transport of suspended material, so the appropriate ZOI is the distance of a tidal ellipse. This has been estimated as 15km, which is acceptable to MD-LOT according to Scoping Opinion.</p>
Marine mammals	<p>For cetacean species, the ZOI considers effects over three regional-scale marine spatial blocks defined by the Small Cetacean in European Atlantic and the North Sea (SCANS) study (Gilles <i>et al.</i>, 2023; Gilles <i>et al.</i>, 2025). These blocks are IV Blocks (CS-K, NS-E and NS-D), which overlap or has connectivity with the Project. These block boundaries are determined based on a biologically appropriate spatial scale for abundance estimates used for assessing the conservation status of cetaceans.</p> <p>For seals, the ZOI considers effects that could arise within Seal Management Areas (SMA; for example, East Scotland SMA, North Coast and Orkney SMA and Moray Firth SMA) which overlap or has connectivity with the Project.</p>
Offshore and intertidal ornithology	<p>~509km (breeding season only).</p> <p>Breeding season - Individual species Mean Maximum Foraging Ranges (MMFR) plus one Standard Deviation (SD), accounting for land barriers this species is gannet.</p> <p>Non-breeding season - The North Sea (or North Sea and English Channel, where appropriate) BDMPS defined in Furness <i>et al.</i>, 2015 unless specified otherwise with NatureScot's guidance notes (see Section 33.6.6).</p>
Fish ecology	<p>50km.</p> <p>On the basis of the longest-range impact being Temporary Threshold Shift (TTS) from underwater noise, the max ZOI is conservatively 50km around the array based on the modelling results. For the offshore export cable corridor, the longest-range impact is seabed disturbance and the potential transport of suspended material, so the appropriate ZOI is the distance of a tidal ellipse. This has been set (for benthos) as 15km, which is acceptable to MD-LOT according to Scoping Opinion.</p>
Commercial fisheries	The commercial fisheries cumulative study area has been defined as the North Sea, which is considered to be representative of the fishing grounds exploited by the fleets active across the regional study area, for all fleets except scallop dredging.
Shipping and navigation	<p>50 nautical miles (nm) (92.6km).</p> <p>50nm is standard for shipping and navigation chapters / NRAs and that has been discussed at length with stakeholders. It is a distance at which influence of two cumulative projects can significantly impact a vessel's route.</p>

Aspect	ZOI Criteria
Marine archaeology and cultural heritage	<p>5km.</p> <p>Study area of OAA and export cable route plus 5km buffer that captures recorded losses whose physical remains may actually lie within the Red Line Boundary.</p>
Infrastructure and other marine users	<p>For infrastructure and other marine users, a ZOI of 10nm (18.5km) has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The ZOI is in accordance with best practice, to account for the movement of other mobile activities in relation to oil and gas activities and infrastructure, the boundary of the Offshore Red Line Boundary plus a 1km buffer has been used to screen these 'other developments'. This buffer is based upon 500m safety zones which will be applied in relation to the Project together with 500m safety zones that are implemented around subsea pipelines and active oil and gas infrastructure. This 1km buffer has also been used to screen subsea cables and active disposal sites on the same basis.</p>
Ground conditions and contamination	<p>A 250m buffer from the Onshore Red Line Boundary is considered appropriate based upon professional experience and in relation to the potential for contaminants to migrate from the site to offsite receptors through the soil or in groundwater, or to migrate onto the site through soil or in groundwater from offsite sources.</p> <p>Geology, soils and agricultural land are geographically discrete and will typically not be substantially influenced by changes to their surroundings or vice versa, however, in relation to excavations, the hydrogeological effects of activities such as dewatering could potentially extend beyond the Onshore Red Line Boundary, and use of a 250m ZOI therefore ensures that any sensitive soil receptors beyond the Onshore Red Line Boundary such as peat soils) that may be affected are included.</p>
Air quality	<p>A maximum distance of 250m buffer from the buffer from the Onshore Red Line Boundary was used, associated with construction activities.</p>
Water resources and flood risk	<p>The assessment for water environment is bespoke and dependent on the relationship between the Onshore Red Line Boundary and waterbodies with which this interacts.</p> <p>The ZOI for the water environment assessment is defined as follows:</p> <ul style="list-style-type: none"> • areas of the surface water body (river and transitional) catchments which are intersected by the Onshore Red Line Boundary; • are along sections of watercourses which are situated downstream or downgradient of land crossed by the Onshore Red Line Boundary for instance, those areas which have a hydrological connection; and • any areas which are in the nearby vicinity (for example, 100m-250m) and upgradient of the Onshore Red Line Boundary to consider potential effects on groundwater bodies.
Land use	<p>The ZOI is defined as the Onshore Red Line Boundary with a 250m buffer. Other developments directly adjacent to the ZOI are also considered. The greatest potential for temporary or permanent direct effects will occur within the Onshore Red Line Boundary, however the ZOI ensures that potential effects on surrounding land uses are also</p>

Aspect	ZOI Criteria
	considered. The ZOI reflects that the Onshore Red Line Boundary avoids settlements, open space and land used by the community that might be directly affected or severed. Fragmentation of woodland, semi-natural land or sensitive habitats is also avoided through sensitive routing of the onshore export cable corridor and the use of HDD (or similar trenchless technique) to avoid disturbance of / change to land cover. Development on prime agricultural land (Class 1, 2 or 3 LCA grades) is also avoided. The main land use is agriculture, mainly in land of LCA class 3.2, which is common throughout the Grampian region. Changes to land use within the Onshore Red Line Boundary will therefore not substantially influence other land use receptors outside the applied ZOI either directly or indirectly.
Terrestrial ecology and ornithology	The maximum ZOI for the terrestrial ecology and ornithology assessment is defined as a 5km buffer from the Onshore Red Line Boundary for Important Ecological Features.
Onshore archaeology and cultural heritage	2km buffer from the Onshore Red Line Boundary. This is the maximum distance at which the Project will appear with sufficient prominence in the settings of heritage assets in this specific historic landscape context to give rise to a significant adverse effect and therefore, the extent to which cumulative indirect effects may arise.
Noise and vibration	The ZOI for the onshore noise and vibration assessment is defined as follows: <ul style="list-style-type: none"> • 1km ZOI from the Onshore Red Line Boundary for noise arising from construction activities; • 100m ZOI from the Onshore Red Line Boundary for vibration arising from any piling or compaction activities; and • 2km ZOI from the onshore substation site for operational noise.
Traffic and transport	1km buffer from the Onshore Red Line Boundary.
Landscape and visual	5km ZOI from the Onshore Red Line Boundary. For the visual impact assessment, the ZOI is based on professional judgement which aims to include those areas which are potentially and likely to be significantly affected by the Project. This judgement is based on early understanding of the local landscape character and the scale of the construction and development proposed within the Onshore Red Line Boundary) as well as a review of ZOI used for similar projects including SSEN Netherton Hub, Muir Mhòr Offshore Wind Farm and Spittal to Peterhead substation.
Socio-economics	Offshore projects: A number of the socio-economic effects have wide ZOIs (for example, national). In line with advice from the Marine Assessment Unit, the ZOI has considered 'hotspots' that may occur at points in the supply chain very distant from the final position of the wind farm. The ZOI used effectively corresponds to Scotland, within which all cumulative socio-economic effects are expected to occur. Onshore: For the socio-economic assessment, the ZOI includes for 'other developments' within the construction, O&M and decommissioning stages. The ZOI for the selection of 'other developments' onshore extends 5km around the Onshore Red Line Boundary. 'Other developments' onshore are understood and assessed as a collective group relevant for the purposes of the socio-economic cumulative effects assessment. The

Aspect	ZOI Criteria
	ZOI for cumulative socio-economic effects covers the electoral wards for each port as outlined in Chapter 4: Project Description , Scotland (for industrial and supply chain effects); and the UK more widely.
Military and civil aviation	Offshore projects: 100km ZOI around OAA. Onshore projects: 3km ZOI around Onshore Red Line Boundary.

Screening by the level of certainty of 'other developments'

- 33.4.2.11 In progressing the CEA, the assessment process considers that some developments proposed by developers may not be consented or built out as described. Therefore, it is necessary to account for the certainty or uncertainty of potential impacts from these unconsented projects. For example, a comparison with regards to certainty of effects can be made between those projects that are under construction and those proposals not yet approved where there is, in this second example, much less certainty about the scale of an impact. This is because some proposals may not achieve approval, may be built out at a scale less than the maximum described in the Scoping Report or EIA Report, or may not be built at all due to other factors.
- 33.4.2.12 To account for this in the in-combination assessments, all projects considered alongside the Project will be allocated into 'tiers' reflecting their current stage within the planning and development process (see **Table 33.5** and **Table 33.6**). This allows the CEA to present several future development scenarios, each with a differing potential for being ultimately built out. This approach also allows appropriate weight to be given to each scenario (tier) when considering the potential in-combination impact. The proposed tier structure is intended to ensure that there is a clear understanding of the level of confidence in the CEA.
- 33.4.2.13 For the purposes of developing a 'long list' for the CEA, the types of 'other developments' that are proposed for consideration in the search area include the following identified in **Table 33.5** in relation to offshore and **Table 33.6** in relation to onshore, with criteria used to indicate the level of certainty that can be assigned to each 'other development', from Tier 1 (most certain) to Tier 3 (least certain).
- 33.4.2.14 The tiering structure used for screening and assessment of 'other developments' (see **Table 33.5** (offshore) and **Table 33.6** (onshore)) is in accordance with the Planning Inspectorate advice (Planning Inspectorate, 2024) and advice from MD-LOT (see **Table 33.2**, Stakeholder Issue ID: 749).
- 33.4.2.15 Where other existing and / or approved developments are expected to be completed before construction of the Project and the effects are fully determined, effects arising from the 'other developments' are considered as part of the baseline.
- 33.4.2.16 If the effects of 'other developments' under construction are not yet fully determined, for example, the outcome of mitigation is being monitored and is not yet known, it may be appropriate to consider these in the CEA.

Table 33.5 Tiers used for screening and assessment of ‘other developments’ (offshore)

Tier	Sub-Tier	Criteria
Tier 1	Tier 1a	‘Other developments’ in operation (as per MD-LOT’s guidance see Table 33.2 , Stakeholder Issue ID: 749).
	Tier 1b	‘Other developments’ under construction.
	Tier 1c	Permitted applications, whether under the Electricity Act 1989; Marine and Coastal Access Act 2009 (between 12 and 200nm) and the Marine (Scotland) Act 2010 (between 0 and 12nm); Town and Country Planning (Scotland) Act 1997; or other regimes but not yet implemented.
	Tier 1d	Submitted applications, whether under the Electricity Act 1989; Marine and Coastal Access Act 2009 (between 12 and 200nm) and the Marine (Scotland) Act 2010 (between 0 and 12nm); Town and Country Planning (Scotland) Act 1997; or other regimes but not yet determined.
	Tier 1e	All refusals subject to appeal procedures but not yet determined.
Tier 2	N/A	‘Other developments’ where a Scoping Report has been submitted.
Tier 3	Tier 3a	‘Other developments’ where a Scoping Report has not been submitted.
	Tier 3b	‘Other developments’ identified in the relevant Development Plan (and emerging Development Plans with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited.
	Tier 3c	Identified in other plans and programmes (as appropriate) that set the framework for future development consents / approvals, where such development is reasonably likely to come forward.

Table 33.6 Tiers used for screening and assessment of ‘other developments’ (onshore)

Tier	Description
Tier 1	‘Other Developments’ under construction.
	Permitted applications, whether under the Electricity Act 1989; Marine and Coastal Access Act 2009 (between 12 and 200nm) and the Marine (Scotland) Act 2010 (between 0 and 12nm); Town and Country Planning (Scotland) Act 1997; or other regimes but not yet implemented.
	Submitted applications, whether under the Electricity Act 1989; Marine and Coastal Access Act 2009 (between 12 and 200nm) and the Marine (Scotland) Act 2010 (between 0 and 12nm); Town and Country Planning (Scotland) Act 1997; or other regimes but not yet determined.
	All refusals subject to appeal procedures but not yet determined.
Tier 2	‘Other developments’ where a Scoping Report has been submitted.
Tier 3	‘Other developments’ where a Scoping Report has not been submitted.
	‘Other developments’ identified in the relevant Development Plan (and emerging Development Plans with appropriate weight being given as they move closer to adoption) recognising that much information on any relevant proposals will be limited.
	Identified in other plans and programmes (as appropriate) that set the framework for future development consents / approvals, where such development is reasonably likely to come forward.

Screening for ‘Major’ infrastructure developments or ‘National’ projects for onshore ‘other developments’

33.4.2.17 The onshore ‘long list’ also considers the scale of the onshore ‘other developments’, and the potential produce cumulative effects with the Project, consequently the initial screening exercise of the ‘other developments’ collated for the ‘long list’ is also informed by the following criteria based on the definition of ‘Major’ infrastructure developments or ‘National’ projects as stated in the Scottish Government’s Hierarchy of Developments (Scottish Government, 2009).

- **Schedule 1 development** to the EIA Assessment (Scotland) Regulations 2017;
- **housing development of >50 dwellings** or if site is or **exceeds two hectares (ha)**;
- **business and industry, storage and distribution** (use classes 4 to 6) where the gross floor space of the building or structure is or **exceed 10,000 square metres**, or if the site is or **exceeds 2ha**;
- **electricity generation projects** where the capacity of the generating station (including renewables) is or **exceed 20 megawatts (MW)** (turbines, hydro scheme, etc);
- **waste management facilities** (waste management or disposal where the capacity of the facility is or **exceed 25,000 tonnes a year**, or in the case of sludge treatment more than 50 tonnes (wet weight) per day of residual sludge;

- **transport and infrastructure projects** where the length of the new or replacement road, railway, tramway, waterway, aqueduct or pipeline **exceeds 8km**;
- **fish farming projects** where the surface area of water covered is or **exceeds 2ha**;
- **extraction of minerals** where the area of the site is or **exceeds 2ha**;
- **other development** where the gross floor space of any building, **structure or erection is or exceeds 5,000 square metres** or the **area of the site is or exceeds 2ha**; and
- 'national' developments listed in the NPF4 (Scottish Government, 2023).

Timescales for the completion of the 'long list'

- 33.4.2.18 The Project has identified **June 2025** as its cut-off date for the completion of the 'long list'. This date is selected to occur six months prior to the Application submission (December 2025).
- 33.4.2.19 MD-LOT confirmed via email on 17 July 2025 that a six-month cut-off date before the application submission was acceptable for agreeing with MD-LOT the 'long list' or 'other developments' for inclusion in the CEA (see Stakeholder Issue ID 908 and 909 in for further detail). Following agreement with MD-LOT on the 'other developments' for inclusion in the CEA, no further 'other developments' will be considered in this EIA Report. MD-LOT confirmed agreement to the proposed 'long list' with on additional 'other development' to be included on 17 July 2025 (see Stakeholder Issue ID 910 in **Table 33.2** for further detail).
- 33.4.2.20 Aberdeenshire Council confirmed in a Project update meeting on the 9 December 2024 that a six-month cut-off date before the application submission was acceptable for agreeing with Aberdeenshire Council the 'long list' or 'other developments' for inclusion in the CEA. It was agreed that the Applicant at this stage would issue a 'long list' of 'other developments' to be included in the EIA CEA for Aberdeenshire Council to review. Following agreement with Aberdeenshire Council on the 'other developments' for inclusion in the CEA, no further 'other developments' will be considered in this EIA Report. Aberdeenshire Council subsequently confirmed agreement to the proposed 'long list' on the 1 July 2025.

33.4.3 Stage 2: Establishing a 'short list' of 'other developments'

- 33.4.3.1 After Stage 1, threshold criteria are applied to the 'long list'. These criteria are used to establish a shortlist of 'other 'developments' to be included in the CEA for each offshore, onshore and whole aspect.

Offshore – establishing a 'short list'

Screening of offshore 'short list' - interactions

- 33.4.3.2 Following creation of the 'long list', all 'other developments' are screened based on the potential for interaction with the Project, either temporal, spatial, or potential (for instance, identifying a potential source-pathway-receptor (see **paragraph 33.4.1.3**); and on the level of detail available (tiered approach). This screening produces EIA aspect-specific 'short lists' of 'other developments', which are considered further within this Chapter.
- 33.4.3.3 The following criteria were applied to the screening of the 'long list' for 'other developments':
- Screened into the CEA:

- ▶ ‘other developments’ that are considered as part of the baseline but the effects of which are not fully determined in the marine environment (in line with **paragraphs 33.4.1.5 to 33.4.1.7**); and / or
- ▶ where there is a potential for a cumulative impact to occur (based upon available information and professional judgement).
- Screened out of the CEA:
 - ▶ ‘other developments’ that are considered as part of the baseline environment;
 - ▶ where there is low data confidence (therefore a meaningful assessment cannot be undertaken);
 - ▶ where no potential impact-receptor-pathway exists (see **Table 33.7**);
 - ▶ where there is no potential for a spatial effect interaction (see **Table 33.7**); or
 - ▶ where there is no potential for a temporal effect interaction (see **Table 33.7**).

33.4.3.4 These criteria ensure a clear justification for screening ‘other developments’ in or out. Further details on the ‘other developments’ screening criteria are given in **Table 33.7**.

Table 33.7 ‘Other developments’ specific screening criteria

Term	Criteria
Potential impact-receptor pathway	There is the potential that a pathway exists whereby an impact could have an effect on a receptor. For example, increases to suspended sediment concentration could have a pathway for effect on fish and shellfish receptors. By contrast however, there is no pathway for underwater noise to have an effect on aviation and radar receptors.
Spatial effect interaction	The impacts on a receptor from the Project and one or more other plans / projects have a geographical overlap. For example, underwater noise contours from piling at the Project's offshore substation(s) could overlap with those of another offshore wind farm project, if it is sufficiently close to the Project. If there is no spatial interaction, there is no potential for a cumulative effect.
Temporal effect interaction	The impacts from the Project and one or more other plans / projects have the potential to occur at the same time. If there is no temporal interaction, there is no potential cumulative effect.
Reasonably foreseeable	Projects identified in development plans; projects in other plans and programmes as may be relevant, offshore renewable energy projects that have The Crown Estate AfL / CES AfL, offshore renewable projects that have been scoped as potential projects.

Aspect specific screening list - impact ranges

- 33.4.3.5 The screened ‘long list’ identifies all the ‘other developments’ that might give rise to cumulative effects when considered alongside the potential impacts arising from the Project but does not detail the differences in impact ranges for different environmental receptors.
- 33.4.3.6 In order to focus the aspect-specific CEAs presented in this Chapter, the screened ‘long list’ is subject to further aspect-specific screening to identify those relevant ‘other developments’ within the ZOIs of the Project for each aspect (see **Section 33.5**). The aspect-specific

screening distances used to refine the screened 'long list' into aspect specific 'short list' (along with justifications for the distances used) are provided in **Table 33.4**.

- 33.4.3.7 Only where there is the potential for both spatial and temporal interaction between effects arising from the Project and from one or more of the 'other developments' identified, is a cumulative impact be taken forward for consideration in the CEA. The screening process for the 'long list' of 'other developments' provides a record of those screened in or out for further consideration within the CEA on the basis of one or more of these criteria.
- 33.4.3.8 Professional judgement has been used to supplement the threshold criteria and to avoid excluding other existing and, or approved development that is:
- below the threshold criteria limits but has characteristics likely to give rise to a significant effect, or
 - below the threshold criteria limits but could give rise to a cumulative effect by virtue of its proximity to the Project.
- 33.4.3.9 Professional judgement has been applied to support the exclusion of 'other developments' existing and / or approved that exceeds the thresholds but may not give rise to tangible effects. All the 'other developments' existing and / or approved considered are detailed in **Volume 3, Appendix 33.1** with the reasons for inclusion or exclusion clearly stated (for example temporal, scale or environmental information).
- 33.4.3.10 Where 'other developments' have potential to produce significant cumulative effects, the Applicant has proceeded to information gathering at Stage 3 (see **Volume 3, Appendix 33.1**).

Onshore – establishing a 'short list'

- 33.4.3.11 As previously described, a cut-off date for establishing the onshore 'short list' of 'other developments' was agreed with Aberdeenshire Council as six months before Application submission. The status of a number of Tier 1 'other developments' changed shortly after the agreed cut-off date, and consequently these 'other developments' have also been included in the 'short list':
- ON-001 SSEN Netherton Hub (now consented); and
 - ON-026 Installation of Battery Energy Storage System (BESS) with an installed capacity of 180MW and associated infrastructure (Salamander project) (now decided – no objection).

Onshore technical aspect ZOIs

- 33.4.3.12 Following Stage 1, the 'long list' was reviewed by each onshore technical aspect in relation to their aspect specific ZOIs, to identify the 'other developments' that have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the ZOI for each onshore technical aspect are excluded and not carried forward within their respective onshore aspect assessment.

Temporal scope

- 33.4.3.13 The relative construction, O&M and decommissioning programmes of the 'other developments' identified within the ZOI together with the Project's indicative programme are reviewed to establish whether there is a temporal overlap and therefore any potential for interaction.

Scale and nature of development

- 33.4.3.14 The scale and nature of the 'other developments' identified in the ZOI that are likely to interact with the Project are reviewed.

Other factors

- 33.4.3.15 This includes consideration of the nature and / or capacity of the receiving environment, which could make a significant cumulative effect with the 'other developments' more or less likely. For example, whether a source-pathway receptor linkage exists.

33.4.4 Stage 3: Information gathering

- 33.4.4.1 This stage requires information gathering on each of the 'other developments' shortlisted at Stage 2 to inform Stage 4. Information to inform Stage 3 includes, but is not limited to the following:

- proposed design and location information of the 'other development';
- proposed timescales of construction, O&M and decommissioning of the 'other development'; and
- environmental assessments that set out baseline data and effects arising from the 'other developments'.

33.4.5 Stage 4: Assessment

- 33.4.5.1 This final stage (Stage 4) will assess the cumulative effects of the Project with 'other developments' identified in Stages 1 to 3 within this EIA Report.
- 33.4.5.2 As part of each aspect's assessment, a review is undertaken of each of the 'other developments' in turn to assess whether cumulative effects may arise. This also includes, where relevant, a review of any negative cumulative effects that have been identified and signposts to the relevant means by which required mitigation will be secured (for example, implementation plans).
- 33.4.5.3 In developing potential environmental measures that may be required of the Project in relation to cumulative effects, appropriate consideration of measures likely to be implemented by the proponents of 'other developments' to address effects arising from those developments has been undertaken to ascertain the contribution of each development to the effect (using professional judgement).

Data limitations

- 33.4.5.4 The main challenges in undertaking CEA relate to the type and level of publicly available information upon which an assessment can be based. There is generally reduced availability of relevant information on 'other developments' in the early stages of the consenting process (for example EIA Scoping). Uncertainty can remain however, even at advanced stages of the consenting process with the use of broad design envelopes, ongoing design evolution, and supply chains driving later design changes.
- 33.4.5.5 In addition, there is typically variability between the level of data available between projects. This creates a further degree of uncertainty where the Project is assessed against different 'other developments' for any given impact pathway as the conclusions drawn may not be directly comparable between assessments.

- 33.4.5.6 For 'other developments' where there is not enough information publicly available, as set out in **Section 33.4.4**, to enable cumulative effects assessment, the shortlisted 'other developments' have not been taken forward to Stage 4: Assessment. Where this is the case, this is explained in the assessments presented in **Sections 33.6.1 to 33.6.22**.

33.5 Cumulative Effects Assessment – Stage 1 and Stage 2

- 33.5.1.1 **Volume 3, Appendix 33.1** provides the 'short list' of 'other developments' from an offshore perspective and **Volume 3, Appendix 33.2** provide the 'short list' of 'other developments' from an onshore perspective.
- 33.5.1.2 The following figures illustrate all projects considered within the offshore long list:
- **Volume 2, Figure 33.1;**
 - **Volume 2, Figure 33.2;**
 - **Volume 2, Figure 33.3;**
 - **Volume 2, Figure 33.4;**
 - **Volume 2, Figure 33.5;** and
 - **Volume 2, Figure 33.6.**
- 33.5.1.3 The following figure illustrates all projects considered within the onshore 'long list':
- **Volume 2, Figure 33.7.**

33.6 Cumulative Effects Assessment – Stage 3 and Stage 4

33.6.1 Overview

- 33.6.1.1 The following sections provide the CEA, which examines the combined impact of the Project in-combination with 'other developments' on the same single receptor or resource and the contribution of the Project to those impacts. The overall method followed in identifying and assessment of cumulative effects is set out in **Section 33.4**.
- 33.6.1.2 If the aspect-specific approach has deviated from the overall methodology in any way, details of the approach are provided within the aspect-specific section.

33.6.2 Marine geology, oceanography and physical processes cumulative effects assessment

- 33.6.2.1 For marine geology, oceanography and physical processes a ZOI has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The ZOI is not based on a fixed buffer distance from the Project since physical processes vary spatially across the study area, and different construction, O&M and decommissioning activities associated with the Project also have different spatial footprints. Instead, the ZOI has been determined through consideration of the following parameters:
- the distance away from the Project that suspended sediment plumes may be advected (and interact with potentially sensitive receptors). This has been defined by a spring tidal excursion ellipse buffer around the OAA and offshore export cable corridor;
 - the distance up / down drift from the landfall, that littoral processes could theoretically be impacted by offshore infrastructure associated with the Project. This has been

defined through consideration of coastal sub-cell information set out in Ramsay and Brampton (2000a; 2000b); and

- the distance from the OAA that wave blockage impacts could theoretically be detected. This has been informed by expert judgement, drawing upon the evidence base on other projects and consideration of the prevailing wave directions.

- 33.6.2.2 The marine geology, oceanography and physical processes ZOI is shown in **Volume 2, Figure 33.8**.
- 33.6.2.3 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.2.4 Only those 'other developments' in the 'short list' that fall within the marine geology, oceanography and physical processes ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the marine geology, oceanography and physical processes ZOI are excluded from this assessment.
- 33.6.2.5 On the basis of the above, the 'other developments' that are scoped into the marine geology, oceanography and physical processes CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.8**.
- 33.6.2.6 It is noted here that the potential for cumulative changes to marine geology, oceanography and physical processes arising from interaction between the Project and oil and gas platforms is considered to be extremely low. This is due to the highly localised nature of blockage related change arising from the oil and gas infrastructure. As such, oil and gas platforms have not been considered any further in **Table 33.8**. It is also noted that the Acorn Carbon Capture and Storage Site (CCS-003) overlaps with the ZOI. However, this project does not interact with the water column or seabed at all within the OAA or offshore export cable corridor and therefore no conceptual effect-receptor pathway exists for marine geology, oceanography and physical processes. As such, the Acorn Carbon Capture and Storage Site has been screened out of assessment.
- 33.6.2.7 Finally, no other developments have been identified that have the potential to cause cumulative change to the tidal regime or stratification and frontal systems. The foundation induced mixing described in **Volume 3, Appendix 6.1: Physical Processes Modelling** will primarily occur directly behind individual foundations, extending only a short distance downstream. Research by Miles *et. al.* (2017) into impacts of monopile foundations (acknowledging that the impacts of the floating technology proposed by the Project may vary relative to those researched) using scaled flume tank models found that while monopile foundations initially reduced flow velocity and increased turbulence in their wake, these effects largely dissipated within 8.3 pile diameters downstream. This limited spatial influence on flow and turbulence suggests that the impact of foundations on stratification will also be spatially constrained to within a maximum of no more than one spring tidal excursion ellipse from the OAA and therefore affecting only small portions of the shelf sea and minimising the likelihood of cumulative impacts with other planned offshore wind farms.
- 33.6.2.8 The CEA for marine geology, oceanography and physical processes is set out in **Table 33.8**.

Table 33.8 Cumulative effects assessment for marine geology, oceanography and physical processes

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1a / open		<p><u>Potential cumulative changes to suspended sediment concentrations, bed levels and sediment type (construction, O&M and decommissioning)</u></p> <p><i>Overview</i></p> <p>Dredge disposal occurs within a distance of one spring tidal excursion ellipse from the offshore export cable corridor and may occur during construction, O&M and decommissioning of the Project. Should offshore export cable installation be occurring at the same time as dredge disposal activities at this site, there could theoretically be the potential for cumulative changes in suspended sediment concentrations (SSC) and bed levels.</p> <p><i>Sensitivity</i></p> <p>All of the changes described in this Section are to 'pathways' as opposed to receptors and therefore sensitivity ratings have not been assigned.</p> <p><i>Magnitude</i></p> <p>The North Buchan Ness and Peterhead dredge disposal sites overlap the offshore export cable corridor, whilst a number of wind farm export cable and interconnectors either overlap with or are within a spring tidal excursion ellipse of the offshore export cable corridor (Volume 2, Figure 33.8). Accordingly, there is some potential for sediment plume interaction during construction / installation operations. However, it is noted that cable installation vessels typically request a vessel safety zone when installing or handling cables, which is anticipated to be up to 500m (see Volume 4: Safety Zone Statement). As set out in Chapter 6: Marine Geology, Oceanography and Physical Processes, at a distance of greater than 500m from the source of bed disturbance, any increases in SSC are expected to be modest (tens to low hundreds of mg/l) and fine sediment is unlikely to deposit in measurable thickness. In addition to direct communications between the vessels, this process will likely be managed via vessel management plans and official bulletins, such as Notice to Mariners. Accordingly, whilst plume interaction may still theoretically occur, the potential for much higher concentration and / or more persistent plumes than that previously described in the Project alone assessments of SSC is small. Cumulative increases in bed level could also theoretically occur, although the potential for this to occur is expected to be very low, given the expected separation distance of the vessels and the fact that seabed sediments are regularly reworked and transported by tidal currents in this region.</p>	-	N/A
OWF-040	Hywind Scotland Pilot Park			
AGG-001	North Buchan Ness			
AGG-002	Peterhead Harbour Disposal site			
Tier 1c				
OWF-032	Green Volt Offshore Wind Farm (INTOG 6)			
OWF-059	Salamander Offshore Wind Farm (INTOG 3)			
CP-001	Eastern Green Link 2 High Voltage Direct Current (HVDC) Cable and Cable Protection			
Tier 1d				
OWF-017	Cenos Offshore Wind Farm (INTOG 11)			
OWF-052	Muir Mhòr Offshore Wind Farm (Plan Option (PO) E2)			
CP-003	Spittal to Peterhead Subsea Cable link			
Tier 2				
OG-001	Central North Sea Electrification Project			
CP-002	Eastern Green Link 3			
Tier 1a		-	N/A	
OWF-002	Aberdeen (EOWDC)			
OWF-040	Hywind Scotland Pilot Park			
OWF-049	Moray East			
Tier 1c				
OWF-032	Green Volt Offshore Wind Farm (INTOG 6)			
OWF-059	Salamander Offshore Wind Farm (INTOG 3)			

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1d		<i>Magnitude</i>		
OWF-014	Buchan Offshore Wind Farm (PO NE8)	Plots showing the spatial distribution of changes to wave height for each of the baseline wave conditions as a result of Maximum design scenario foundation type, number and layout for the Project, alongside operational and planned neighbouring offshore wind farms are shown in Volume 3, Appendix 6.1 .		
OWF-015	Caledonia Offshore Wind Farm (PO NE4)			
OWF-052	Muir Mhòr Offshore Wind Farm (PO E2)			
Tier 2		Changes less than 5% of the baseline wave height would be indistinguishable from natural variability both within the sea state (difference between individual waves) and compared to normal rates of change (over timescales of one hour or less); such small differences would not be measurable in practice. Changes less than 2.5% are also less than the reasonably expected accuracy of the model and so are excluded from the colour scale.		
OWF-013	Broadshore (PO NE6)			
OWF-060	Scaraben (INTOG 2)			
OWF-064	Sinclair (INTOG 1)			
OWF-066	Stromar (PO NE3)			
Tier 3a		The modelling shows that, due to interaction with consecutive foundations, wave height progressively decreases with distance through the individual array areas measured in the direction that the waves are travelling.		
OWF-003	Aspen (INTOG 7)			
OWF-016	CampionWind (PO E2)			
		The maximum corresponding changes to wave period and wave direction are less than 0.1s and 3 degrees respectively, at all locations, in all cases.		
		For waves originating from the north, which travel through multiple array areas (MarramWind, Green Volt, Hywind Pilot Park, Flora, Buchan, Salamander, and Muir Mhòr) before reaching the Turbot Bank Nature Conservation Marine Protected Area (NCMPA), the modelling predicts a maximum wave height reduction of up to 7.5% within the designated area. This occurs only under the 50% non-exceedance sea state. For all other sea states, wave heights recover quickly with distance from the arrays, resulting in no observable cumulative change in wave height within the NCMPA (reductions remain below 5%).		
		For waves coming from the northeast, passing through multiple array areas (Buchan, Broadshore, Sinclair, Scaraben, and Caledonia, before reaching the Rosehearty to Fraserburgh Coast Site of Special Scientific Interest and Southern Trench NCMPA, the modelling predicts a maximum wave height reduction of up to 7.5% within the designated areas. This occurs only under the 50% non-exceedance sea state. For all other sea states, wave heights recover quickly with distance from the array areas, resulting in no observable cumulative change in wave height within the NCMPA (reductions remain below 5%).		
Tier 1a		<u>Potential cumulative changes to the sediment transport regime (operation)</u>	-	N/A
		<i><u>Overview</u></i>		
OWF-040	Hywind Scotland Pilot Park	Cumulative modification of existing sediment transport pathways could occur in response to changes in the wave and tidal regimes. These changes could result from the presence of (i) floating units and offshore platforms; and / or (ii) cable protection measures associated with the Project interacting with similar infrastructure from other developments. These changes could potentially occur over a range of timescales, depending on location and the specific project infrastructure that is interacting with the sediment transport regime.		
OWF-049	Moray East			
Tier 1c				
OWF-032	Green Volt Offshore Wind Farm (INTOG 6)	<i><u>Sensitivity</u></i>		
OWF-059	Salamander Offshore Wind Farm (INTOG 3)	All of the changes described in this Section are to 'pathways' as opposed to receptors and therefore sensitivity ratings have not been assigned.		
CP-001	Eastern Green Link 2 HVDC Cable and Cable Protection			
Tier 1d		<i>Magnitude</i>		
		<i>Floating units and offshore platforms</i>		
OWF-014	Buchan Offshore Wind Farm (PO NE8)	All of the other developments are not within a spring tidal excursion from the floating units and offshore platforms within the OAA. Accordingly, the potential for cumulative change in tidally driven sediment transport will be extremely low.		

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
OWF-015	Caledonia Offshore Wind Farm (PO NE4)	On the basis of the numerical wave modelling presented in Volume 3, Appendix 6.1 , it is theoretically possible that cumulative interaction between the Project and other offshore wind developments could lead to a reduction in wave heights across a wider area than for Project acting alone. However, maximum observed cumulative changes in wave height will remain the same as for the Project alone assessment, at around 15% just outside of the OAA. In these areas where changes to wave height are greatest, water depths are also relatively large (~80m MSL or more). In such water depths, a minimum wave period (approximately 10s and larger in 80m depth) is required to penetrate deeply enough to cause any water movement at the seabed. Even longer waves in conjunction with a sufficient wave height are needed to cause sufficient motion at the seabed to contribute to sediment transport. Given that very low to no sediment mobility occurs under baseline conditions within the OAA, the absolute change in magnitude of sediment transport potentially associated with a modest decrease in wave height will be extremely small and almost certainly immeasurable.		
OWF-052	Muir Mhòr Offshore Wind Farm (PO E2)			
Tier 2				
OWF-013	Broadshore (PO NE6)			
OWF-060	Scaraben (INTOG 2)			
OWF-064	Sinclair (INTOG 1)			
OWF-066	Stromar (PO NE3)			
Tier 3a		At a distance of a few kilometres (or more) from the OAA, any cumulative differences in wave height, period and direction are small in absolute and relative terms and (as a small additional contribution to the tidally dominated transport) could only cause an even smaller change to overall instantaneous sediment transport rates or directions. Any differences would not be measurable in practice and are easily within the range of natural variability in wave height from wave to wave, from hour to hour during the passage of a storm, and in the context of seasonal and interannual variation of wave climate. <i>Cable protection measures</i> A number of other development export cable routes either cross or are within the Project offshore export cable corridor (Volume 2, Figure 33.8). Where cables cross, protection will be used whilst it is also possible that stretches of export cable associated with the Project and other nearby developments may both be protected by rock berm. However, any changes to sediment transport processes (including scour) are expected to be highly localised (order of a few tens of metres), greatly minimising the potential for cumulative interaction. Indeed, following an initial period of sediment accumulation within rock voids, it is not expected that the presence of the cable protection measures will continuously affect patterns of onward sediment transport. It also follows that any changes on seabed morphology away from the cable protection will also be very small.		
OWF-016	CampionWind (PO E2)			
Tier 1a				
OWF-002	Aberdeen (EOWDC)			
OWF-040	Hywind Scotland Pilot Park			
OWF-049	Moray East			
Tier 1c				
OWF-032	Green Volt Offshore Wind Farm (INTOG 6)			
OWF-059	Salamander Offshore Wind Farm (INTOG 3)			
CP-001	Eastern Green Link 2 HVDC Cable and Cable Protection			
Tier 1d				
OWF-004	Avalon			
OWF-014	Buchan Offshore Wind Farm (PO NE8)			
OWF-015	Caledonia Offshore Wind Farm (PO NE4)			

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
OWF-052	Muir Mhòr Offshore Wind Farm (PO E2)	Presence of Project with (i) Salamander Offshore Wind Farm landfall infrastructure; and (ii) Green Link 2 HVDC landfall infrastructure		
Tier 2				
OWF-013	Broadshore (PO NE6)			
OWF-060	Scaraben (INTOG 2)			
OWF-064	Sinclair (INTOG 1)			
OWF-066	Stromar (PO NE3)			
Tier 3a				
OWF-003	Aspen (INTOG 7)	Although the numerical wave modelling demonstrates the potential for cumulative changes in waves with other developments, the potential for cumulative change to waves at the adjacent coastlines is considered very low (Volume 3, Appendix 6.1). <ul style="list-style-type: none">The northeast Aberdeenshire coastline is the closest coast to the Project, which is located approximately 80km to the northeast. However, with the exception of small demonstrator scale projects – namely Salamander, Flora and Hywind, no other offshore wind developments are aligned with the Project and this stretch of coastline.When waves are coming from an easterly direction, the Project is in alignment with a number of other offshore wind developments in the Moray Firth, leading to intermittent reduction in wave heights of up to 7.5% in the inner Moray Firth. However, (and as stated in the previous section), almost all of this change is not attributable to the Project but is instead due to other developments in the Moray Firth (notably Moray East, Moray West and Beatrice).		
OWF-016	CampionWind (PO E2)	On the basis of the above, it is considered that there is only very limited potential for change in either the rate or direction of longshore sediment transport at the coast, or rates of coastal erosion. Accordingly, the magnitude of cumulative impact to coastal morphology is predicted to be no greater than Minor .		
Tier 1a		<u>Potential cumulative impacts to seabed morphology (construction, O&M and decommissioning)</u>	M-106	Minor Adverse (Not Significant).
OWF-040	Hywind Scotland Pilot Park	<u>Overview</u>		
OWF-049	Moray East	The presence of floating units, offshore platforms and anchoring structures associated with the Project could potentially interact with similar infrastructure from other developments, resulting in cumulative blockage of waves, tides and sediment transport. These changes could, in turn, impact seabed morphology within designated sites located in the study area.		
Tier 1c		<u>Sensitivity</u>		
OWF-032	Green Volt Offshore Wind Farm (INTOG 6)	The Southern Trench NCMPA and Turbot Bank NCMPA are both sites of high value / importance (since they form part of Scotland’s NCMPA network). The geodiversity features of interest in the Southern Trench NCMPA are relict (subglacial tunnel valleys, moraines and scars evidencing mass movement) with no ability to recover from impact. The seabed within the Turbot Bank NCMPA is understood to be relatively immobile meaning it too is potentially sensitive to change baseline marine physical processes. Accordingly, both sites are assessed to be of high sensitivity.		
OWF-059	Salamander Offshore Wind Farm (INTOG 3)	<u>Magnitude</u>		
CP-001	Eastern Green Link 2 HVDC Cable and Cable Protection	On the basis of the discussion of potential changes to tides, waves and sediment transport set out above in this table, there are not expected to be any detectable changes to any of these parameters at the location of designated sites. Indeed, changes to tidal currents will be highly localised to the OAA and immediate surroundings, whilst the reduction in wave height is <7.5% at the locations of designated sites for all scenarios tested. Accordingly, the rate (and direction) of sediment transport at these sites will remain unaltered from baseline conditions and therefore, there will be no associated morphological change to the seabed in these areas.		
Tier 1d				
OWF-014	Buchan Offshore Wind Farm (PO NE8)			
OWF-015	Caledonia Offshore Wind Farm (PO NE4)			
OWF-052	Muir Mhòr Offshore Wind Farm (PO E2)			

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 2		Overall, the magnitude of the impact is deemed to be negligible, and the sensitivity of the receptor is considered to be high. The effect will therefore be of Minor Adverse significance, which is not significant in EIA terms.		
OWF-013	Broadshore (PO NE6)			
OWF-060	Scaraben (INTOG 2)			
OWF-064	Sinclair (INTOG 1)			
OWF-066	Stromar (PO NE3)			
Tier 3a OWF-016	CampionWind (PO E2)			

33.6.3 Marine water and sediment quality cumulative effects assessment

- 33.6.3.1 For marine water and sediment quality, to ensure a precautionary approach, a ZOI of 15km has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The ZOI has been established based on the tidal ellipse and coastal process dynamics. It reflects the areas within which suspended sediments, and contaminants, may disperse following Project-related seabed disturbance. The marine water and sediment quality ZOI is shown in **Volume 2, Figure 33.9: 'Other developments' screened into the CEA for marine water and sediment quality**.
- 33.6.3.2 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.3.3 Only those 'other developments' in the 'short list' that fall within the marine water and sediment quality ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the marine water and sediment quality ZOI are excluded from this assessment.
- 33.6.3.4 On the basis of the above, the 'other developments' that are scoped into the marine water and sediment quality CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.9**.
- 33.6.3.5 For 'other developments' where there is not enough information publicly available as set out in **paragraph 33.4.4.1**, the following shortlisted 'other developments' have not been taken forward to Stage 4.
- 33.6.3.6 The above criteria for ruling out 'other developments' applies to the following developments:
- Insufficient environmental information provided: OG-099 Golden Eagle Wellhead Platform; OG-100 St Fergus Gas Terminal; OG-137 Production (P) Jacket; OG-146 Golden Eagle PUQ Platform; OG-148 Quarters Utilities (QU) Jacket; OG-157 Wellhead (W) Oil and Gas; AGG-001 North Buchan Ness Disposal site; AGG-002 Peterhead Harbour Disposal site; and CCS-003 Acorn Carbon Capture and Storage Site.
 - No sufficient environmental information provided and no temporal overlap: AGG-006 Middle Buchan Ness Disposal site; AGG-007 Middle Buchan Ness B Disposal site; CCS-016 CS011 Carbon Capture Storage; and OW-001 Construction of Outfall Pipe, Peterhead Harbour.
- 33.6.3.7 A qualitative assessment considering the Project in combination with other reasonably foreseeable 'other developments' on marine water and sediment quality receptors has been undertaken, and noting the current status of those 'other developments' at the time of writing, and the available area and / or likely timing of implementation, additive cumulative effects are considered to be **Not Significant**, and not greater than that assessed below.
- 33.6.3.8 The CEA for marine water and sediment quality is set out in **Table 33.9**.

Table 33.9 Cumulative effects assessment for marine water and sediment quality

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1a				
OWF-040	Hywind Scotland Pilot Park	<p>Overview</p> <p>The Project's export cable corridor overlaps with the Hywind Scotland Pilot Park export cable corridor. It is expected that the construction stage of the Project will overlap temporally with the operational stage of the Hywind Scotland Pilot Park.</p> <p>Impacts</p> <p>The Hywind Scotland Pilot Park EIA assessed potential effects on marine sediment and water quality receptors during the operation and maintenance stage, arising from accidental events such as oil spills from vessels, loss of diesel associated with wind turbine generator (WTG) unit diesel systems, leakage of operational fluids from WTG units, and total loss of drilling fluid inventory from the HDD (or similar trenchless technique) borehole, and determined these effects to be of negligible to minor significance.</p> <p>Potential impact pathways relevant to cumulative assessment include the release of drilling muds and cuttings from HDD (or similar trenchless technique) at the cable landfall(s), resulting in localised increases in suspended sediment concentrations (SSC), turbidity, and potential release of sediment-bound contaminants. This has been assessed in the Chapter 7: Marine Water and Sediment Quality and was determined to be of negligible to minor significance. Consequently, the overall cumulative impact is assessed as Not Significant.</p> <p>Accidental events such as oil spills from vessels, loss of diesel associated with WTG unit diesel systems, and leakage of operational fluids from WTG units have not been included within the scope of the Project's Marine Water and Sediment Quality assessment, as the risk of occurrence and associated effects are considered to be adequately controlled through embedded environmental measures. These include the M-033 Outline Marine Pollution Contingency Plan (MPCP), M-062 Limiting Release of Drilling Muds, M-064 Limiting Potential for Leaching of Contaminants, M-121 Outline Environmental Management Plan (EMP), and M-122 Best Practice Throughout O&M Activities. Implementation of these measures ensures that the likelihood of significant accidental releases or associated effects on marine sediment and water quality is Negligible (Not Significant).</p>	M-033 M-060 M-062 M-064 M-121 M-122	No Significant cumulative effect is predicted for marine sediment and water quality receptors.
Tier 1c				
OWF-032	Green Volt – Floating Offshore Wind Farm (INTOG 6)	<p>Overview</p> <p>The Project's export cable corridor overlaps with the Green Volt Offshore Wind Farm export cable corridor(s)¹. Construction activities for the Project are anticipated to take place during the operational phase of the Green Volt development.</p> <p>Impacts</p> <p>The Green Volt Offshore Wind Farm EIA assessed potential effects on marine sediment and water quality receptors arising from seabed disturbance leading to an increase in SSC, potential mobilisation of sediment associated contamination, and consequent deterioration in water quality</p> <p>As the Green Volt Offshore Wind Farm will be in the operational stage during the construction of the Project, potential construction-stage impacts have not been considered cumulatively. The Green Volt Offshore Wind Farm EIA assessed potential effects on marine sediment and water quality receptors during the operation and maintenance phase, including potential increases in SSC and alterations to water column mixing resulting from the physical presence of turbine structures and associated changes to surface wind patterns. It determined these effects to be of negligible to minor significance.</p> <p>In addition, the EIA considered potential impacts during the decommissioning phase, such as increases in suspended SSC and temporary deterioration in water quality due to the re-suspension of sediment-bound contaminants and likewise determined these effects to be of negligible to minor significance.</p>	M-033 M-049 M-060 M-062 M-064 M-121	No Significant cumulative effect is predicted for marine sediment and water quality receptors.

¹ One option for the Green Volt Offshore Wind Farm offshore export cable corridor is to use the NorthConnect Parallel.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		Potential impact pathways relevant to cumulative assessment including mobilisation of seabed sediment into the water column, leading to increased SSC and turbidity, and the potential release of sediment-bound contaminants have been assessed in Chapter 7: Marine Water and Sediment and were determined to be of negligible to minor significance. Consequently, the overall cumulative impact is assessed as Not Significant . Water column mixing resulting from the physical presence of turbine structures and associated changes to surface wind patterns was not included within the scope of the Project's marine water and sediment quality assessment and is discussed under oceanography in Table 33.8 .		
OWF-059	Salamander (INTOG 3)	<p>Overview</p> <p>The Salamander Offshore Wind Farm overlaps the Project's export cable corridor, with construction of both developments expected to take place concurrently. As a result, overlap between their operational and decommissioning phases is also anticipated.</p> <p>Impacts</p> <p>The Salamander Offshore Wind Farm EIA assessed potential effects on marine sediment and water quality receptors during the construction and O&M stages, including remobilisation of seabed sediment resulting in increased SSC and deterioration in water quality, potential resuspension of contaminated sediments, use of drilling muds, accidental releases of pollutants and sewage waste from vessels and helicopters, and leaching of antifouling or anticorrosive coatings from subsea structures. These effects were determined to be of negligible to minor significance. Impacts during decommissioning on sediment quality, water quality, and designated WFD waterbody receptors are expected to be analogous to, or of lesser magnitude than, those identified for the construction phase.</p> <p>Potential impact pathways relevant to cumulative assessment including release of drilling muds from HDD (or similar trenchless technique) at landfall(s), leaching of toxicants from material deposited into the sea, mobilisation of seabed sediment into the water column, leading to increased SSC and turbidity, and the potential release of sediment-bound contaminants have been assessed in Chapter 7: Marine Water and Sediment and were determined to be of negligible to minor significance. Consequently, the overall cumulative impact is assessed as Not Significant.</p> <p>Accidental events such as oil spills from vessels, along with release of pollutants and sewage waste have not been included within the scope of the Project's Marine Water and Sediment Quality assessment, as the risk of occurrence and associated effects are considered to be adequately controlled through embedded environmental measures. These include the M-033 Outline Marine Pollution Contingency Plan (MPCP), M-121 Outline Environmental Management Plan (EMP), and M-122 Best Practice Throughout O&M Activities. Implementation of these measures ensures that the likelihood of significant accidental releases or associated effects on marine sediment and water quality is Negligible (Not Significant).</p>	M-033 M-060 M-062 M-064 M-121 M-122	No Significant cumulative effect is predicted for marine sediment and water quality receptors. .
CP-001	Eastern Green Link 2 HVDC Cable and Cable Protection	<p>Overview</p> <p>The landfall for the Eastern Green Link 2 HVDC Cable and Cable Protection (EGL2) project is situated approximately 4.6 km south of the Project's offshore export cable corridor. Construction of the Project is anticipated to overlap with the O&M stage of EGL2.</p> <p>Impacts</p> <p>The EGL2 Environmental Appraisal assessed potential effects on marine sediment and water quality receptors across all phases of the development. These included temporary increases in suspended sediment concentrations and associated sediment deposition leading to contaminant mobilisation and changes in turbidity, mobilisation of contaminants, changes to marine water quality resulting from the use of HDD (or similar trenchless technique) fluids, and accidental leaks or spills from vessels including loss of fuel oils. These effects were determined to be of low to negligible significance. The release of HDD (or similar trenchless technique) drilling fluid and associated particulates during the construction phase was also assessed and determined to be of negligible significance. Impacts on sediment and water quality during decommissioning are expected to be analogous to those identified for the construction phase and determined to be of negligible significance.</p> <p>The potential impact pathways relevant to cumulative assessment are mobilisation of sediment into the water column leading to increased SSC, turbidity, and elevated contaminant concentrations; resettlement of disturbed sediment with potential to alter existing sediment quality and the release of drilling muds and associated particulates from HDD (or similar trenchless technique) activities. These have been assessed in Chapter 7: Marine Water and Sediment and were determined to be of low to negligible significance. Therefore, the overall cumulative impact on marine sediment and water quality is assessed as Not Significant.</p>	M-033 M-060 M-062 M-064	No Significant cumulative effect is predicted for marine sediment and water quality receptors. .

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1d				
OWF-014	Buchan Offshore Wind Farm (PO NE8)	<p>Overview</p> <p>The Project's export cable corridor overlaps with the Buchan Offshore Wind Farm export cable corridor. It is expected that construction of the Project will overlap temporally with the construction stage of the Buchan Offshore Wind Farm and therefore there is potential for cumulative effects on marine sediment and water quality receptors within the area. As a result of this overlap, there is the potential for the Project's construction, operational and decommissioning stages to also overlap with the Buchan Offshore Wind Farm operational and decommissioning stages.</p> <p>Impacts</p> <p>The Buchan Offshore Wind Farm EIA assessed potential effects on marine sediment and water quality receptors arising from increases in suspended sediment concentrations, associated deposition, and the remobilisation of contaminated sediments during the construction, operation and maintenance, and decommissioning phases, and determined these effects to be of negligible to minor significance.</p> <p>Potential impact pathways relevant to cumulative assessment include; mobilisation of seabed sediment into the water column, resulting in increased SSC, turbidity, and potential release of sediment-bound contaminants, along with subsequent resettlement that may alter existing sediment quality. These have been assessed in Chapter 7: Marine Water and Sediment and was determined to be of negligible to minor significance. Consequently, the overall cumulative impact is assessed as Not Significant.</p>	M-033 M-060 M-064	No Significant cumulative effect is predicted for marine sediment and water quality receptors.
OWF-017	Cenos Floating Offshore Wind Farm (INTOG 11)	<p>Overview</p> <p>The Project's export cable corridor intersects with that of the Cenoss Offshore Wind Farm², creating potential spatial overlap between the two developments. Construction activities for both projects are anticipated to occur within a similar timeframe, which may result in overlap during the construction phase. Similar temporal overlap may also occur during the operational and decommissioning phases of both projects.</p> <p>Impacts</p> <p>The Cenoss Offshore Wind Farm EIA assessed potential effects on marine sediment and water quality receptors arising from potential changes to SSC, mobilisation of sediment contaminants, and the loss of drilling fluids and cuttings to the sea from the subtidal exit of HDD (or similar trenchless technique) undertaken beneath the littoral zone during the construction stage and determined these effects to be of negligible to minor significance. The EIA does not provide a separate assessment of decommissioning-phase impacts, as these are deemed to be analogous to, or of lesser magnitude than, those identified for the construction phase.</p> <p>In addition, the Cenoss EIA assessed potential effects on marine sediment and water quality receptors during the O&M stage, considering potential changes to SSC and mobilisation of sediment contaminants, and determined these effects to be of negligible to minor significance.</p> <p>Potential impact pathways relevant to cumulative assessment include increases in SSC, and associated deposition, remobilisation of contaminated sediments, and release of drilling muds from HDD (or similar trenchless technique) at landfall(s), impacting water and sediment quality. These have been assessed in Chapter 7: Marine Water and Sediment and determined to be of negligible to minor significance. Consequently, the overall cumulative impact is assessed as Not Significant.</p>	M-033 M-049 M-060 M-062 M-064 M-121	No Significant cumulative effect is predicted for marine sediment and water quality receptors.
OWF-052	Muir Mhòr Offshore Wind Farm (PO E2)	<p>Overview</p> <p>The Muir Mhòr Offshore Wind Farm offshore export cable corridor overlaps with the offshore export cable corridor of the Project. It is expected that the construction stage of the Project will overlap temporally with the operational stage of the Muir Mhòr Offshore Wind Farm.</p> <p>Impacts</p>	M-033 M-060 M-061 M-062 M-064 M-121 M-122	No Significant cumulative effect is predicted for marine sediment and water quality receptors.

² NorthConnect was acquired by CENOS Floating Wind Farm in June 2025. NorthConnect will continue to operate as a distinct entity but expectation is that the interconnector cable will be utilised for connecting CENOS to grid. Cenoss Offshore Wind Farm and the NorthConnect interconnector will only require one set of infrastructure and therefore one Marine Licence within this inshore area. This inshore section of the EICC already has consent for cable infrastructure as part of the NorthConnect EIA and associated MLAs (Cenoss Offshore Wind Farm Limited, 2025).

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>The Muir Mhòr EIA assessed potential effects on marine sediment and water quality receptors during the O&M stage, including deterioration in water quality due to sediment re-suspension, release of sediment-bound contaminants, and potential deterioration in bathing water quality and in the status of WFD coastal and/or transitional waterbodies associated with the export cable corridor and landfall, and determined these effects to be of negligible to minor significance.</p> <p>In addition, the Muir Mhòr EIA assessed potential effects on marine sediment and water quality receptors during the decommissioning stage, considering similar potential for sediment re-suspension, release of sediment-bound contaminants, and deterioration in bathing water quality and WFD coastal and/or transitional waterbodies, and likewise determined these effects to be of negligible to minor significance.</p> <p>Potential impact pathways relevant to cumulative assessment include; mobilisation of seabed sediment into the water column, resulting in increased SSC, turbidity, and contaminant concentrations, together with subsequent resettlement of disturbed material and potential leaching of contaminants or toxicants from material deposited into the marine environment. These have been assessed in Chapter 7: Marine Water and Sediment and determined to be of negligible to minor significance. Consequently, the overall cumulative impact is assessed as Not Significant.</p>		
CP-003	Spittal to Peterhead Subsea Cable link	<p>Overview</p> <p>There is no direct spatial overlap between the Project and the Spittal to Peterhead Subsea Cable Link, which is located approximately 0.5 km north of the Project's offshore export cable corridor. However, the ZOIs relating to seabed impacts may intersect. Construction of the Project is anticipated to coincide with the O&M stage of the Spittal to Peterhead Subsea Cable Link.</p> <p>Impacts</p> <p>The Spittal to Peterhead Subsea Cable Link Scoping Report does not include a dedicated Marine Sediment and Water Quality assessment, and no specific receptors for these parameters are identified. Relevant pathways are instead addressed within the Benthic Ecology and Physical Processes chapters. Temporary increases and associated deposition during seabed activities were assessed as localised and short-lived (within a few hundred metres of the cable corridor). The risk of pollution or accidental discharges (e.g. fuel, oils, hydraulic fluids) was assessed as negligible, with mitigation embedded through standard vessel pollution prevention measures consistent with international maritime regulations. The release of drilling muds from HDD (or similar trenchless technique) at landfall(s) was considered a construction-only effect, as HDD (or similar trenchless technique) activities occur solely during installation, with no such effects anticipated in later stages.</p> <p>Potential impact pathways relevant to cumulative assessment include increases in SSC and associated deposition, and remobilisation of contaminated sediments affecting water and sediment quality. These pathways have been assessed in Chapter 7: Marine Water and Sediment and were determined to be of negligible to minor significance. The risk of pollution or accidental discharges (e.g. fuel, oils, hydraulic fluids) was also assessed as negligible, with mitigation embedded through compliance with the International Convention for the Control of Ship's Ballast Water and Sediments and the IMO MARPOL Annex IV standards, as well as vessel waste management measures and advance navigational safety notifications. Adherence to these embedded measures for this Project is expected to further minimise the potential for cumulative effects.</p> <p>Consequently, these effects are considered unlikely to result in significant cumulative impacts, and the overall cumulative impact is assessed as Not Significant.</p>	M-033 M-049 M-060 M-062 M-064 M-121	No Significant cumulative effect is predicted for marine sediment and water quality receptors. .
Tier 2				
OG-001	Central North Sea Electrification Project	<p>Overview</p> <p>The Central North Sea Electrification Project is located approximately 1.89km south of the Project offshore export cable corridor. It is expected that the construction stage of the Project will overlap temporally with the start of the construction stage of the Central North Sea Electrification Project.</p> <p>Impacts</p> <p>The CNSE Scoping Report determined that there is little to no potential for the Marine Scheme to result in impacts on marine sediment or water quality during installation, O&M, or decommissioning activities. It also concluded that there is no potential for transboundary effects</p>	M-033 M-060 M-062 M-064	No Significant cumulative effect is predicted for marine sediment and water quality receptors. .

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>on water or sediment quality receptors arising from any project phase. Consequently, all potential impacts resulting from the CNSE Marine Scheme have been scoped out of further assessment.</p> <p>Potential cumulative impact pathways, including mobilisation of sediment into the water column leading to increased SSC and turbidity, mobilisation of sediment resulting in elevated contaminant concentrations, and resettlement of disturbed material with potential to alter existing sediment quality, have been assessed in Chapter 7: Marine Water and Sediment and determined to be of negligible to minor significance. Therefore, the overall cumulative impact is assessed as Not Significant.</p>		
CP-002	Eastern Green Link 3	<p>Overview</p> <p>Eastern Green Link 3 (EGL3) is located approximately 1.55km south of the Project's offshore export cable corridor. It is expected that the construction stage of the Project will overlap temporally with the construction stage and the O&M stage of Eastern Green Link 3.</p> <p>Impacts</p> <p>The EGL3 Scoping Report does not include a dedicated Marine Sediment and Water Quality assessment, and no specific receptors for these parameters are identified. Relevant pathways are instead addressed within the Benthic Ecology and Physical Processes chapters. Within these, temporary increases in SSC and associated deposition, and mobilisation of sediment-associated contaminants during construction, were assessed for the construction stage and determined to be not significant. The Scoping Report notes that effects are expected to be short-term and localised, with suspended material dispersing rapidly through tidal processes and returning to background conditions within hours of disturbance.</p> <p>Accidental releases or spills of materials or chemicals were scoped out of further assessment, as vessels operating under the project are required to comply with the International Convention for the Prevention of Pollution from Ships (MARPOL) regulations and maintain a Shipboard Oil Pollution Emergency Plan. The Scoping Report concluded that adherence to these regulations will be sufficient to minimise the risk of environmental harm from such events, and therefore no significant impacts are anticipated.</p> <p>Activities associated with the O&M stage are presented as minimal within the EGL2 Scoping report, with no measurable effects expected on marine sediment or water quality pathways. The Scoping Report indicates that, following construction, the cable will remain stable and no disturbance to seabed sediments is anticipated. Given the short duration and spatially limited extent of suspended sediment increases during construction, and the unlikelihood of overlapping activities between projects, the potential for cumulative impacts on marine sediment and water quality is considered to be negligible.</p> <p>Potential impact pathways relevant to cumulative assessment include increases in SSC and associated deposition, and remobilisation of contaminated sediments affecting water and sediment quality. These pathways have been assessed in Chapter 7: Marine Water and Sediment and were determined to be of negligible to minor significance. Consequently, these effects are considered unlikely to result in significant cumulative impacts, and the overall cumulative impact is assessed as Not Significant.</p>	M-033 M-060 M-062 M-064	No Significant cumulative effect is predicted for marine sediment and water quality receptors.
Tier 3a				
CP-004	Buchan Oil Field Electrification development	<p>Overview</p> <p>The Buchan Oil Field Electrification development is located approximately 14.1km southeast of the Project's offshore export cable corridor. It is expected that the construction stage of the Project will overlap temporally with the O&M stage of the Buchan Oil Field Electrification development.</p> <p>Impact</p> <p>The Buchan Oil Field Electrification Development is located a significant distance outside of the Project's offshore export cable corridor and OAA. As a result, direct impact pathways such as increases in SSC and associated deposition, mobilisation of sediment-bound contaminants, and seabed disturbance associated with drilling activities and discharge of drill cuttings and fluids are not expected to lead to significant cumulative effects, as these impacts are generally localised to the immediate development area and its local zone of influence and dissipate within the tidal excursion zone.</p> <p>While no publicly available environmental assessment is available for the Buchan Oil Field Electrification development, the impact pathways are considered comparable to those considered for the Project, including temporary increases in SSC and associated</p>	M-033 M-060 M-062 M-064	No Significant cumulative effect is predicted for marine sediment and water quality receptors.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>deposition, and mobilisation of sediment-associated contaminants. These effects were assessed in Chapter 7: Marine Water and Sediment as not significant, with no measurable change in SSC or sediment deposition expected beyond the tidal excursion buffer. It is thus anticipated that impacts from Buchan Oil Field Electrification development would be similarly non-significant.</p> <p>Accordingly, the potential for cumulative effects on marine sediment and water quality between the Project and the Buchan Oil Field Electrification Development is assessed as Not Significant.</p>		

33.6.4 Benthic, epibenthic and intertidal ecology cumulative effects assessment

- 33.6.4.1 For benthic, epibenthic and intertidal ecology, to ensure a precautionary approach, a ZOI of 15km has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The ZOI has been established based on the tidal ellipse and coastal process dynamics. It reflects the areas within which suspended sediments may disperse following Project-related seabed disturbance. The benthic, epibenthic and intertidal ecology ZOI is shown in **Volume 2, Figure 33.10: 'Other developments' screened into the CEA for benthic, epibenthic and intertidal ecology**.
- 33.6.4.2 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.4.3 Only those 'other developments' in the 'short list' that fall within the benthic, epibenthic and intertidal ecology ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the benthic, epibenthic and intertidal ecology ZOI are excluded from this assessment.
- 33.6.4.4 On the basis of the above, the 'other developments' that are scoped into the benthic, epibenthic and intertidal ecology CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.10**.
- 33.6.4.5 For 'other developments' where there is not enough information publicly available as set out in **paragraph 33.4.4.1**, the following shortlisted 'other developments' have not been taken forward to Stage 4.
- 33.6.4.6 The above criteria for ruling out 'other developments' applies to the following developments:
- No sufficient environmental information provided: OG-099 Golden Eagle Wellhead Platform; OG-100 St Fergus Gas Terminal; OG-137 Production (P) Jacket; OG-146 Golden Eagle PUQ Platform; OG-148 Quarters Utilities (QU) Jacket; OG-157 Wellhead (W) Oil and Gas; AGG-001 North Buchan Ness Disposal site; AGG-002 Peterhead Harbour Disposal site; and CCS-003 Acorn Carbon Capture and Storage Site.
 - No environmental information provided and no temporal overlap: AGG-006 Middle Buchan Ness Disposal site; AGG-007 Middle Buchan Ness B Disposal site; CCS-016 CS011 Carbon Capture Storage; and OW-001 Construction of Outfall Pipe – f, Peterhead Harbour.
- 33.6.4.7 A qualitative assessment considering the Project in combination with other reasonably foreseeable 'other developments' on benthic, epibenthic and intertidal ecology receptors has been undertaken, and noting the current status of those 'other developments' at the time of writing, and the available area, additive cumulative effects are considered to be **Not Significant**, and not greater than that assessed below.
- 33.6.4.8 The CEA for benthic, epibenthic and intertidal ecology is set out in **Table 33.10**.

Table 33.10 Cumulative effects assessment for benthic, epibenthic and intertidal ecology

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1a				
OWF-040	Hywind Scotland Pilot Park	<p>Overview</p> <p>The Project's export cable corridor overlaps with the Hywind Scotland Pilot Park export cable corridor. It is expected that the construction stage of the Project will overlap temporally with the operational stage of the Hywind Scotland Pilot Park.</p> <p>The Hywind Scotland Pilot Park EIA determined that there will be no significant effects to benthic receptors from direct loss of, and disturbance to seabed and intertidal habitats and communities, colonisation of infrastructure in the water column and on the seabed, protection of benthic habitats within the Pilot Park due to restricted trawling, effects of EMF and heat generated by active power cables on benthic invertebrates during the O&M stage.</p> <p>Permanent habitat loss and colonisation of infrastructure has been assessed within Chapter 10: Benthic, Epibenthic and Intertidal Ecology and were determined to also be Not Significant. The main impacts that could lead to cumulative impacts are increases in SSC and deposition and long-term habitat loss.</p> <p>Impact C2: temporary increase in suspended sediment and deposition</p> <p>The Hywind Scotland Pilot Park EIA did not assess the effects of increased suspended sediment during its O&M stage. However, the Hywind Scotland Pilot Park includes similar infrastructure to the current Project and therefore the level of sediment resuspension and deposition is anticipated to be similar. The impact of increased SSC and deposition was determined to be Not Significant for the current Project. Therefore, considering the small proportions of habitats that may be affected by any or all developments, the high level of tolerance of the habitats and species that may be affected by the Project and the predicted recovery in the short term of the habitats from this impact, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Impact O4: long term habitat loss</p> <p>The Hywind Scotland Pilot Park has the potential to impact the same habitat types as its export cable corridor overlaps with the Project's offshore export cable corridor. Once the anchors and cables have been installed and the Hywind Scotland Pilot Park enters its operational stage, there will be no further or additional direct impacts to the benthic environment. However, the physical presence of the installed infrastructure will result in a loss of habitat. The area of seabed that will be affected is 0.275km² and this area is extremely small in relation to the similar available habitat in this area of the North Sea. As a result, it was determined that the impact was not significant. This impact was also determined as Not Significant for the Project. Though this impact represents a long-term loss of habitat, the extent is highly localised and represents a negligible proportion of the wider availability of habitats around the Project. Therefore, the cumulative effect of long-term habitat loss is considered to be Not Significant.</p> <p>Furthermore, the Hywind Scotland Pilot Park has mitigation measures in place such as micro-siting of infrastructure. These, in combination with the mitigation measures proposed for the current Project further reduces the chances of significant cumulative effects.</p>	M-055	No Significant cumulative effect is anticipated.
Tier 1c				
OWF-032	Green Volt Offshore Wind Farm (INTOG 6)	<p>Overview</p> <p>The Project's export cable corridor overlaps with the Green Volt Offshore Wind Farm export cable corridor. It is expected that the construction stage of the Project will overlap temporally with the operational stage of the Green Volt Offshore Wind Farm.</p> <p>The Green Volt Offshore Wind Farm EIA determined that there will be no significant effects to benthic receptors from permanent habitat loss and introduction of hard substrate, impacts of scour on benthic communities arising from the mooring chains and anchors, EMF and potential introduction of marine Invasive Non-Native Species (INNS) during the O&M stage.</p> <p>Permanent habitat loss and creation of areas of hard substrate has also been assessed within Chapter 10: Benthic, Epibenthic and Intertidal Ecology and were determined to be Not Significant. The main impacts that could lead to cumulative impacts are increases in SSC and deposition</p>	M-055	No Significant cumulative effect is anticipated.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>and long-term habitat loss. The Green Volt Offshore Wind Farm has the potential to impact the same habitat types as the export cable corridor overlaps with the Project's offshore export cable corridor.</p> <p>Impact C2: temporary increase in suspended sediment and deposition</p> <p>The Green Volt Offshore Wind Farm EIA did not assess the effects of increased suspended sediment during its O&M stage. However, the Green Volt Offshore Wind Farm includes similar infrastructure to the current Project and therefore the level of sediment resuspension and deposition is anticipated to be similar. The impact of increased SSC and deposition was determined to be Not Significant for the current Project. Therefore, considering the small proportions of habitats that may be affected by any or all developments, the high level of tolerance of the habitats and species that may be affected by the Project and the predicted recovery in the short term of the habitats from this impact, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Impact O4: long term habitat loss</p> <p>The presence of the cable protection measures associated with the Green Volt Offshore Wind Farm will alter the benthic substrate from soft circalittoral fine mud to hard substrate. The main loss of habitat will result from the installation of the foundations of the offshore substation platform. It was determined from the Green Volt EIA that the significance of effect is minor and therefore not significant. This impact was also determined as Not Significant for the current Project. Though this impact represents a long-term loss of habitat, the extent is highly localised and represents a negligible proportion of the wider availability of habitats around the Project. Therefore, the cumulative effect of long-term habitat loss is considered to be Not Significant.</p> <p>Furthermore, the Green Volt Offshore Wind Farm has mitigation measures in place such as micro-siting of infrastructure. These, in combination with the mitigation measures proposed for the current Project further reduces the chances of significant cumulative effects.</p>		
OWF-059	Salamander Offshore Wind Farm (INTOG 3)	<p>Overview</p> <p>The Project's export cable corridor overlaps with the Salamander Offshore Wind Farm cable corridor. It is expected that the construction stage of the Project will also overlap temporally with the construction stage of the Salamander Offshore Wind Farm. It is therefore likely that the Project's operational and decommissioning stage will also overlap with the Salamander Offshore Wind Farm operational and decommissioning stages.</p> <p>The Salamander Offshore Wind Farm EIA determined that there will be no significant effects to benthic receptors from temporary habitat loss or disturbance, increased SSC and associated deposition, increased risk of introduction and spread of INNS and disturbance of contaminated sediments during construction. Furthermore, the Salamander Offshore Wind Farm EIA determined that there will be no significant effects to benthic receptors during the operational stage from long-term habitat loss, temporary habitat loss or disturbance, impact to habitats or species as a result of pollution or accidental discharge, increased risk of introduction and spread of INNS, hydrodynamic changes leading to scour around subsea infrastructure, colonisation of hard structures and impacts of cable thermal load or EMF. In addition, the Salamander Offshore Wind Farm EIA determined that there will be no significant effects to benthic receptors during the decommissioning stage from removal of artificial hard substrate.</p> <p>Many of these impacts have also been assessed within Chapter 10: Benthic, Epibenthic and Intertidal Ecology and were determined to also be Not Significant.</p> <p>The main impact that could lead to cumulative impacts include temporary habitat disturbance, long-term habitat loss and increases in SSC and deposition.</p> <p>Impact C1: temporary disturbance of seabed habitat</p> <p>The Salamander Offshore Wind Farm has the potential to impact the same habitat types as the Project as it overlaps with the Project's offshore export cable corridor. Construction activities associated with the Salamander Offshore Wind Farm will result in temporary habitat loss or disturbance of benthic habitats and species. Temporary habitat loss or disturbance will occur from the installation of the array and offshore export cables; installation of anchors, installation of the subsea hubs, placement of anchors from vessels and jack-up events, seabed levelling and boulder clearance. The effect of this impact was assessed as not being significant. This impact was also assessed as Not Significant for the current Project.</p> <p>Impact C2: temporary increase in suspended sediment and deposition</p>	M-055	No Significant cumulative effect is anticipated.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>A temporary increase in SSC is expected to arise from construction activities associated with the Salamander Offshore Wind Farm. It was determined that where sediment plume dispersal is far reaching (fines in suspension), SSC increase, and sediment deposition is likely to be negligible. In cases where sediment deposition is significant (coarse sediments) the extent is likely to be limited to within the export cable corridor and likely to persist over a limited temporal period. Construction is expected to run over an 18-month period; however, each disturbance event occurring at any one location will not be continuous during this 18-month period and will be short-term. The impact of increased SSC and associated deposition from construction activities is therefore expected to be short-term, intermittent, of localised extent and temporary. As the habitats and characterising biotopes are common and widespread throughout the wider region, increase suspended sediments and associated deposition is assessed as indiscernible. Overall, it was determined that increased suspended sediments from construction activities is not significant for the Salamander Offshore Wind Farm. This was also the case for the current Project. Therefore, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Impact O4: long term habitat loss</p> <p>The presence of infrastructure such as the subsea hubs and offshore export cables will lead to the long term loss of habitat by introducing hard substrates to a depositional environment. As the habitats and characterising biotopes are common and widespread throughout the wider region, the loss of these habitats represents a minor loss / divergence from baseline conditions. Though this impact represents a long-term loss of habitat, the extent is highly localised and represents a negligible proportion of the wider availability of habitats around the Project. Therefore, the cumulative effect of long-term habitat loss is considered to be Not Significant.</p> <p>Overall, the cumulative effects of the project will not substantially increase those occurring during the construction stage of the Project.</p>		
CP-001	Eastern Green Link 2 HVDC Cable and Cable Protection	<p>Overview</p> <p>The landfall for Eastern Green Link 2 HVDC Cable and Cable Protection is located approximately 4.64km south of the Project's offshore export cable corridor. It is expected that the construction stage of the Project will overlap temporally with the O&M stage of the Eastern Green Link 2 HVDC Cable and Cable Protection development.</p> <p>The Eastern Green Link 2 HVDC Cable and Cable Protection development is located outside of the Project's offshore export cable corridor and OAA. As a result, direct impacts in relation to temporary disturbance of seabed habitat, underwater noise and vibration, long-term habitat loss, creation of areas of hard substrate and EMF generation are not expected to lead to significant cumulative effects as these impacts are generally limited to the area within the offshore export cable corridor and OAA. Therefore, these impacts have not been considered within the cumulative assessment for benthic receptors for this development.</p> <p>Impact C2: temporary increase in suspended sediment and deposition and Impact C3: mobilisation of sediment associated contaminants.</p> <p>The Eastern Green Link 2 EIA did not assess the impacts of C2 and C3 within the O&M stage. However, this impact was assessed within the construction stage and was determined as Not Significant and so this can be anticipated to be of the same significance or lower for the O&M stage. Furthermore, it is unlikely that the impacts from both projects will be occurring simultaneously, and the short duration of increased levels of SSC and redistribution of deposited sediments mean that the potential for cumulative impact is minimised. Therefore, considering the small proportions of habitats that may be affected by any or both developments, the high level of tolerance of the habitats and species that may be affected by the Project, and the predicted recovery in the short term of the habitats and species from this impact, the cumulative effect of increased SSC and deposition is considered to be Not Significant.</p> <p>Impact C4: increased risk of introduction or spread of marine INNS.</p> <p>The Eastern Green Link 2 Non-Technical Summary did not assess the impacts of C4 within the O&M stage. However, this impact was assessed within the construction stage and was determined as Not Significant and so this can be anticipated to be of the same significance or lower for the O&M stage. Furthermore, the current Project will adhere to the implementation of an INNS Management Plan. As a result of the current Project implementing suitable mitigation measures to minimise the risk of introduction and spread of marine INNS, the cumulative effect of this impact is considered to be Not Significant.</p>	M-055 M-102	No Significant cumulative effect is anticipated.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1d				
OWF-014	Buchan Offshore Wind Farm (PO NE8)	<p>Overview</p> <p>The Project's export cable corridor overlaps with the Buchan Offshore Wind Farm export cable corridor. It is expected that construction of the Project will overlap temporally with the construction stage of the Buchan Offshore Wind Farm and therefore there is potential for cumulative effects on benthic receptors within the area. As a result of this overlap, there is the potential for the Project's operational and decommissioning stages to also overlap with the Buchan Offshore Wind Farm operational and decommissioning stages.</p> <p>The Buchan Offshore Wind Farm EIA determined that there will be no significant effects to benthic receptors from direct temporary habitat disturbance, increases in SSC and deposition, remobilisation of contaminated sediments and introduction of INNS during the construction stage. Furthermore, the Buchan Offshore Wind Farm EIA determined that there will be no significant effects to benthic receptors during the operational stage from long-term habitat loss, increases in SSC and deposition, colonisation of structures, seabed alteration arising from changes in physical processes, introduction of INNS and EMF and thermal effects of cables. In addition, the Buchan Offshore Wind Farm EIA determined that there will be no significant effects to benthic receptors during the decommissioning stage from direct temporary habitat disturbance, increases in SSC and deposition, remobilisation of contaminated sediments and the introduction of INNS.</p> <p>These impacts have been assessed within the Chapter 10: Benthic, Epibenthic and Intertidal Ecology and were determined to also be Not Significant. The main impacts which have the potential to lead to cumulative effects are temporary habitat disturbance, increases in SSC and deposition and long-term habitat loss.</p> <p>Impact C1: temporary disturbance of seabed habitat</p> <p>The Buchan Offshore Wind Farm has the potential to impact the same habitat types as its export cable corridor overlaps with the Project's offshore export cable corridor. The proportions of habitat with the potential to be impacted is expected to be equivalent to that impacted by the Project. The impact is temporary and occurs over a relatively small spatial extent and the recoverability of all receptors is considered likely in the short term. As such, no significant effect is anticipated to arise from the cumulative impact of direct temporary habitat disturbance.</p> <p>Impact C2: temporary increase in suspended sediment and deposition</p> <p>The Buchan Offshore Wind Farm includes similar infrastructure as the Project's therefore the activities that can lead to increases in SSC and deposition are likely to be the same or similar. Though there is potential for construction phases of the two projects to overlap (though uncertain), It is highly unlikely that two overlap (as an absolute but uncertain worst case), the short duration and localised extent of increased levels of SSC and redistribution of deposited sediments means that the potential for cumulative impact is minimised. Therefore, considering the small proportions of habitats that may be affected by any or all developments, the high level of tolerance of the habitats and species that may be affected by the Project and the predicted recovery in the short term of the habitats from this impact, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Impact C4: increased risk of introduction or spread of marine INNS.</p> <p>The Buchan Offshore Wind Farm EIA assessed the impacts of C4 and determined no significant effects after the implementation of a INNS Biosecurity Plan. As a result of the current Project implementing suitable mitigation measures to minimise the risk of introduction and spread of marine INNS, the cumulative effect of this impact is considered to be Not Significant.</p> <p>Impact O4: long-term habitat loss</p> <p>The Buchan Ness Offshore Wind Farm has the potential to impact the same habitat types as the Project. The proportions of habitat with the potential to be impacted by the Buchan Ness Offshore Wind Farm is <0.1% of the habitat present within the local area. Though this impact represents a long-term loss of habitat, the extent is highly localised and represents a negligible proportion of the wider availability of habitats around the Project. The proportion of habitat with the potential to be impacted by the current Project is also considered to be small (1.01% of the substrate within the offshore Project Boundary) and has been assessed as Not Significant. Therefore, the cumulative effect of long-term habitat loss is considered to be Not Significant.</p> <p>Furthermore, the Buchan Ness Offshore Wind Farm has mitigation measures in place such as micro-siting of infrastructure. These, in combination with the mitigation measures proposed for the current Project, further reduces the chances of significant cumulative effects.</p>	M-055	No Significant cumulative effect is anticipated.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
OWF-017	Cenos Offshore Wind Farm (INTOG 11)	<p>Overview The Project's export cable corridor overlaps with the Cenog Offshore Wind Farm export cable corridor. It is expected that construction of the Project will overlap temporally with the construction stage of the Cenog Offshore Wind Farm and therefore there is potential for cumulative effects on benthic receptors within the area. As a result of this overlap, there is potential for the Project's operational and decommissioning stage to overlap with the Cenog Offshore Wind Farm operational and decommissioning stages.</p> <p>The Cenog Offshore Wind Farm EIA determined that there will be no significant effects to benthic receptors from temporary impacts to the seabed and benthic habitats, potential changes to SSC and sediment deposition or introduction of INNS during the construction stage. Furthermore, the Cenog Offshore Wind Farm EIA determined that there will be no significant effects to benthic receptors during the operational stage from: temporary impacts to benthic habitats and species, long-term impacts to the seabed and benthic habitats, introduction of hard substrates in a predominantly sedimentary environment, potential changes to SSC and deposition, potential effects from EMF and heat generated by cables, heat load and introduction of INNS. In addition, the Cenog Offshore Wind Farm EIA determined that there will be no significant effects to benthic receptors during the decommissioning stage from removal of hard structures during decommissioning resulting in loss of colonised surfaces, increases in SSC and deposition, remobilisation of contaminated sediments and introduction of INNS.</p> <p>These impacts have been assessed within Chapter 10: Benthic, Epibenthic and Intertidal Ecology and were determined to also be Not Significant.</p> <p>The main impacts that could lead to cumulative impacts are temporary habitat disturbance, increases in SSC and deposition and long-term habitat loss. The Cenog Offshore Wind Farm has the potential to impact the same habitat types as its export cable corridor overlaps with the Project's offshore export cable corridor. The proportions of habitat with the potential to be impacted is expected to be equivalent to that impacted by the Project. The impact is temporary and occurs over a relatively small spatial extent, while the recoverability of all receptors is considered likely in the short term. As such, no significant effect is anticipated to arise from the cumulative impact of direct temporary habitat disturbance.</p> <p>Impact C1: temporary disturbance of seabed habitat and impact O4: long term habitat loss</p> <p>The impacts from the Cenog Offshore Wind Farm are likely to be relatively similar to those predicted for the Project as the activities resulting in disturbance of seabed habitat and long-term habitat loss will be the same or similar. The Cenog Offshore Wind Farm has the potential to impact the same habitat types as the Project's as the export cable corridor overlaps with the Cenog Offshore Wind Farm Project's offshore export cable corridor. Although impact O4 represents a long-term loss of habitat for each project, the extent is highly localised and represents a negligible proportion of the wider availability of habitats around the Project. Impact C1 is temporary and will occur over a relatively small spatial extent for each project and the recoverability of all receptors is considered likely in the short term. Therefore, the cumulative effect of temporary disturbance of seabed habitat and long-term habitat loss is considered to be Not Significant.</p> <p>Impact C2: temporary increase in suspended sediment and deposition</p> <p>The Cenog Offshore Wind Farm includes similar infrastructure as the Project; therefore, the activities that can lead to increases in SSC and deposition are likely to be the same or similar. The volumes of sediment being displaced and deposited locally are relatively limited for the Cenog Offshore Wind Farm. The Cenog Offshore Wind Farm assessment suggests that the extent and the area of deposition will be much smaller for sands and gravels and that fine material will be distributed much more widely, becoming so dispersed that it is unlikely to settle in measurable thickness locally. It was therefore concluded that the seabed footprint from sediments suspended or deposited on the seabed is highly localised and limited in duration for the Cenog Offshore Wind Farm. Similarly, this was determined as part of the assessment for the current Project. Therefore, considering the small proportions of habitats that may be affected by any or all developments, the high level of tolerance of the habitats and species that may be affected by the Project and the predicted recovery in the short term of the habitats from this impact, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Furthermore, the Cenog Offshore Wind Farm has mitigation measures in place such as micro-siting of infrastructure and mooring and anchor design to ensure reduction of habitat loss and disturbance. These, in combination with the mitigation measures proposed for the current Project further reduces the chances of significant cumulative effects.</p>	M-055	No Significant cumulative effect is anticipated.
OWF-052	Muir Mhòr Offshore Wind Farm (PO E2)	<p>Overview The Muir Mhòr Offshore Wind Farm offshore export cable corridor overlaps with the offshore export cable corridor of the Project. It is expected that the construction stage of the Project will overlap temporally with the operational stage of the Muir Mhòr Offshore Wind Farm.</p>	M-055	No Significant cumulative effect is anticipated.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>The Muir Mhòr Offshore Wind Farm EIA determined that there will be no significant effects to benthic receptors from permanent and / or long-term habitat loss / alteration due to the addition of infrastructure to the area, temporary habitat disturbance, colonisation of hard substrates, risk of introduction and / or spreading of INNS particularly due to the presence of infrastructure and vessel movement which may affect benthic ecology during the O&M stage.</p> <p>These impacts have also been assessed within Chapter 10: Benthic, Epibenthic and Intertidal Ecology and were determined to also be Not Significant. The main impacts which could lead to cumulative impacts are temporary habitat disturbance, long-term habitat loss and increases in SCC.</p> <p>Impact O4: long term habitat loss</p> <p>The Muir Mhòr Offshore Wind Farm has the potential to impact the same habitat types as the Project because Muir Mhòr Offshore Wind Farm offshore export cable corridor overlaps with the Project's offshore export cable corridor. The cable protection measures associated with the Muir Mhòr Offshore Wind Farm will lead to a change from a sedimentary habitat to one characterised by hard substrate. The cable protection measures associated with the Muir Mhòr Offshore Wind Farm will lead to a change from a sedimentary habitat to one characterised by hard substrate. While the impact will be locally significant and comprise a permanent change in seabed habitat, the footprint of the area affected is highly localised. As the habitats and characterising biotopes are common and widespread throughout the wider region, the loss of these habitats represents a minor loss / divergence from baseline conditions. The effect was therefore deemed to be Not Significant. This impact was also determined as Not Significant for the Project. Therefore, the cumulative effect of long-term habitat loss is considered to be Not Significant.</p> <p>Impact C1: temporary disturbance of seabed habitat</p> <p>Temporary subtidal habitat disturbance will arise because of the Muir Mhòr Offshore Wind Farm due to the repair and replacement activities associated with the operational stage (35 years per Project phase). This will occur from the use of jack-up vessels, vessel mooring and anchoring operations, and cable burial and repair. The effect was determined to not be significant. This is also likely to occur as part of the current Project, and this was also determined not to be significant. Due to the highly localised extent of the impact, the cumulative effect of temporary habitat disturbance is considered to be Not Significant.</p> <p>Impact C2: temporary increase in suspended sediment and deposition</p> <p>The Muir Mhòr Offshore Windfarm EIA did not assess the effects of increased suspended sediment during its O&M stage. However, the Muir Mhòr Offshore Wind Farm includes similar infrastructure to the current Project and therefore the level of sediment resuspension and deposition is anticipated to be similar. The impact of increased SSC and deposition was determined to be Not Significant for the current Project. Therefore, considering the small proportions of habitats that may be affected by any or all developments, the high level of tolerance of the habitats and species that may be affected by the Project and the predicted recovery in the short term of the habitats from this impact, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Overall, no significant effects to any benthic receptors are predicted from the Muir Mhòr Offshore Wind Farm, as detailed within the Muir Mhòr Offshore Wind Farm EIA. Overall, the effects of the cumulative project will not substantially increase those occurring during the construction stage of the Project.</p>		
CP-003	Spittal to Peterhead Subsea Cable link	<p>Overview</p> <p>The Spittal to Peterhead Subsea Cable Link is located approximately 0.5km north of the Project's offshore export cable corridor. It is expected that the construction stage of the Project will overlap temporally with the O&M stage of Spittal to Peterhead Subsea Cable Link.</p> <p>The Spittal to Peterhead Subsea Cable Link development is located outside of the Project's offshore export cable corridor and OAA. As a result, direct impacts in relation to temporary disturbance of seabed habitat, underwater noise and vibration, long-term habitat loss, creation of areas of hard substrate and EMF generation are not expected to lead to significant cumulative effects as these impacts are generally limited to the area within the offshore export cable corridor and OAA. Therefore, these impacts have not been considered within the cumulative assessment for benthic receptors for this development.</p> <p>Impact C2: temporary increase in suspended sediment and deposition and Impact C3: mobilisation of sediment associated contaminants.</p> <p>The EIA for Spittal to Peterhead Subsea Cable Link does not assess the impact of increases in SSC and mobilisation of sediment associated contaminants during its O&M stage. However, it is assessed as part of the construction stage whereby the impact was deemed as Not Significant.</p>	M-055 M-102	No Significant cumulative effect is anticipated.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>This was due to the low concentrations of suspended sediment and the rapid dispersion to background levels and limited depositional thickness. As a result, it is presumed that any disturbances to sediment during the O&M stage would also result in an insignificant effect. This impact was deemed Not Significant for the construction stage of the current Project.</p> <p>It is highly unlikely that the impacts from both projects will be occurring simultaneously, and the short duration of increased levels of SSC and redistribution of deposited sediments mean that the potential for cumulative impact is minimised. Therefore, considering the small proportions of habitats that may be affected by any or both developments, the high level of tolerance of the habitats and species that may be affected by the Project, and the predicted recovery in the short term of the habitats and species from this impact, the cumulative effect of increased SSC and deposition is considered to be Not Significant.</p> <p>Impact C4: increased risk of introduction or spread of marine INNS.</p> <p>The EIA for Spittal to Peterhead Subsea Cable Link was assessed as Not Significant. This is largely due to the provision of mitigation through incorporation of best practice measures. Measures will include adherence to International Maritime Organisation (IMO) Biofouling Guidelines (IMO, 2023) and all ballast water discharges from vessels will be managed under the International Convention for the Control and Management of Ship's Ballast Water and Sediments (IMO, 2021). Furthermore, the scheme will adhere to the production of a Marine Non-Native Species Plan. The current Project will have similar mitigation measures in place and as a result, the cumulative effect of this impact is considered to be Not Significant.</p>		
Tier 2				
OG-001	Central North Sea Electrification Project	<p>Overview</p> <p>The Central North Sea Electrification Project is located approximately 1.89km south of the Project offshore export cable corridor. It is expected that the construction stage of the Project will overlap temporally with the start of the construction stage of the Central North Sea Electrification Project.</p> <p>The Central North Sea Electrification Project development is located outside of the Project's offshore export cable corridor and OAA. As a result, direct impacts in relation to temporary disturbance of seabed habitat, underwater noise and vibration, long-term habitat loss, creation of areas of hard substrate and EMF generation are not expected to lead to significant cumulative effects as these impacts are generally limited to the area within the offshore export cable corridor and OAA. Therefore, these impacts have not been considered within the cumulative assessment for benthic receptors for this development.</p> <p>The EIA is not available for the Central North Sea Electrification Project but its Scoping Report was available and has been used to inform this section.</p> <p>Impact C2: temporary increase in suspended sediment and deposition and Impact C3: mobilisation of sediment associated contaminants.</p> <p>The Scoping Report determined that there was potential for sediment disturbance as a result of construction activities which may result in indirect impacts on benthic ecology. However, this impact was determined as Not Significant for the current Project. Furthermore, it is highly unlikely that the impacts from both projects will be occurring simultaneously, and the short duration of increased levels of SSC and redistribution of deposited sediments mean that the potential for cumulative impact is minimised. Therefore, considering the small proportions of habitats that may be affected by any or both developments, the high level of tolerance of the habitats and species that may be affected by the Project, and the predicted recovery in the short term of the habitats and species from this impact, the cumulative effect of increased SSC and deposition is considered to be Not Significant.</p> <p>Impact C4: increased risk of introduction or spread of marine INNS.</p> <p>The Scoping Report determined that there is no potential pathway for significant impacts resulting from the installation (or decommissioning) of the scheme and therefore the potential impact was scoped out. This is due to the planned provision of a Construction Environmental Management Plan (CEMP) (including an INNS Management Plan) and adherence to relevant legislation and guidance, which will ensure that all required mitigation measures are in place so that the potential for the introduction of INNS is minimised. Through these measures, the discharges of ballast waters and biofouling of vessels will be controlled. Similarly, the current Project will adhere to an Outline Offshore INNS Management Plan. As a result of both schemes implementing suitable mitigation measures to minimise the risk of introduction and spread of marine INNS, the cumulative effect of this impact is considered to be Not Significant.</p>	M-055 M-102	No Significant cumulative effect is anticipated.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
CP-002	Eastern Green Link 3	<p>Overview Eastern Green Link 3 is located approximately 1.55km south of the Project's offshore export cable corridor. It is expected that the construction stage of the Project will overlap temporally with the construction stage and the O&M stage of Eastern Green Link 3.</p> <p>The Eastern Green Link 3 development is located outside of the Project's offshore export cable corridor and OAA. As a result, direct impacts in relation to temporary disturbance of seabed habitat, underwater noise and vibration, long-term habitat loss, creation of areas of hard substrate and EMF generation are not expected to lead to significant cumulative effects as these impacts are generally limited to the area within the offshore export cable corridor and OAA. Therefore, these impacts have not been considered within the cumulative assessment for benthic receptors for this development.</p> <p>Impact C2: temporary increase in suspended sediment and deposition and Impact C3: mobilisation of sediment associated contaminants. The effects from the impact of increased SSC and subsequent deposition and from the mobilisation of sediment associated contaminants were assessed to be Not Significant for the Project. The EIA assessment determined that beyond 250m to the tidal excursion buffer distance is a zone of lesser (in comparison to less than 250m) but measurable SSC increase and no measurable deposition. Suspended material comprises mainly fines that are maintained in suspension for more than one tidal cycle and are advected by ambient tidal currents. Within 6 to 24 hours of the end of active disturbance, SSC decreases gradually through dispersion to background SSC and fine sediment is unlikely to deposit in measurable thickness.</p> <p>The Scoping Report for the Eastern Green Link 3 development states that if the cable is installed correctly, the likelihood of it requiring maintenance and repair is significantly reduced. However, there remains the potential that localised repair works may be required.</p> <p>The activities associated with the O&M stage of the Eastern Green Link 3 development are anticipated to be similar to those associated with the O&M stage of the Project. Based on this, the impacts in relation to an increase in SSC and mobilisation of sediment associated contaminants associated with the operation stage of the Project is expected to be lower than that of the construction stage of the Project. This is therefore anticipated to be similar for the Eastern Green Link 3 development.</p> <p>It is highly unlikely that the impacts from both projects will be occurring simultaneously, and the short duration of increased levels of SSC and redistribution of deposited sediments mean that the potential for cumulative impact is minimised. Therefore, considering the small proportions of habitats that may be affected by any or both developments, the high level of tolerance of the habitats and species that may be affected by the Project, and the predicted recovery in the short term of the habitats and species from this impact, the cumulative effect of increased SSC and deposition is considered to be Not Significant.</p> <p>Impact C4: increased risk of introduction or spread of marine INNS. The effects from the impact of an increased risk of introduction or spread of marine INNS were assessed to be Not Significant for the Project after the implementation of embedded environmental measure M-102: Outline Offshore INNS Management Plan.</p> <p>The Scoping Report for the Eastern Green Link 3 development states that the project vessels and contractors will comply with the International Convention for the Control and Management of Ship's ballast water and sediments. All seabed deposits will be inert with no biologically active materials. Furthermore, project vessels will complete a biosecurity risk assessment prior to arriving onsite which will include factors such as origins of the vessels and ensuring that relevant equipment is cleaned before use. As a result, the impact associated with the introduction of spread of marine INNS was scoped out for the operation stage.</p> <p>It is expected that the Eastern Green Link 3 development will have similar mitigation in place and as such the potential risk of INNS will be reduced to as low as reasonably practical.</p> <p>Overall, due to the distance of the development from the Project offshore export cable corridor and the implementation of embedded mitigation, no significant cumulative impacts are anticipated on benthic ecology receptors.</p>	M-055 M-102	No Significant cumulative effect is anticipated.
Tier 3a				
CP-004	Buchan Oil Field Electrification	<p>Overview The Buchan Oil Field Electrification development is located approximately 14.1km southeast of the Project's offshore export cable corridor. It is expected that the construction stage of the Project will overlap temporally with the O&M stage of the Buchan Oil Field Electrification development.</p> <p>The Buccan Oil Field Electrification development is located a significant distance beyond the Project's Offshore Red Line Boundary. As a result, direct impacts in relation to temporary disturbance of seabed habitat, underwater noise and vibration, long-term habitat loss, creation of areas of hard</p>	M-055 M-102	No Significant cumulative effect is anticipated.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>substrate and EMF generation are not expected to lead to significant cumulative effects as these impacts are generally limited to the area within the offshore export cable corridor and OAA. Therefore, these impacts have not been considered within the cumulative assessment for benthic receptors for this development.</p> <p>Impact C2: temporary increase in suspended sediment and deposition and Impact C3: mobilisation of sediment associated contaminants. The effects from the impact of increased SSC and subsequent deposition and from the mobilisation of sediment associated contaminants were assessed to be Not Significant for the Offshore Project. The EIA assessment determined that beyond the tidal excursion buffer (15km), there will be no expected change to SSC nor a measurable sediment deposition.</p> <p>Impact C4: increased risk of introduction or spread of marine INNS. The effects from the impact of an increased risk of introduction or spread of marine INNS were assessed to be Not Significant for the Project after the implementation of embedded environmental measure M-102: Outline Offshore INNS Management Plan.</p> <p>It is expected that the Buchan Oil Field Electrification development will have similar mitigation in place and as such the potential risk of INNS will be reduced to as low as reasonably practical.</p> <p>Overall, due to the distance of the development from the Project offshore export cable corridor and the implementation of embedded mitigation, no significant cumulative impacts are anticipated on benthic ecology receptors.</p>		

33.6.5 Marine mammal cumulative effects assessment

- 33.6.5.1 For marine mammals, a ZOI has been applied for the CEA to ensure direct and indirect cumulative effects can be appropriately identified and assessed. The marine mammal ZOI is not based on a fixed buffer distance from the Project since marine mammal receptors are highly mobile and vary spatially across the study area. Instead, the ZOI for cetaceans considers effects over the scale of the three SCANS-IV Blocks (CS-K, NS-E and NS-D) that overlap or have connectivity with the Project. These block boundaries are determined based on a biologically appropriate spatial scale for abundance estimates used for assessing the conservation status of cetaceans. The SCANS-IV Blocks have been used in place of species-specific cetacean Management Units (MU) boundaries, as defined by the Inter-Agency Marine Mammal Working Group (IAMMWG) (IAMMWG, 2023) as these can be very large and encompass the whole North Sea or all UK waters and extend to some European country borders. This far exceeds many assigned species population boundaries and the impact ranges of all proposed activities associated with the Project. However, the MUs have been used as the reference populations against which assessments have been presented. For seals, the ZOI considers effects that could arise within the relevant SMAs, as defined by the Special Committee on Seals (SCOS, 2024), for the respective species. The marine mammal ZOI is shown in **Volume 2, Figure 33.11: 'Other developments' screened into the CEA for marine mammals**.
- 33.6.5.2 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.5.3 Only those 'other developments' in the 'short list' that fall within the marine mammals ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the marine mammals ZOI are excluded from this assessment.
- 33.6.5.4 On the basis of the above, the 'other developments' that are scoped into the marine mammals CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.11**.
- 33.6.5.5 For 'other developments' where there is not enough information publicly available as set out in **paragraph 33.4.4.1** have not been taken forward to Stage 4. The following 'other developments' have not been taken forward to Stage 4 due to insufficient environmental information and development timeline:
- OWF-001 2B Energy Methil Demonstration Offshore Wind Farm;
 - OWF-006 Beech (INTOG 9) Offshore Wind Farm;
 - OWF-007 Cedar (INTOG 10) Offshore Wind Farm;
 - OWF-012 Flora (INTOG 4) Offshore Wind Farm;
 - OWF-034 Judy (Harbour Energy South; INTOG 13) Offshore Wind Farm;
 - OWF-071 Whirlwind Offshore Wind Farm; Sinclair (INTOG 1) Offshore Wind Farm; and
 - OWF-075 Stoura (PO NE1) Offshore Wind Farm.
- 33.6.5.6 **Volume 3, Appendix 33.3** describes the methodology used for marine mammals, which has not followed the NSIP guidance or the CEA methodology for Stage 4 outlined in **Section 33.4**.

- 33.6.5.7 A qualitative assessment considering the Project in combination with other reasonably foreseeable projects on bottlenose dolphin has been undertaken. This is considered in the **Report to Inform Appropriate Assessment**.
- 33.6.5.8 A qualitative assessment considering the Project in combination with other reasonably foreseeable 'other developments' on marine mammal receptors has been undertaken, and noting the current status of those 'other developments' at the time of writing, and the available area, additive cumulative effects are considered to be **Not Significant**, and not greater than that assessed below
- 33.6.5.9 The CEA for marine mammals is set out in **Table 33.11**.

Table 33.11 Cumulative effects assessment for marine mammals

Short List ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Offshore Wind Farms – Tier 1a				
OWF-040	Hywind Scotland Pilot Park	Impacts O1: EMF from cables, O5: Entanglement in lines and cables for example, mooring lines and array cables, and O6: Increased underwater noise for example, operational noise and mooring noise have been fully assessed (see Volume 3, Appendix 33.3 Marine Mammals CEA) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Hywind Scotland Pilot Park. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-121 M-217	Not Significant.
OWF-045	Kincardine – Phase 1 and Phase 2	Impacts O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Kincardine project. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-039 M-121 M-217	Not Significant.
Offshore Wind Farms – Tier 1c				
OWF-009	Berwick Bank Offshore Wind Farm	<p>Impact C6: Disturbance from increased underwater noise during installation of driven piles, has the potential to extend beyond the defined boundaries of the Berwick Bank Offshore Wind Farm. As part of the assessment, the number of marine mammals predicted to be disturbed by piling activities associated with Berwick Bank Offshore Wind Farm has been assessed.</p> <p>The predicted disturbance is quantified for each relevant species, with reference to both the number of individuals and the proportion of the MU affected. This approach ensures a robust understanding of the scale and significance of potential impacts.</p> <p>For each species, the estimated number of individuals predicted to be disturbed by piling activity (which range between years 2029 and 2033, overlapping with anticipated piling for the Project in 2033 only), the percentage of the relevant MU this represents, and the proportion of the total cumulative number of predicted individuals to be disturbed by the Berwick Bank Offshore Wind Farm are provided. However, the following species have zero individuals predicted to be disturbed: Risso's dolphin and short-beaked common dolphin.</p> <p>Harbour porpoise:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 35,673 (10.29% of the MU population); estimated number of individuals predicted to be disturbed by Berwick Bank Offshore Wind Farm: 1,754; percentage of the MU predicted to be disturbed by Berwick Bank Offshore Wind Farm: 0.51%; proportion of the total cumulative number of predicted individuals to be disturbed by Berwick Bank Offshore Wind Farm: 4.92%. <p>Bottlenose dolphin – CES MU:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 88 (38.94% of the MU population); estimated number of individuals predicted to be disturbed by Berwick Bank Offshore Wind Farm: 4; percentage of the MU predicted to be disturbed by Berwick Bank Offshore Wind Farm: 1.77%; proportion of the total cumulative number of predicted individuals to be disturbed by Berwick Bank Offshore Wind Farm: 4.55%. <p>Bottlenose dolphin – Greater North Sea (GNS) MU:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 430 (21.27% of the MU population); estimated number of individuals predicted to be disturbed by Berwick Bank Offshore Wind Farm: 64; percentage of the MU predicted to be disturbed by OWF-009: 3.17%; proportion of the total cumulative number of predicted individuals to be disturbed by Berwick Bank Offshore Wind Farm: 14.89%. <p>White-beaked dolphin:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 11,724 (26.68% of MU population); estimated number of individuals predicted to be disturbed by Berwick Bank Offshore Wind Farm: 516; percentage of the MU predicted to be disturbed by Berwick Bank Offshore Wind Farm: 1.18%; 	M-032 M-039	Not Significant.

Short List ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<ul style="list-style-type: none"> proportion of the total cumulative number of predicted individuals to be disturbed by Berwick Bank Offshore Wind Farm: 4.41%. <p>Minke whale:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 1,892 (9.40% of MU population); estimated number of individuals predicted to be disturbed by OWF-009: 82; percentage of the MU predicted to be disturbed by Berwick Bank Offshore Wind Farm: 0.41%; proportion of the total cumulative number of predicted individuals to be disturbed by Berwick Bank Offshore Wind Farm: 4.34%. <p>Grey seal:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 2,419 (5.96% of MU population); estimated number of individuals predicted to be disturbed by Berwick Bank Offshore Wind Farm: 705; percentage of the MU predicted to be disturbed by Berwick Bank Offshore Wind Farm: 1.54%; proportion of the total cumulative number of predicted individuals to be disturbed by Berwick Bank Offshore Wind Farm: 29.15%. <p>Harbour seal:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 77 (3.30% of MU population); estimated number of individuals predicted to be disturbed by Berwick Bank Offshore Wind Farm: 2; percentage of the MU predicted to be disturbed by Berwick Bank Offshore Wind Farm: 0.06%; proportion of the total cumulative number of predicted individuals to be disturbed by Berwick Bank Offshore Wind Farm: 2.6%. <p>Although impact C6 has the potential to extend beyond the immediate boundaries of Berwick Bank Offshore Wind Farm, the predicted effects on marine mammal populations are limited. The number of individuals expected to be disturbed by Berwick Bank Offshore Wind Farm represents only a small proportion of the overall population within the relevant MU. Furthermore, when considered alongside the cumulative effects of all relevant projects, the additional contribution from Berwick Bank Offshore Wind Farm to impact C6 remains Negligible.</p> <p>Based on the available evidence and the mitigation measures in place, impact C6 from Berwick Bank Offshore Wind Farm is therefore not considered to result in any significant adverse effects in combination with the cumulative effect of the wider Project. The assessment confirms that the risk to marine mammal populations remains within acceptable thresholds, and no significant cumulative impact is anticipated.</p> <p>Impacts C5: Disturbance from increased underwater noise during pre-construction surveys, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Berwick Bank Offshore Wind Farm project. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.</p>		
OWF-032	Green Volt Offshore Wind Farm (INTOG 6)	Impacts O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Green Volt Offshore Wind Farm. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-105	Not Significant.
OWF-059	Salamander Offshore Wind Farm (INTOG 3)	Impacts C5, C6, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Salamander Offshore Wind Farm. In addition, there is no temporal overlap between piling for the Salamander Offshore Wind Farm and the Project; therefore, there is no potential for additive cumulative effects in relation to Impact C6. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-039 M-121	Not Significant.
OWF-068	Culzean Offshore Wind Farm (INTOG 12)	Impacts O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Culzean Offshore Wind Farm project. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-039 M-054 M-121 M-217	Not Significant.

Short List ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
OWF-073	Pentland Floating Offshore Wind Farm	Impacts O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Pentland Floating Offshore Wind Farm. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-039 M-105 M-217	Not Significant.
OWF-134	Seagreen 1A Offshore Wind Farm	Impacts C5, C6, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Seagreen 1A Offshore Wind Farm. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-039	Not Significant.
Offshore Wind Farms – Tier 1d				
OWF-014	Buchan Offshore Wind Farm (PO NE8)	<p>Impact C6 has the potential to extend beyond the defined boundaries of the Buchan Offshore Wind Farm. As part of the assessment, the number of marine mammals predicted to be disturbed by piling activities associated with Buchan Offshore Wind Farm has been assessed.</p> <p>The predicted disturbance is quantified for each relevant species, with reference to both the number of individuals and the proportion of the MU affected. This approach ensures a robust understanding of the scale and significance of potential impacts.</p> <p>For each species, the estimated number of individuals predicted to be disturbed by piling activity (which range between years 2029 and 2034 overlapping with anticipated piling for the Project in 2033 only), the percentage of the relevant MU this represents and the proportion of the total cumulative number of predicted individuals to be disturbed by Buchan Offshore Wind Farm are provided. However, the following species have zero individuals predicted to be disturbed: bottlenose dolphins (GNS MU) and short-beaked common dolphin.</p> <p>Harbour porpoise:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 35,673 (10.29% of the MU population); estimated number of individuals predicted to be disturbed by Buchan Offshore Wind Farm: 365; percentage of the MU predicted to be disturbed by Buchan Offshore Wind Farm: 0.11%; proportion of the total cumulative number of predicted individuals to be disturbed by Buchan Offshore Wind Farm: 1.03%. <p>Bottlenose dolphin – CES MU:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 88 (38.94% of the MU population); estimated number of individuals predicted to be disturbed by Buchan Offshore Wind Farm: 7; percentage of the MU predicted to be disturbed by Buchan Offshore Wind Farm: 3.1%; proportion of the total cumulative number of predicted individuals to be disturbed by Buchan Offshore Wind Farm: 7.96%. <p>Risso's dolphin:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 1,508 (12.30% of the MU population); estimated number of individuals predicted to be disturbed by Buchan Offshore Wind Farm: 50; percentage of the MU predicted to be disturbed by Buchan Offshore Wind Farm: 0.41%; proportion of the total cumulative number of predicted individuals to be disturbed by Buchan Offshore Wind Farm: 3.32%. <p>Atlantic white-sided dolphin:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 342 (1.89% of MU population); estimated number of individuals predicted to be disturbed by Buchan Offshore Wind Farm: 11; percentage of the MU predicted to be disturbed by Buchan Offshore Wind Farm: 0.07%; proportion of the total cumulative number of predicted individuals to be disturbed by Buchan Offshore Wind Farm: 3.22%. <p>White-beaked dolphin:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 11,724 (26.68% of MU population); 	M-032 M-039 M-105 M-121	Not Significant.

Short List ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<ul style="list-style-type: none"> estimated number of individuals predicted to be disturbed by Buchan Offshore Wind Farm: 126; percentage of the MU predicted to be disturbed by Buchan Offshore Wind Farm: 0.29%; proportion of the total cumulative number of predicted individuals to be disturbed by Buchan Offshore Wind Farm: 1.08%. <p>Minke whale:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 1,892 (9.40% of MU population); estimated number of individuals predicted to be disturbed by Buchan Offshore Wind Farm: 9; percentage of the MU predicted to be disturbed by Buchan Offshore Wind Farm: 0.05%; proportion of the total cumulative number of predicted individuals to be disturbed by Buchan Offshore Wind Farm: 0.48%. <p>Grey seal:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 2,419 (5.96% of MU population); estimated number of individuals predicted to be disturbed by Buchan Offshore Wind Farm: 457; percentage of the MU predicted to be disturbed by Buchan Offshore Wind Farm: 1.0%; proportion of the total cumulative number of predicted individuals to be disturbed by Buchan Offshore Wind Farm: 18.9%. <p>Harbour seal:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 77 (3.30% of MU population); estimated number of individuals predicted to be disturbed by Buchan Offshore Wind Farm: 26; percentage of the MU predicted to be disturbed by Buchan Offshore Wind Farm: 0.71%; proportion of the total cumulative number of predicted individuals to be disturbed by Buchan Offshore Wind Farm: 33.77%. <p>Although impact C6 has the potential to extend beyond the immediate boundaries of the Buchan Offshore Wind Farm, the predicted effects on marine mammal populations are limited. The number of individuals expected to be disturbed represents only a small proportion of the overall population within the relevant MU. Furthermore, when considered alongside the cumulative effects of all relevant projects, the additional contribution from impact C6 remains Negligible.</p> <p>Based on the available evidence and the mitigation measures in place, impact C6 is therefore not considered to result in any significant adverse effects in combination with the cumulative effect of the wider project. The assessment confirms that the risk to marine mammal populations remains within acceptable thresholds, and no significant cumulative impact is anticipated.</p> <p>Impacts C5, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Buchan Offshore Wind Farm. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.</p>		
OWF-015	Caledonia Offshore Wind Farm (PO NE4)	Impacts C5, C6, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Caledonia Offshore Wind Farm. In addition, there is no temporal overlap between piling for the Caledonia Offshore Wind Farm and the Project; therefore, there is no potential for additive cumulative effects in relation to Impact C6. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-039 M-105 M-121 M-217	Not Significant.
OWF-017	Cenos Offshore Wind Farm (INTOG 11)	<p>Impact C6 has the potential to extend beyond the defined boundaries of the Cenog Offshore Wind Farm. As part of the assessment, the number of marine mammals predicted to be disturbed by piling activities associated with Cenog Offshore Wind Farm has been assessed.</p> <p>The predicted disturbance is quantified for each relevant species, with reference to both the number of individuals and the proportion of the MU affected. This approach ensures a robust understanding of the scale and significance of potential impacts.</p> <p>For each species, the estimated number of individuals predicted to be disturbed by piling activity (which range between years 2030 and 2035 overlapping with anticipated piling for the Project in 2033 only), the percentage of the relevant MU this represents and the proportion of the total cumulative number of predicted individuals to be disturbed by Cenog Offshore Wind Farm are provided. However,</p>	M-032 M-039 M-105 M-121 M-217	Not Significant.

Short List ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>the following species have zero individuals predicted to be disturbed: bottlenose dolphin (CES MU), Risso's dolphin and short-beaked common dolphin.</p> <p>Harbour porpoise:</p> <ul style="list-style-type: none">estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 35,673 (10.29% of the MU population);estimated number of individuals predicted to be disturbed by Cenos Offshore Wind Farm: 9,529;percentage of the MU predicted to be disturbed by Cenos Offshore Wind Farm: 2.75%;proportion of the total cumulative number of predicted individuals to be disturbed by Cenos Offshore Wind Farm: 26.72%. <p>Bottlenose dolphin – GNS MU:</p> <ul style="list-style-type: none">estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 430 (21.27% of the MU population);estimated number of individuals predicted to be disturbed by Cenos Offshore Wind Farm: 273;percentage of the MU predicted to be disturbed by Cenos Offshore Wind Farm: 13.51%;proportion of the total cumulative number of predicted individuals to be disturbed by Cenos Offshore Wind Farm: 63.49%. <p>Atlantic white-sided dolphin:</p> <ul style="list-style-type: none">estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 342 (1.89% of MU population);estimated number of individuals predicted to be disturbed by Cenos Offshore Wind Farm: 8;percentage of the MU predicted to be disturbed by Cenos Offshore Wind Farm: 0.05%;proportion of the total cumulative number of predicted individuals to be disturbed by Cenos Offshore Wind Farm: 2.34%. <p>White-beaked dolphin:</p> <ul style="list-style-type: none">estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 11,724 (26.68% of MU population);estimated number of individuals predicted to be disturbed by Cenos Offshore Wind Farm: 964;percentage of the MU predicted to be disturbed by Cenos Offshore Wind Farm: 2.2%;proportion of the total cumulative number of predicted individuals to be disturbed by Cenos Offshore Wind Farm: 8.23%. <p>Minke whale:</p> <ul style="list-style-type: none">estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 1,892 (9.40% of MU population);estimated number of individuals predicted to be disturbed by Cenos Offshore Wind Farm: 384;percentage of the MU predicted to be disturbed by Cenos Offshore Wind Farm: 1.91%;proportion of the total cumulative number of predicted individuals to be disturbed by Cenos Offshore Wind Farm: 20.3%. <p>Grey seal:</p> <ul style="list-style-type: none">estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 2,419 (5.96% of MU population);estimated number of individuals predicted to be disturbed by Cenos Offshore Wind Farm: 137;percentage of the MU predicted to be disturbed by Cenos Offshore Wind Farm: 0.3%;proportion of the total cumulative number of predicted individuals to be disturbed by Cenos Offshore Wind Farm: 5.67%. <p>Harbour seal:</p> <ul style="list-style-type: none">estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 77 (3.30% of MU population);estimated number of individuals predicted to be disturbed by Cenos Offshore Wind Farm: 5;percentage of the MU predicted to be disturbed by Cenos Offshore Wind Farm: 0.14%;proportion of the total cumulative number of predicted individuals to be disturbed by Cenos Offshore Wind Farm: 6.5%. <p>Although impact C6 has the potential to extend beyond the immediate boundaries of the Cenos Offshore Wind Farm, the predicted effects on marine mammal populations are limited. The number of individuals expected to be disturbed represents only a small</p>		

Short List ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>proportion of the overall population within the relevant MU. Furthermore, when considered alongside the cumulative effects of all relevant projects, the additional contribution from impact C6 remains Negligible.</p> <p>Based on the available evidence and the mitigation measures in place, impact C6 is therefore not considered to result in any significant adverse effects in combination with the cumulative effect of the wider project. The assessment confirms that the risk to marine mammal populations remains within acceptable thresholds, and no significant cumulative impact is anticipated.</p> <p>Impacts C5, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Cenos Offshore Wind Farm. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.</p>		
OWF-052	Muir Mhòr Offshore Wind Farm (PO E2)	Impacts C5, C6, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Muir Mhòr Offshore Wind Farm. In addition, there is no temporal overlap between piling for the Muir Mhòr Offshore Wind Farm and the Project; therefore, there is no potential for additive cumulative effects in relation to Impact C6. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-039 M-105 M-121 M-217	Not Significant.
OWF-056	Ossian Floating Offshore Wind Farm (PO E1)	<p>Impact C6 has the potential to extend beyond the defined boundaries of the Ossian Floating Offshore Wind Farm. As part of the assessment, the number of marine mammals predicted to be disturbed by piling activities associated with Ossian Floating Offshore Wind Farm has been assessed.</p> <p>The predicted disturbance is quantified for each relevant species, with reference to both the number of individuals and the proportion of the MU affected. This approach ensures a robust understanding of the scale and significance of potential impacts.</p> <p>For each species, the estimated number of individuals predicted to be disturbed by piling activity (which range between years 2031 and 2038 overlapping with anticipated piling for the Project (in 2033, 2036 and 2038; noting 2033 generates the worst-case numbers of animals impacted therefore the assessment for this year has been presented here), the percentage of the relevant MU this represents and the proportion of the total cumulative number of predicted individuals to be disturbed by Ossian Floating Offshore Wind Farm are provided. However, the following species have zero individuals predicted to be disturbed by disturbance: bottlenose dolphins (CES MU), Risso's dolphin, Atlantic white-sided dolphin, short-beaked common dolphin and harbour seal.</p> <p>Harbour porpoise:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 35,673 (10.29% of the MU population); estimated number of individuals predicted to be disturbed by Ossian Floating Offshore Wind Farm: 7,309; percentage of the MU predicted to be disturbed by Ossian Floating Offshore Wind Farm: 2.11%; proportion of the total cumulative number of predicted individuals to be disturbed by Ossian Floating Offshore Wind Farm: 20.49%. <p>Bottlenose dolphin – CES MU:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 88 (38.94% of the MU population); estimated number of individuals predicted to be disturbed by Ossian Floating Offshore Wind Farm: 4; percentage of the MU predicted to be disturbed by Ossian Floating Offshore Wind Farm: 1.77%; proportion of the total cumulative number of predicted individuals to be disturbed by Ossian Floating Offshore Wind Farm: 4.55%. <p>White-beaked dolphin:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 11,724 (26.68% of MU population); estimated number of individuals predicted to be disturbed by Ossian Floating Offshore Wind Farm: 1,531; percentage of the MU predicted to be disturbed by Ossian Floating Offshore Wind Farm: 3.49%; proportion of the total cumulative number of predicted individuals to be disturbed by Ossian Floating Offshore Wind Farm: 13.06%. 	M-032 M-039 M-105 M-121 M-217	Not Significant.

Short List ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>Minke whale:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 1,892 (9.40% of MU population); estimated number of individuals predicted to be disturbed by Ossian Floating Offshore Wind Farm: 30; percentage of the MU predicted to be disturbed by Ossian Floating Offshore Wind Farm: 0.15%; proportion of the total cumulative number of predicted individuals to be disturbed by Ossian Floating Offshore Wind Farm: 1.23%. <p>Grey seal:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 2,419 (5.96% of MU population); estimated number of individuals predicted to be disturbed by Ossian Floating Offshore Wind Farm: 343; percentage of the MU predicted to be disturbed by Ossian Floating Offshore Wind Farm: 0.75%; proportion of the total cumulative number of predicted individuals to be disturbed by Ossian Floating Offshore Wind Farm: 14.18%. <p>Although impact C6 has the potential to extend beyond the immediate boundaries of the Ossian Floating Offshore Wind Farm project, the predicted effects on marine mammal populations are limited. The number of individuals expected to be disturbed represents only a small proportion of the overall population within the relevant MU. Furthermore, when considered alongside the cumulative effects of all relevant projects, the additional contribution from impact C6 remains Negligible.</p> <p>Based on the available evidence and the mitigation measures in place, impact C6 is therefore not considered to result in any significant adverse effects in combination with the cumulative effect of the wider project. The assessment confirms that the risk to marine mammal populations remains within acceptable thresholds, and no significant cumulative impact is anticipated.</p> <p>Impacts C5, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Ossian Floating Offshore Wind Farm. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.</p>		
OWF-072	West of Orkney Offshore Wind Farm (PO N1)	Impacts C5, C6, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the West of Orkney Offshore Wind Farm. In addition, there is no temporal overlap between piling for the West of Orkney Offshore Wind Farm and the Project; therefore, there is no potential for additive cumulative effects in relation to Impact C6. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-105 M-121	Not Significant.
Offshore Wind Farms – 2				
OWF-003	Aspen Offshore Wind Farm (INTOG 7)	Impacts C5, C6, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Aspen Offshore Wind Farm. In addition, there is no temporal overlap between piling for the Aspen Offshore Wind Farm and the Project; therefore, there is no potential for additive cumulative effects in relation to Impact C6. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-039 M-105 M-217	Not Significant.
OWF-008	Bellrock Offshore Wind Farm (PO E1)	Impacts C5, C6, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Bellrock Offshore Wind Farm. In addition, there is no temporal overlap between piling for the Bellrock Offshore Wind Farm and the Project; therefore, there is no potential for additive cumulative effects in relation to Impact C6. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-039 M-105 M-121	Not Significant.
OWF-013	Broadshore Offshore Wind Farm (PO NE6)	Impacts C5, C6, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Broadshore Offshore Wind Farm. In addition, there is no temporal overlap between piling for the Broadshore Offshore Wind Farm and the Project; therefore, there is no potential for additive cumulative effects in relation to Impact C6. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-039	Not Significant.

Short List ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
OWF-016	CampionWind (PO E2)	Impacts C5, C6, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the CampionWind project. In addition, there is no temporal overlap between piling for the CampionWind project and the Project; therefore, there is no potential for additive cumulative effects in relation to Impact C6. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-039 M-105	Not Significant.
OWF-018	Bowdun Offshore Wind Farm (PO E3)	<p>Impact C6 has the potential to extend beyond the defined boundaries of the Bowdun Offshore Wind Farm. As part of the assessment, the number of marine mammals predicted to be disturbed by piling activities associated with Bowdun Offshore Wind Farm has been assessed.</p> <p>The predicted disturbance is quantified for each relevant species, with reference to both the number of individuals and the proportion of the MU affected. This approach ensures a robust understanding of the scale and significance of potential impacts.</p> <p>For each species, the estimated number of individuals predicted to be disturbed by piling activity (which range between years 2029 and 2033 overlapping with anticipated piling for the Project in 2033 only), the percentage of the relevant MU this represents and the proportion of the total cumulative number of predicted individuals to be disturbed by Bowdun Offshore Wind Farm are provided. However, the following species have zero individuals predicted to be disturbed: Risso's dolphin and short-beaked common dolphin.</p> <p>Harbour porpoise:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 35,673 (10.29% of the MU population); estimated number of individuals predicted to be disturbed by Bowdun Offshore Wind Farm: 1,271; percentage of the MU predicted to be disturbed by Bowdun Offshore Wind Farm: 0.37%; proportion of the total cumulative number of predicted individuals to be disturbed by Bowdun Offshore Wind Farm: 3.57%. <p>Bottlenose dolphin – CES MU:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 88 (38.94% of the MU population); estimated number of individuals predicted to be disturbed by Bowdun Offshore Wind Farm: 11; percentage of the MU predicted to be disturbed by Bowdun Offshore Wind Farm: 4.87%; proportion of the total cumulative number of predicted individuals to be disturbed by Bowdun Offshore Wind Farm: 12.5%. <p>Bottlenose dolphin – GNS MU:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 430 (21.27% of the MU population); estimated number of individuals predicted to be disturbed by Bowdun Offshore Wind Farm: 64; percentage of the MU predicted to be disturbed by Bowdun Offshore Wind Farm: 3.17%; proportion of the total cumulative number of predicted individuals to be disturbed by Bowdun Offshore Wind Farm: 14.89%. <p>Atlantic white-sided dolphin:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 342 (1.89% of MU population); estimated number of individuals predicted to be disturbed by Bowdun Offshore Wind Farm: 22; percentage of the MU predicted to be disturbed by Bowdun Offshore Wind Farm: 0.13%; proportion of the total cumulative number of predicted individuals to be disturbed by Bowdun Offshore Wind Farm: 6.44%. <p>White-beaked dolphin:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 11,724 (26.68% of MU population); estimated number of individuals predicted to be disturbed by Bowdun Offshore Wind Farm: 170; percentage of the MU predicted to be disturbed by Bowdun Offshore Wind Farm: 0.39%; proportion of the total cumulative number of predicted individuals to be disturbed by Bowdun Offshore Wind Farm: 1.46%. <p>Minke whale:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 1,892 (9.40% of MU population); 	M-032 M-039 M-105 M-121	Not Significant.

Short List ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<ul style="list-style-type: none"> estimated number of individuals predicted to be disturbed by Bowdun Offshore Wind Farm: 89; percentage of the MU predicted to be disturbed by Bowdun Offshore Wind Farm: 0.45%; proportion of the total cumulative number of predicted individuals to be disturbed by Bowdun Offshore Wind Farm: 4.71%. <p>Grey seal:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 2,419 (5.96% of MU population); estimated number of individuals predicted to be disturbed by Bowdun Offshore Wind Farm: 237; percentage of the MU predicted to be disturbed by Bowdun Offshore Wind Farm: 0.52%; proportion of the total cumulative number of predicted individuals to be disturbed by Bowdun Offshore Wind Farm: 9.8%. <p>Harbour seal:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 77 (3.30% of MU population); estimated number of individuals predicted to be disturbed by Bowdun Offshore Wind Farm: 15; percentage of the MU predicted to be disturbed by Bowdun Offshore Wind Farm: 0.41%; proportion of the total cumulative number of predicted individuals to be disturbed by Bowdun Offshore Wind Farm: 19.49%. <p>Although impact C6 has the potential to extend beyond the immediate boundaries of the Bowdun Offshore Wind Farm, the predicted effects on marine mammal populations are limited. The number of individuals expected to be disturbed represents only a small proportion of the overall population within the relevant MU. Furthermore, when considered alongside the cumulative effects of all relevant projects, the additional contribution from impact C6 remains Negligible.</p> <p>Based on the available evidence and the mitigation measures in place, impact C6 is therefore not considered to result in any significant adverse effects in combination with the cumulative effect of the wider project. The assessment confirms that the risk to marine mammal populations remains within acceptable thresholds, and no significant cumulative impact is anticipated.</p> <p>Impacts C5, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Bowdun Offshore Wind Farm. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.</p>		
OWF-019	Ayre Offshore Wind Farm (PO NE2 Cluaran Ear-Thuath)	<p>Impact C6 has the potential to extend beyond the defined boundaries of the Ayre Offshore Wind Farm. As part of the assessment, the number of marine mammals predicted to be disturbed by piling activities associated with Ayre Offshore Wind Farm has been assessed.</p> <p>The predicted disturbance is quantified for each relevant species, with reference to both the number of individuals and the proportion of the MU affected. This approach ensures a robust understanding of the scale and significance of potential impacts.</p> <p>For each species, the estimated number of individuals predicted to be disturbed by piling activity (which range between years 2029 and 2033 overlapping with anticipated piling for the Project in 2033 only), the percentage of the relevant MU this represents and the proportion of the total cumulative number of predicted individuals to be disturbed by Ayre Offshore Wind Farm are provided. However, the following species have zero individuals predicted to be disturbed: Atlantic white-sided and short-beaked common dolphin.</p> <p>Harbour porpoise:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 35,673 (10.29% of the MU population); estimated number of individuals predicted to be disturbed by Ayre Offshore Wind Farm: 199; percentage of the MU predicted to be disturbed by Ayre Offshore Wind Farm: 0.06%; proportion of the total cumulative number of predicted individuals to be disturbed by Ayre Offshore Wind Farm: 0.56%. <p>Bottlenose dolphin – CES MU:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 88 (38.94% of the MU population); estimated number of individuals predicted to be disturbed by Ayre Offshore Wind Farm: 14; percentage of the MU predicted to be disturbed by Ayre Offshore Wind Farm: 6.2%; proportion of the total cumulative number of predicted individuals to be disturbed by Ayre Offshore Wind Farm: 15.91%. 	M-032 M-039	Not Significant.

Short List ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>Bottlenose dolphin – GNS MU:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 430 (21.27% of the MU population); estimated number of individuals predicted to be disturbed by Ayre Offshore Wind Farm: 3; percentage of the MU predicted to be disturbed by Ayre Offshore Wind Farm: 0.15%; proportion of the total cumulative number of predicted individuals to be disturbed by Ayre Offshore Wind Farm: 0.7%. <p>Risso's dolphin:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 1,508 (12.30% of the MU population); estimated number of individuals predicted to be disturbed by Ayre Offshore Wind Farm: 27; percentage of the MU predicted to be disturbed by Ayre Offshore Wind Farm: 0.23%; proportion of the total cumulative number of predicted individuals to be disturbed by Ayre Offshore Wind Farm: 1.8%. <p>White-beaked dolphin:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 11,724 (26.68% of MU population); estimated number of individuals predicted to be disturbed by Ayre Offshore Wind Farm: 96; percentage of the MU predicted to be disturbed by Ayre Offshore Wind Farm: 0.22%; proportion of the total cumulative number of predicted individuals to be disturbed by Ayre Offshore Wind Farm: 0.82%. <p>Minke whale:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 1,892 (9.40% of MU population); estimated number of individuals predicted to be disturbed by Ayre Offshore Wind Farm: 9; percentage of the MU predicted to be disturbed by Ayre Offshore Wind Farm: 0.05%; proportion of the total cumulative number of predicted individuals to be disturbed by Ayre Offshore Wind Farm: 0.48%. <p>Grey seal:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 2,419 (5.96% of MU population); estimated number of individuals predicted to be disturbed by Ayre Offshore Wind Farm: 457; percentage of the MU predicted to be disturbed by Ayre Offshore Wind Farm: 1.0%; proportion of the total cumulative number of predicted individuals to be disturbed by Ayre Offshore Wind Farm: 18.9%. <p>Harbour seal:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 77 (3.30% of MU population); estimated number of individuals predicted to be disturbed by Ayre Offshore Wind Farm: 26; percentage of the MU predicted to be disturbed by Ayre Offshore Wind Farm: 0.71%; proportion of the total cumulative number of predicted individuals to be disturbed by Ayre Offshore Wind Farm: 33.77%. <p>Although impact C6 has the potential to extend beyond the immediate boundaries of the Ayre Offshore Wind Farm, the predicted effects on marine mammal populations are limited. The number of individuals expected to be disturbed represents only a small proportion of the overall population within the relevant MU. Furthermore, when considered alongside the cumulative effects of all relevant projects, the additional contribution from impact C6 remains Negligible.</p> <p>Based on the available evidence and the mitigation measures in place, impact C6 is therefore not considered to result in any significant adverse effects in combination with the cumulative effect of the wider project. The assessment confirms that the risk to marine mammal populations remains within acceptable thresholds, and no significant cumulative impact is anticipated.</p> <p>Impacts C5, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Ayre Offshore Wind Farm. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.</p>		

Short List ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
OWF-051	Morven Offshore Wind Farm (PO E1)	Impacts C5, C6, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Morven Offshore Wind Farm. In addition, there is no temporal overlap between piling for the Morven Offshore Wind Farm and the Project; therefore, there is no potential for additive cumulative effects in relation to Impact C6. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-039	Not Significant.
OWF-060	Scaraben Offshore Wind Farm (INTOG 2)	Impacts C5, C6, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Scaraben Offshore Wind Farm. In addition, there is no temporal overlap between piling for the Scaraben Offshore Wind Farm and the Project; therefore, there is no potential for additive cumulative effects in relation to Impact C6. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-039	Not Significant.
OWF-066	Stromar Offshore Wind Farm (PO NE3)	Impacts C5, C6, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Stromar Offshore Wind Farm. In addition, there is no temporal overlap between piling for the Stromar Offshore Wind Farm and the Project; therefore, there is no potential for additive cumulative effects in relation to Impact C6. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-039 M-105 M-121	Not Significant.
OWF-074	Arven Offshore Wind Farm (PO NE1)	<p>Impact C6 has the potential to extend beyond the defined boundaries of the Arven Offshore Wind Farm. As part of the assessment, the number of marine mammals predicted to be disturbed by piling activities associated with Arven Offshore Wind Farm has been assessed.</p> <p>The predicted disturbance is quantified for each relevant species, with reference to both the number of individuals and the proportion of the MU affected. This approach ensures a robust understanding of the scale and significance of potential impacts.</p> <p>For each species, the estimated number of individuals predicted to be disturbed by piling activity (which range between years 2030 and 2033 overlapping with anticipated piling for the Project in 2033 only), the percentage of the relevant MU this represents and the proportion of the total cumulative number of predicted individuals to be disturbed by Arven Offshore Wind Farm are provided. However, the following species have zero individuals predicted to be disturbed: bottlenose dolphins (in both the CES and GNS MU), short-beaked common dolphin and both grey and harbour seals.</p> <p>Harbour porpoise:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 35,673 (10.29% of the MU population); estimated number of individuals predicted to be disturbed by Arven Offshore Wind Farm: 365; percentage of the MU predicted to be disturbed by Arven Offshore Wind Farm: 0.11%; proportion of the total cumulative number of predicted individuals to be disturbed by Arven Offshore Wind Farm: 1.03%. <p>Risso's dolphin:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 1,508; estimated number of individuals predicted to be disturbed by Arven Offshore Wind Farm: 50; percentage of the MU predicted to be disturbed by Arven Offshore Wind Farm: 0.41%; proportion of the total cumulative number of predicted individuals to be disturbed by Arven Offshore Wind Farm: 3.32%. <p>Atlantic white-sided dolphin:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 342 (1.89% of MU population); estimated number of individuals predicted to be disturbed by Arven Offshore Wind Farm: 11; percentage of the MU predicted to be disturbed by Arven Offshore Wind Farm: 0.07%; proportion of the total cumulative number of predicted individuals to be disturbed by Arven Offshore Wind Farm: 3.22%. <p>White-beaked dolphin:</p> <ul style="list-style-type: none"> estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 11,724 (26.68% of MU population); 	M-032 M-039 M-105 M-121	Not Significant.

Short List ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<ul style="list-style-type: none">estimated number of individuals predicted to be disturbed by Arven Offshore Wind Farm: 126;percentage of the MU predicted to be disturbed by Arven Offshore Wind Farm: 0.29%;proportion of the total cumulative number of predicted individuals to be disturbed by Arven Offshore Wind Farm: 1.08%. <p>Minke whale:</p> <ul style="list-style-type: none">estimated maximum number of individuals predicted to be cumulatively disturbed by all projects included in the CEA in years overlapping with the Project's piling activity: 1,892 (9.40% of MU population);estimated number of individuals predicted to be disturbed by Arven Offshore Wind Farm: 9;percentage of the MU predicted to be disturbed by Arven Offshore Wind Farm: 0.05%;proportion of the total cumulative number of predicted individuals to be disturbed by Arven Offshore Wind Farm: 0.48%. <p>Although impact C6 has the potential to extend beyond the immediate boundaries of the Arven Offshore Wind Farm, the predicted effects on marine mammal populations are limited. The number of individuals expected to be disturbed represents only a small proportion of the overall population within the relevant MU. Furthermore, when considered alongside the cumulative effects of all relevant projects, the additional contribution from impact C6 remains Negligible.</p> <p>Based on the available evidence and the mitigation measures in place, impact C6 is therefore not considered to result in any significant adverse effects in combination with the cumulative effect of the wider project. The assessment confirms that the risk to marine mammal populations remains within acceptable thresholds, and no significant cumulative impact is anticipated.</p> <p>Impacts C5, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Arven Offshore Wind Farm. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.</p>		
Cables and pipelines - 1d				
CP-003	Spittal to Peterhead Subsea Cable link	Impacts C5, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Spittal to Peterhead Subsea Cable link project. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	M-032 M-039	Not Significant.
Cables and pipelines - 2				
CP-002	Eastern Green Link 3	Impacts C5, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.3) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Eastern Green Link 3project. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	-	Not Significant.
CP-006	Eastern Green Link 4	Impacts C5, O1, O5, and O6 have been fully assessed (see Volume 3, Appendix 33.11) and mitigated to levels that are not considered significant under the EIA within the defined boundaries of the Eastern Green Link 4project. As a result, these impacts will not interact with, or contribute to, the cumulative effects of the wider Project.	-	Not Significant.

33.6.6 Offshore and intertidal ornithology cumulative effects assessment

- 33.6.6.1 For offshore and intertidal ornithology, the maximum ZOI applied varies seasonally to account for the migratory behaviour of seabirds. For the breeding season, it is proposed that assessments are based on a regional basis, as the scale of potential impacts from offshore wind farms is likely to be localised to seabirds from colonies within foraging range of any plans or projects. Therefore, during the breeding season a maximum ZOI of 509km has been applied based on the seabird gannet (*Morus bassanus*) with the largest MMFR plus one SD screened in for CEA. During the non-breeding season, when species may migrate and disperse significant distances away from their natal colony and wider mixing of different colonies occurs, all developments within the North Sea BDMPS (or North Sea and English Channel, where appropriate) as defined in Furness *et. al.* (2015) was concluded as the most appropriate ZOI.
- 33.6.6.2 The offshore and intertidal ornithology breeding and non-breeding season ZOI is shown in **Volume 2, Figure 33.12a and b: 'Other developments' screened into the CEA for offshore and intertidal ornithology.**
- 33.6.6.3 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3 Appendix 12.7: Offshore and Intertidal Ornithology CEA.** This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.6.4 As presented within **Volume 3, Appendix 33.4**, a screening process was undertaken to identify the effect pathways that have the potential for a cumulative effect to occur for each receptor. **Volume 3, Appendix 33.4** describes the methodology used for offshore and intertidal ornithology, which has not followed the NSIP guidance, or the CEA methodology for Stage 4 outlined in **Section 33.4**. This screening process concluded a CEA should be undertaken for the following receptors and effect pathways:
- distributional responses (OAA) during the O&M stage for kittiwake (*Rissa tridactyla*), guillemot (*Uria aalge*), razorbill (*Alca torda*), puffin (*Fratercula arctica*) and gannet;
 - collision risk (OAA) during the O&M stage for great black-backed gull *Larus marinus*, herring gull (*Larus argentatus*), kittiwake and gannet; and
 - combined distributional responses and collision risk (OAA) during the O&M stage for kittiwake and gannet.
- 33.6.6.5 Detailed assessments of the above effect pathways and receptors are presented in **Volume 3 Appendix 33.4**, with a summary of conclusions drawn provided in **Table 33.12.**

Table 33.12 Cumulative effects assessment summary for offshore and intertidal ornithology

Receptor	Sensitivity	Potential effect	Embedded environmental measures	Magnitude of impact	Residual cumulative effect
Kittiwake	Low	Distributional responses (OAA).	-	Low	Minor Adverse (Not Significant).
Guillemot	Medium			Medium to high	Major Adverse (Significant) The reason for the Significant effect conclusion is due to the pre-existing scale of predicted impact, rather than due to the Project 's contribution to the CEA. There are no feasible mitigation measures that could sufficiently reduce the CEA adverse effects to a level that is not significant in EIA terms or avoid a potential Adverse Effect on Site Integrity (please refer to Derogation Case). To note, the Project has already provided potential options for compensation with respect to guillemot as presented within the Derogation Case should Scottish Ministers be minded to consent the Project, therefore no further consideration required. Although such compensation options are focussed on offsetting the predicted impacts apportioned to selected qualifying features of designated sites, such potential measures if implemented are expected to significantly offset the Project's contribution to regional scale impacts. It is highlighted that the Project is committed to implementing proportionate monitoring measures for offshore and intertidal ornithological receptors (see Volume 4: Outline Project Environmental Monitoring Programme).
Razorbill	Medium			Low to medium	Moderate Adverse (Significant) The reason for the Significant effect conclusion is due to the pre-existing scale of predicted impact, rather than due to the Project 's contribution to the CEA. There are no feasible mitigation measures that could sufficiently reduce the CEA adverse effects to a level that is not significant in EIA terms or avoid a potential Adverse Effect on Site Integrity (please refer to Derogation Case). To note, the Project has already provided potential options for compensation with respect to razorbill as presented within the Derogation Case should Scottish Ministers be minded to consent the Project, therefore no further consideration required. Although such compensation options are focussed on offsetting the predicted impacts apportioned to selected qualifying features of designated sites, such potential measures if implemented are expected to significantly offset the Project's contribution to regional scale impacts. It is highlighted that the Project is committed to implementing proportionate monitoring measures for offshore and intertidal ornithological receptors (see Volume 4: Outline Project Environmental Monitoring Programme).
Puffin	Medium			Low to medium	Moderate Adverse (Significant) The reason for the Significant effect conclusion is due to the pre-existing scale of predicted impact, rather than due to the Project 's contribution to the CEA. There are no feasible mitigation measures that could sufficiently reduce the CEA adverse effects to a level that is not significant in EIA terms or avoid a potential Adverse Effect on Site Integrity (please refer to Derogation Case). To note, the Project has already provided potential options for compensation with respect to puffin as presented within the Derogation Report should Scottish Ministers be minded to consent the Project, therefore no further consideration required. Although such compensation options are focussed on offsetting the predicted impacts apportioned to selected qualifying features of designated sites, such potential measures if implemented are expected to significantly offset the Project's contribution to regional scale impacts. It is highlighted that the Project is committed to implementing proportionate monitoring measures for offshore and intertidal ornithological receptors (see Volume 4: Outline Project Environmental Monitoring Programme).
Gannet	Medium	Collision risk (OAA).	-	Low	Minor Adverse (Not Significant).
Kittiwake	Medium			Medium	Moderate Adverse (Significant) The reason for the Significant effect conclusion is due to the pre-existing scale of predicted impact, rather than due to the Project 's contribution to the CEA. There are no feasible mitigation measures that could sufficiently reduce the CEA adverse

Receptor	Sensitivity	Potential effect	Embedded environmental measures	Magnitude of impact	Residual cumulative effect
					<p>effects to a level that is not significant in EIA terms or avoid a potential Adverse Effect on Site Integrity (please refer to Derogation Case).</p> <p>To note, the Project has already provided potential options for compensation with respect to kittiwake as presented within the Derogation Report should Scottish Ministers be minded to consent the Project, therefore no further consideration required. Although such compensation options are focussed on offsetting the predicted impacts apportioned to selected qualifying features of designated sites, such potential measures if implemented are expected to significantly offset the Project's contribution to regional scale impacts.</p> <p>It is highlighted that the Project is committed to implementing proportionate monitoring measures for offshore and intertidal ornithological receptors (see Volume 4: Outline Project Environmental Monitoring Programme).</p>
Great black-backed gull	Medium			High	<p>Major Adverse (Significant) The reason for the Significant effect conclusion is due to the pre-existing scale of predicted impact, rather than due to the Project 's contribution to the CEA. There are no feasible mitigation measures that could sufficiently reduce the CEA adverse effects to a level that is not significant in EIA terms. For context, the Project alone predicted effect was concluded as minor adverse significance at most, which is not significant.</p> <p>As detailed within Chapter 12: Offshore and Intertidal Ornithology, there is currently significant uncertainty around the current best practice approach to predicting potential collision impacts, likely leading to over estimation of predicted effects for the Project alone and cumulatively. Additionally, caution should be taken with respect to consideration of compensation for great black-backed gull.</p> <p>Feasible effective compensation measures for which the Project could implement, targeted at increasing great black-backed gull numbers are limited. The key drivers of population decline in great black-backed gulls relates to prey availability, culling and predator suppression (Lopez <i>et. al.</i> 2023a). These key factors are considered predominately outside of the control of a private developer to intervene. Another key consideration with respect to great black-backed gull compensation, would be the negative effect on other seabirds that increasing the numbers of great black-backed gulls could have due to increased predation pressure. For example, a pair of great black-back gulls could predate and consume anywhere between seven and 65 puffins in a single breeding season (Lopez <i>et. al.</i> 2023b). Similarly on gull and gannet islands in eastern Canada, nesting great black-backed gulls have been observed preying on Leach's storm-petrel (<i>Hydrobates leucorhous</i>), kittiwake, guillemot, and razorbill. However, the extent of this predation varies depending on availability of other prey sources and environmental factors (Veitch <i>et. al.</i> 2016). Further, increasing great black-backed gull numbers in urban environments has the potential to lead to conflicts with humans (Belant, 1997; Spelt <i>et. al.</i> 2019).</p> <p>Considering the level of uncertainty in assessments and environmental risks and given the potential for adverse effects on other seabird species as highlighted above, the Project proposes that post-consent monitoring is undertaken to better understand the true impact of the Project on great black-backed gulls before a commitment to compensation for great black-backed gull is made.</p> <p>It is highlighted that the Project is committed to implementing proportionate monitoring measures for offshore and intertidal ornithological receptors (see Volume 4: Outline Project Environmental Monitoring Programme).</p>
Herring gull	Medium			Very low	Minor Adverse (Not Significant).
Gannet	Medium			Low	Minor Adverse (Not Significant).
Kittiwake	Medium	Combined effects.	-	Medium	<p>Moderate Adverse (Significant) The reason for the Significant effect conclusion is due to the pre-existing scale of predicted impact, rather than due to the Project 's contribution to the CEA. There are no feasible mitigation measures that could sufficiently reduce the CEA adverse effects to a level that is not significant in EIA terms or avoid a potential Adverse Effect on Site Integrity (please refer to Derogation Case).</p> <p>To note, the Project has already provided potential options for compensation with respect to kittiwake as presented within the Derogation Report should Scottish Ministers be minded to consent the Project, therefore no further consideration required. Although such compensation options are focussed on offsetting the predicted impacts apportioned to selected</p>

Receptor	Sensitivity	Potential effect	Embedded environmental measures	Magnitude of impact	Residual cumulative effect
					<p>qualifying features of designated sites, such potential measures if implemented are expected to significantly offset the Project's contribution to regional scale impacts.</p> <p>It is highlighted that the Project is committed to implementing proportionate monitoring measures for offshore and intertidal ornithological receptors (see Volume 4: Outline Project Environmental Monitoring Programme).</p>
Gannet	Medium			Low to medium	<p>Moderate Adverse (Significant)</p> <p>The reason for the Significant effect conclusion is due to the pre-existing scale of predicted impact, rather than due to the Project 's contribution to the CEA. There are no feasible mitigation measures that could sufficiently reduce the CEA adverse effects to a level that is not significant in EIA terms or avoid a potential Adverse Effect on Site Integrity (please refer to Derogation Case).</p> <p>To note, the Project has already provided potential options for compensation with respect to puffin as presented within the Derogation Report should Scottish Ministers be minded to consent the Project, therefore no further consideration required. Although such compensation options are focussed on offsetting the predicted impacts apportioned to select qualifying features of designated sites, such potential measures if implemented are expected to significantly offset the Project's contribution to regional scale impacts.</p> <p>It is highlighted that the Project is committed to implementing proportionate monitoring measures for offshore and intertidal ornithological receptors (see Volume 4: Outline Project Environmental Monitoring Programme).</p>

33.6.7 Fish ecology cumulative effects assessment

- 33.6.7.1 For fish ecology, a ZOI of 50km has been applied for the CEA to ensure cumulative effects are appropriately identified and assessed. This has taken account of potential direct and indirect impacts on fish species, including disturbance or injury resulting from underwater noise from piling, temporary habitat loss and increased SSC and associated deposition. The use of 50km as a precautionary ZOI for underwater noise aligns with both the noise modelling conducted for the Project (see **Volume 3: Appendix 8.1** for more information), and that of other offshore wind projects such as Cenos Offshore Wind Farm (140.8km southeast of the OAA) (Cenos, 2024) and Berwick Bank Offshore Wind Farm (174.9km southwest of the OAA) (RPS, 2022), which found highly localised injurious effects for fish, but behavioural impacts out to the range of the low tens of kilometres. Furthermore, this ZOI accounts for fish mobility and their spawning / nursery grounds, along with capturing coastal waters to accommodate diadromous fish and their movements. The fish ecology ZOI is shown in **Volume 2, Figure 33.13: 'Other developments' screened into the CEA for fish ecology**.
- 33.6.7.2 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.7.3 Only those 'other developments' in the 'short list' that fall within the fish ecology ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the fish ecology ZOI are excluded from this assessment.
- 33.6.7.4 On the basis of the above, the 'other developments' that are scoped into the fish ecology CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.13**.
- 33.6.7.5 For 'other developments' where there is not enough information publicly available as set out in **paragraph 33.4.4.1**, the following shortlisted 'other developments' have not been taken forward to Stage 4.
- 33.6.7.6 The above criteria for ruling out 'other developments' applies to the following developments:
- No environmental information available: OG-099 Golden Eagle Wellhead Platform; OG-096 SCOTT JD; OG-098 CRUDEN BAY TANKS; OG-100 St Fergus Gas Terminal; OG-108 CLAYMORE CPP; OG-121 CLAYMORE CAP; OG-125 ROSS; OG-133 SCOTT JU; OG-137 Production (P) Jacket; OG-146 Golden Eagle PUQ Platform; OG-148 Quarters Utilities (QU) Jacket; OG-157 Wellhead (W); AGG-001 North Buchan Ness; AGG-002 Peterhead Harbour Disposal site; AGG-004 MacDuff Disposal Site; AGG-005 Aberdeen Disposal Site; AGG-006 Middle Buchan Ness Disposal Site; AGG-007 Middle Buchan Ness B Disposal Site; A CP-004 Buchan Oil Field Electrification; and CCS-003 Acorn Carbon Capture and Storage Site.
 - No environmental information available and not information on timeline: CCS-016 CS011; OW-001 Construction of Outfall Pipe – North Base Jetty, Peterhead Harbour; OWF-012 Flora (INTOG 4); OWF-060 Scaraben (INTOG 2); OWF-064 SINCLAIR (INTOG 1); OG-001 Central North Sea Electrification Project; and OG-122 PIPER B.
- 33.6.7.7 A qualitative assessment considering the Project in combination with other reasonably foreseeable 'other developments' on fish ecology receptors has been undertaken, and noting the current status of those 'other developments' at the time of writing, and the available area, additive cumulative effects are considered to be **Not Significant**, and not greater than that assessed below.

33.6.7.8 The CEA for fish ecology is set out in **Table 33.13**.

Table 33.13 Cumulative effects assessment for fish ecology

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1a				
OWF-002	Aberdeen (EOWDC)	<p>Overview The EOWDC is located approximately 30km south of the Project offshore export cable corridor and become operational in 2018. It is expected that the construction stage of the Project will overlap temporally with the operational stage of the EOWDC, with EOWDC decommissioning expected in the later quarter of the Project's decommissioning stage.</p> <p>Cumulative effects The EOWDC is located outside of the Project's offshore export cable corridor and OAA and is at a distance beyond which cumulative impacts (with the exception of underwater noise) are likely. Therefore, the only impact considered within the cumulative assessment for fish receptors for this development is underwater noise, considered below.</p> <p>Impact C4: mortality, injury and behavioural changes resulting from underwater noise, vibration and particle motion for example, Unexploded Ordnance (UXO) clearance The EOWDC includes similar infrastructure as the Project's, therefore the operational and decommissioning activities that can lead to impacts to fish receptors from changes in underwater noise, vibration and particle motion are similar. The EOWDC concluded no significant effects on all fish receptors from underwater noise. As construction activities are complete and with the distance from the Project, cumulative effect of underwater noise is considered to be Not Significant.</p>	M-032 M-105 M-114	In consideration of the proposed embedded environmental measures listed, which for noise impacts minimise cumulative impacts, No Significant effect is anticipated on fish receptors (including pelagic fish, demersal fish, elasmobranchs, diadromous fish and designated sites).
OWF-040	Hywind Scotland Pilot Park	<p>Overview The Project's export cable corridor overlaps with the Hywind Scotland Pilot Park export cable corridor. The Hywind Scotland Pilot Park OAA is 66.8km southeast of the Project OAA and has been operational since 2017. It is expected that construction of the Project will overlap temporally with the operational and decommissioning stages of the Hywind Scotland Pilot Park.</p> <p>Construction and decommissioning The Hywind Scotland Pilot Park EIA determined that there will be no significant effects to fish receptors during the construction stage or decommissioning from noise and loss of spawning and nursery grounds.</p> <p>O&M: The Hywind Scotland Pilot Park EIA determined that there will be no significant effects to fish receptors during the O&M stage from:</p> <ul style="list-style-type: none">noise;heating effects;EMF;entanglement risk; andfish aggregating potential of development. <p>Cumulative effects These impacts have been assessed within Chapter 13: Fish Ecology and were determined to be Not Significant. As the construction stage for Hywind Scotland Pilot Park is complete and due to the distance of the Hywind Scotland Pilot Park from the Project, key cumulative impacts are limited to decommissioning of the Hywind Scotland Pilot Park export cable corridor, which may occur within the same timeframe as construction of the Project's export cable corridor. Therefore, only impacts related to those activities are considered within the cumulative assessment for fish receptors below.</p> <p>Impact C2: temporary habitat loss and / or disturbance The Hywind Scotland Pilot Park has the potential to impact the same habitat types (spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the export cable corridor overlaps with the Project's offshore export cable corridor. For Hywind Scotland Pilot Park export cables that are currently buried and are planned to remain in-situ as part of decommissioning plans, there will be no habitat disturbance. The proportions of habitat with the potential to be impacted is expected to be equivalent to that impacted by the Project. The impact is temporary and occurs over a relatively small spatial extent and the recoverability of all fish receptors is considered likely in the short term. As such, the cumulative effect of temporary habitat loss or disturbance is considered to be Not Significant.</p> <p>Impact C3: temporary localised increases in SSC and smothering</p>	M-028 M-029 M-032 M-054 M-055 M-056 M-057 M-059 M-060 M-061 M-105 M-106 M-114 M-120 M-121 M-122	In consideration of the proposed embedded environmental measures listed, which for some impacts minimise cumulative impacts, No Significant effect is anticipated on fish receptors (including pelagic fish, demersal fish, elasmobranchs, diadromous fish and designated sites).

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>The Hywind Offshore Wind Farm includes similar infrastructure as the Project's therefore the activities that can lead to increases in SSC and deposition are likely to be the same or similar. It is highly unlikely that the impacts from both these projects will be occurring simultaneously, and the short duration of increased levels of SSC and redistribution of deposited sediments means that the potential for cumulative impact is minimised. Therefore, considering the small proportions of habitats that may be affected by any or all developments, the high level of tolerance of the habitats and species that may be affected by the Project and the predicted recovery in the short term of the habitats from this impact, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Impact C4: mortality, injury and behavioural changes resulting from underwater noise, vibration and particle motion for example, UXO clearance</p> <p>The Hywind Offshore Wind Farm includes similar infrastructure as the Project's therefore the O&M and decommissioning activities that can lead to impacts to fish receptors from changes in underwater noise, vibration and particle motion are similar. The Hywind Offshore Wind Farm concluded no significant effects on all fish receptors from underwater noise. In addition, the construction stage, which is most likely to cause far reaching noise impacts, has been completed and will not overlap with the Project's construction stage. Should construction and decommissioning work be happening at multiple Projects at the same time, there is the small likelihood that cumulative behavioural (TTS) impacts will be experienced by mobile fish. These effects would be short-lived and recoverable in the short time. Therefore, the cumulative effect of underwater noise is considered to be Not Significant.</p> <p>Embedded environmental measures</p> <p>No specific embedded environmental measures were identified for fish ecology as no significant impacts were expected.</p>		
OWF-049	Moray East Offshore Wind Farm	<p>Overview</p> <p>The Moray East Offshore Wind Farm is located approximately 101.3km south of the Project OAA and 22.7km west of the offshore export cable corridor. It has been operational since 2021. It is expected that construction of the Project will overlap temporally with the operational stage of Moray East Offshore Wind Farm.</p> <p>Cumulative effects</p> <p>The Moray East Offshore Wind Farm is located outside of the Project's offshore export cable corridor and OAA and is at a distance beyond which cumulative effects are likely. Therefore, the only impact considered within the cumulative assessment for fish receptors for this development is underwater noise, considered below.</p> <p>Impact C4: mortality, injury and behavioural changes resulting from underwater noise, vibration and particle motion for example, UXO clearance</p> <p>The Moray East Offshore Wind Farm includes similar infrastructure and operational activities to the Project. The Moray East Offshore Wind Farm concluded no significant effects on all fish receptors from underwater noise during operation. As construction activities are complete and with the distance from the Project, cumulative effect of underwater noise is considered to be Not Significant.</p>	M-032 M-105 M-114	In consideration of the proposed embedded environmental measures listed, which for noise impacts minimise cumulative impacts, No Significant effect is anticipated on fish receptors (including pelagic fish, demersal fish, elasmobranchs, diadromous fish and designated sites).
Tier 1c				
OWF-032	Green Volt Offshore Wind Farm (INTOG 6)	<p>Overview</p> <p>The Project's export cable corridor overlaps with the Green Volt Offshore Wind Farm export cable corridor. The Green Volt Offshore Wind Farm OAA is 9.2km southeast of the Project OAA. It is expected that construction of the Project will overlap temporally with the operational stage of the Green Volt Offshore Wind Farm, however the construction stage of Green Volt is expected to be complete prior to commencement of the Project's construction stage. There is the potential for the Project's operational and decommissioning stage to also overlap with the Green Volt Offshore Wind Farm operational and decommissioning stages.</p> <p>Construction and decommissioning</p> <p>The Green Volt Offshore Wind Farm EIA determined that there will be no significant effects to fish receptors during the construction stage or decommissioning from:</p> <ul style="list-style-type: none"> physical disturbance and temporary habitat loss; increased suspended sediments and sediment re-deposition; re-mobilisation of contaminated sediments and sediment redistribution; potential impacts on designated sites; and underwater noise and vibration <p>O&M:</p> <p>The Green Volt Offshore Wind Farm EIA determined that there will be no significant effects to fish receptors during the O&M stage from:</p>	M-028 M-029 M-032 M-054 M-055 M-056 M-057 M-059 M-060 M-061 M-105 M-106 M-114 M-120 M-121 M-122	In consideration of the proposed embedded environmental measures listed, which for some impacts minimise cumulative impacts, No Residual Significant effect is anticipated on fish receptors (including pelagic fish, demersal fish, elasmobranchs, diadromous fish and designated sites).

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<ul style="list-style-type: none"> physical disturbance and temporary habitat loss; re-mobilisation of contaminated sediments and sediment redistribution; underwater noise and vibration; permanent habitat loss; introduction of foundations, scour protection, hard substrate and habitats; and EMFs <p>Cumulative effects These impacts have been assessed within Chapter 13: Fish Ecology and were determined to also be Not Significant. Key impacts which have the potential to lead to cumulative effects are considered below.</p> <p>Impact C2: temporary habitat loss and / or disturbance The Green Volt Offshore Wind Farm has the potential to impact the same habitat types (spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the export cable corridor overlaps with the Project's offshore export cable corridor. The proportions of habitat with the potential to be impacted is expected to be equivalent to that impacted by the Project. The impact is temporary and occurs over a relatively small spatial extent and the recoverability of all fish receptors is considered likely in the short term. As such, the cumulative effect of temporary habitat loss or disturbance is considered to be Not Significant.</p> <p>Impact C3: temporary localised increases in SSC and smothering The Green Volt Offshore Wind Farm includes similar infrastructure as the Project's therefore the activities that can lead to increases in SSC and deposition are likely to be the same or similar. It is highly unlikely that the impacts from both these projects will be occurring simultaneously, and the short duration of increased levels of SSC and redistribution of deposited sediments means that the potential for cumulative impact is minimised. Therefore, considering the small proportions of habitats that may be affected by any or all developments, the high level of tolerance of the habitats and species that may be affected by the Project and the predicted recovery in the short term of the habitats from this impact, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Impact C4: mortality, injury and behavioural changes resulting from underwater noise, vibration and particle motion for example, UXO clearance The Green Volt Offshore Wind Farm includes similar infrastructure as the Project's therefore the construction activities that can lead to impacts to fish receptors from changes in underwater noise, vibration and particle motion are similar. The Green Volt Offshore Wind Farm concluded no significant effects on all fish receptors from underwater noise. Recoverable injury and behavioural effects (TTS), affect receptors over a much larger area and therefore areas of effect arising from multiple projects have the potential to overlap, increasing the areas over which effects are experienced by receptors. Despite this larger area, the effects are temporary and recoverable, allowing recovery of fish receptors upon cessation of the impacting activities. Fish are generally mobile with the ability to move from disturbance. Mobile fish have a range of sensitivities to underwater noise, however there is a limited possibility that mobile fish would be cumulatively impacted by mortality or injurious impact ranges due to the small footprint of the area of effect. Construction will be intermittent and over a relatively short time period. Should construction work be happening at multiple Projects at the same time, there is the likelihood that cumulative behavioural (TTS) impacts will be experienced by mobile fish. These effects would be short-lived and recoverable in the short time. Therefore, the cumulative effect of underwater noise is considered to be Not Significant.</p> <p>Impact O2: long-term habitat loss and / or disturbance due to presence of offshore substation foundations, scour protection and cable protection The Green Volt Offshore Wind Farm has the potential to impact the same habitat types (including spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the Project. The proportions of habitat with the potential to be impacted by the Cenoss offshore wind farm is <1% of the habitat present within the Cenoss project area. Though this impact represents a long-term loss of habitat, the extent is highly localised and represents a negligible proportion of the wider availability of habitats around the Project. The proportions of habitat with the potential to be impacted by the current Project is also considered to be a small amount and has been assessed as not significant for all fish receptor groups. Therefore, the cumulative effect of long-term habitat loss or disturbance is considered to be Not Significant.</p> <p>These, in combination with the embedded environmental measures proposed for the current Project further reduces the chances of significant cumulative effects.</p>		
OWF-059	Salamander Offshore Wind Farm (INTOG 3)	Overview	M-028 M-029	In consideration of the proposed embedded

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>The Project's export cable corridor overlaps with the Salamander Offshore Wind Farm export cable corridor. It is expected that construction of the Project will overlap temporally with the construction and operational stage of the Salamander Offshore Wind Farm. It is expected that construction stage for Salamander Offshore Wind Farm will be complete just after the commencement of the Project's construction stage. Both project's operational stages will overlap temporally.</p> <p>Construction and decommissioning The Salamander Offshore Wind Farm EIA determined that there will be no significant effects to fish receptors during the construction stage or decommissioning from:</p> <ul style="list-style-type: none"> • damage or disturbance to sensitive species due to underwater noise generated from construction activities; • temporary habitat loss or disturbance during the installation of all seabed infrastructure and placement of vessel anchors on the seabed; and • temporary increases in SSC and potential sedimentation / smothering of fish and shellfish; <p>O&M: The Salamander Offshore Wind Farm EIA determined that there will be no significant effects to fish receptors during the O&M stage from:</p> <ul style="list-style-type: none"> • disturbance or damage to sensitive species due to underwater noise generated from O&M; • habitat loss due to the presence of infrastructure on the seabed and associated scour protection; • effects of thermal load and EMFs from subsea and dynamic cables on sensitive species; • fish aggregation around the floating substructures and associated infrastructure; and • ghost fishing due to lost fishing gear becoming entangled in installed infrastructure. <p>Cumulative effects These impacts have been assessed within Chapter 13: Fish Ecology and were determined to also be Not Significant.</p> <p>The Salamander CEA identified that cumulative effects of underwater noise due to impact piling were considered Moderate and therefore a potential significant cumulative effect would be expected. In order to mitigate this potential cumulative impact to a level that is non-significant in EIA terms, the Salamander Project will seek to coordinate with the other developers active in this region post-consent closer to the time of construction to develop a coordinated approach to timing of piling activities in order to minimise disruption to sensitive species, where possible.</p> <p>Key impacts which have the potential to lead to cumulative effects are considered below.</p> <p>Impact C2: temporary habitat loss and / or disturbance The Salamander Offshore Wind Farm has the potential to impact the same habitat types (spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the export cable corridor overlaps with the Project's offshore export cable corridor. The proportions of habitat with the potential to be impacted is expected to be equivalent to that impacted by the Project. The impact is temporary and occurs over a relatively small spatial extent and the recoverability of all fish receptors is considered likely in the short term. As such, the cumulative effect of temporary habitat loss or disturbance is considered to be Not Significant.</p> <p>Impact C3: temporary localised increases in SSC and smothering The Salamander Offshore Wind Farm includes similar infrastructure as the Project's therefore the activities that can lead to increases in SSC and deposition are likely to be the same or similar. It is highly unlikely that the impacts from both these projects will be occurring simultaneously, and the short duration of increased levels of SSC and redistribution of deposited sediments means that the potential for cumulative impact is minimised. Therefore, considering the small proportions of habitats that may be affected by any or all developments, the high level of tolerance of the habitats and species that may be affected by the Project and the predicted recovery in the short term of the habitats from this impact, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Impact C4: mortality, injury and behavioural changes resulting from underwater noise, vibration and particle motion for example, UXO clearance The Salamander Offshore Wind Farm includes similar infrastructure as the Project's therefore the construction activities that can lead to impacts to fish receptors from changes in underwater noise, vibration and particle motion are similar. The Salamander Offshore Wind Farm concluded no significant effects on all fish receptors from underwater noise. Recoverable injury and behavioural effects (TTS), affect receptors over a much larger area and therefore areas of effect arising from multiple projects have the potential to overlap, increasing the areas over which effects are experienced by receptors. Despite this larger area, the effects are temporary and recoverable, allowing recovery of fish receptors upon cessation of the impacting activities. Fish are generally mobile with the ability to move from disturbance. Mobile fish</p>	<p>M-032 M-054 M-055 M-056 M-057 M-059 M-060 M-061 M-105 M-106 M-114 M-120 M-121 M-122</p>	<p>environmental measures listed, which for some impacts minimise cumulative impacts, No Significant effect is anticipated on fish receptors (including pelagic fish, demersal fish, elasmobranchs, diadromous fish and designated sites).</p>

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>have a range of sensitivities to underwater noise, however there is a limited possibility that mobile fish would be cumulatively impacted by mortality or injurious impact ranges due to the small footprint of the area of effect. Construction will be intermittent and over a relatively short time period. Should construction work be happening at multiple Projects at the same time, there is the likelihood that cumulative behavioural (TTS) impacts will be experienced by mobile fish. These effects would be short-lived and recoverable in the short time. In addition, the Salamander Project has stated intent to coordinate with other developers active in this region post-consent closer to the time of construction to develop a coordinated approach to timing of piling activities in order to minimise disruption to sensitive species, where possible. Therefore, the cumulative effect of underwater noise is considered to be Not Significant.</p> <p>Impact O2: long-term habitat loss and / or disturbance due to presence of offshore substation foundations, scour protection and cable protection</p> <p>The Salamander Offshore Wind Farm has the potential to impact the same habitat types (including spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the Project. The proportions of habitat with the potential to be impacted by the Salamander Offshore Wind Farm is <0.1% of the habitat present within the Salamander study area. Though this impact represents a long-term loss of habitat, the extent is highly localised and represents a negligible proportion of the wider availability of habitats around the Project. The proportions of habitat with the potential to be impacted by the current Project is also considered to be a small amount and has been assessed as not significant for all fish receptor groups. Therefore, the cumulative effect of long-term habitat loss or disturbance is considered to be Not Significant.</p> <p>Embedded environmental measures</p> <p>The Salamander Offshore Wind Farm has embedded environmental measures in place such as:</p> <ul style="list-style-type: none">• adherence to a piling strategy (soft start, ramp up measures for impact piling);• entanglement management plan; and,• avoidance of sensitive features during cable routing wherever practicable. <p>These, in combination with the embedded environmental measures proposed for the current Project further reduces the chances of significant cumulative effects.</p>		
CP-001	Eastern Green Link 2 HVDC Cable and Cable Protection	<p>Overview</p> <p>Eastern Green Link 2 HVDC Cable and Cable Protection is located 81.9km southwest of the Project's OAA and makes landfall approximately 4.64km south of the Project's offshore export cable corridor. Construction began on Eastern Green Link 2 in 2024 and is expected to complete before the Project's construction stage commences. Both project's operational stages will overlap temporally.</p> <p>Construction and decommissioning</p> <p>Eastern Green Link 2 EIA determined that there will be no significant effects to fish receptors during the construction stage from:</p> <ul style="list-style-type: none">• temporary physical disturbance;• temporary increase in SSC and sediment deposition;• reduction in marine water quality;• underwater sound effects;• accidental leaks and spills from vessels; and,• vessel collision risk. <p>O&M:</p> <p>Eastern Green Link 2 EIA determined that there will be no significant effects to fish receptors during the O&M stage from:</p> <ul style="list-style-type: none">• permanent habitat loss (in areas of rock placement);• effects on fish due to EMF and thermal emissions; and,• effects due to maintenance and cable repair. <p>Cumulative effects</p> <p>These impacts have been assessed within Chapter 13: Fish Ecology and were determined to be not significant. Key impacts which have the potential to lead to cumulative effects are considered below.</p> <p>Impact C2: temporary habitat loss and / or disturbance</p> <p>Eastern Green Link 2 has the potential to impact the same habitat types (spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the cable route overlaps with the Project's offshore export cable corridor. The proportions of habitat with the potential to be impacted is expected to be equivalent to that impacted by the Project. The impact is temporary and occurs over a relatively</p>	M-028 M-029 M-032 M-054 M-055 M-056 M-057 M-059 M-060 M-061 M-105 M-106 M-114 M-120 M-121 M-122	In consideration of the proposed embedded environmental measures listed, which for some impacts minimise cumulative impacts No Significant effect is anticipated on fish receptors (including pelagic fish, demersal fish, elasmobranchs, diadromous fish and designated sites).

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>small spatial extent and the recoverability of all fish receptors is considered likely in the short term. As such, the cumulative effect of temporary habitat loss or disturbance is considered to be Not Significant.</p> <p>Impact C3: temporary localised increases in SSC and smothering Eastern Green Link 2 includes similar infrastructure as the Project's (for example, cabling) therefore the activities that can lead to increases in SSC and deposition are likely to be the same or similar. It is highly unlikely that the impacts from both these projects will be occurring simultaneously, and the short duration of increased levels of SSC and redistribution of deposited sediments means that the potential for cumulative impact is minimised. Therefore, considering the small proportions of habitats that may be affected by any or all developments, the high level of tolerance of the habitats and species that may be affected by the Project and the predicted recovery in the short term of the habitats from this impact, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Impact O2: long-term habitat loss and / or disturbance due to presence of offshore substation foundations, scour protection and cable protection Eastern Green Link 2 has the potential to impact the same habitat types (including spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the Project. The proportions of habitat with the potential to be impacted by the Eastern Green Link 2 is expected to be less than that of the Project and limited to rock placement. Though this impact represents a long-term loss of habitat, the extent is highly localised and represents a negligible proportion of the wider availability of habitats around the Project. The proportions of habitat with the potential to be impacted by the current Project is also considered to be a small amount and has been assessed as not significant for all fish receptor groups. Therefore, the cumulative effect of long-term habitat loss or disturbance is considered to be Not Significant.</p>		
Tier 1d				
OWF-014	Buchan Offshore Wind Farm (PO NE8)	<p>Overview The Project's export cable corridor overlaps with the Buchan Offshore Wind Farm export cable corridor and is 22.1km east from the Buchan Offshore Wind Farm array. It is expected that construction of the Project will overlap temporally with the construction stage of the Buchan Offshore Wind Farm and therefore there is potential for cumulative effects on fish receptors within the area. As a result of the overlap, there is the potential for the Project's operational and decommissioning stage to also overlap with the Buchan Offshore Wind Farm operational and decommissioning stages.</p> <p>Construction and decommissioning The Buchan Offshore Wind Farm EIA determined that there will be no significant effects to fish receptors during the construction stage or decommissioning from:</p> <ul style="list-style-type: none">• direct temporary habitat disturbance;• increases in SSC and sediment deposition;• increases in underwater noise leading to behavioural effects, injury or mortality; and• dismantling of components (such as mooring systems and WTGs). <p>O&M: The Buchan Offshore Wind Farm EIA determined that there will be no significant effects to fish receptors during the O&M stage from:</p> <ul style="list-style-type: none">• direct temporary habitat disturbance;• long term habitat loss;• increases in SSC and sediment deposition;• increases in underwater noise arising from operational turbines and moorings, and vessel activity;• colonisation of structures / infrastructure and increases in local biodiversity;• EMF and thermal effects of cables; and• secondary entanglement (for example, within discarded fishing gear). <p>Cumulative effects These impacts have been assessed within Chapter 13: Fish Ecology and were determined to also be Not Significant. Key impacts which have the potential to lead to cumulative effects are considered below.</p> <p>Impact C2: temporary habitat loss and / or disturbance The Buchan Offshore Wind Farm has the potential to impact the same habitat types (spawning and nursery grounds of similar species, for example, Atlantic herring (<i>Clupea harengus</i>) and sandeel (<i>Ammodytes</i> spp) as the export cable corridor overlaps with the Project's offshore export cable corridor. The proportions of habitat with the potential to be impacted is expected to be equivalent to that impacted by the</p>	M-028 M-029 M-032 M-054 M-055 M-056 M-057 M-059 M-060 M-061 M-105 M-106 M-114 M-120 M-121 M-122	In consideration of the proposed embedded environmental measures listed, which for some impacts minimise cumulative impacts, No Significant effect is anticipated on fish receptors (including pelagic fish, demersal fish, elasmobranchs, diadromous fish and designated sites).

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>Project. The impact is temporary and occurs over a relatively small spatial extent and the recoverability of all fish receptors is considered likely in the short term. As such, the cumulative effect of temporary habitat loss or disturbance is considered to be Not Significant.</p> <p>Impact C3: temporary localised increases in SSC and smothering The Buchan Offshore Wind Farm includes similar infrastructure as the Project's; therefore, the activities that can lead to increases in SSC and deposition are likely to be the same or similar. It is highly unlikely that the impacts from both these projects will be occurring simultaneously, and the short duration of increased levels of SSC and redistribution of deposited sediments means that the potential for cumulative impact is minimised. Therefore, considering the small proportions of habitats that may be affected by any or all developments, the high level of tolerance of the habitats and species that may be affected by the Project and the predicted recovery in the short term of the habitats from this impact, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Impact C4: mortality, injury and behavioural changes resulting from underwater noise, vibration and particle motion for example, UXO clearance The Buchan Offshore Wind Farm includes similar infrastructure as the Project's, therefore the construction activities that can lead to impacts to fish receptors from changes in underwater noise, vibration and particle motion are similar. The Buchan Offshore Wind Farm concluded no significant effects on all fish receptors from underwater noise. Recoverable injury and behavioural effects (TTS), affect receptors over a much larger area and therefore areas of effect arising from multiple projects have the potential to overlap, increasing the areas over which effects are experienced by receptors. Despite this larger area, the effects are temporary and recoverable, allowing recovery of fish receptors upon cessation of the impacting activities. Fish are generally mobile with the ability to move from disturbance. Mobile fish have a range of sensitivities to underwater noise, however there is a limited possibility that mobile fish would be cumulatively impacted by mortality or injurious impact ranges due to the small footprint of the area of effect. Construction will be intermittent and over a relatively short time period. Should construction work be happening at multiple Projects at the same time, there is the likelihood that cumulative behavioural (TTS) impacts will be experienced by mobile fish. These effects would be short-lived and recoverable in the short time. Therefore, the cumulative effect of underwater noise is considered to be Not Significant.</p> <p>Impact O2: long-term habitat loss and / or disturbance due to presence of offshore substation foundations, scour protection and cable protection The Buchan Offshore Wind Farm has the potential to impact the same habitat types (including spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the Project. The proportions of habitat with the potential to be impacted by the Buchan Offshore Wind Farm is <0.1% of the habitat present within the local area. Though this impact represents a long-term loss of habitat, the extent is highly localised and represents a negligible proportion of the wider availability of habitats around the Project. The proportions of habitat with the potential to be impact by the current Project is also considered to be a small amount and has been assessed as not significant for all fish receptor groups. Therefore, the cumulative effect of long-term habitat loss or disturbance is considered to be Not Significant.</p> <p>Embedded environmental measures The Buchan Offshore Wind Farm has embedded environmental measures in place such as:</p> <ul style="list-style-type: none"> • micro-siting of infrastructure; • adherence to a piling strategy (soft-start, ramp up measures for impact piling); • entanglement management plan; and • use of low order deflagration for UXO clearance. <p>These, in combination with the embedded environmental measures proposed for the current Project further reduces the chances of significant cumulative effects.</p>		
OWF-017	Cenos Offshore Wind Farm (INTOG 11)	<p>Overview The Project's export cable corridor overlaps with the Cenos Offshore Wind Farm export cable corridor. The Cenos Offshore Wind Farm OAA is 140.8km southeast of the Project OAA. It is expected that construction of the Project will overlap temporally with the construction stage of the Cenos Offshore Wind Farm and therefore there is potential for cumulative effects on fish receptors within the area. As a result of the overlap, there is the potential for the Project's operational and decommissioning stage to also overlap temporally with the Cenos Offshore Wind Farm operational and decommissioning stages.</p> <p>Construction and decommissioning The Cenos Offshore Wind Farm EIA determined that there will be no significant effects to fish receptors during the construction stage or decommissioning from:</p>	M-028 M-029 M-032 M-054 M-055 M-056 M-057 M-059 M-060 M-061	In consideration of the proposed embedded environmental measures listed, which for some impacts minimise cumulative impacts, No Significant effect is anticipated on fish receptors (including pelagic fish, demersal

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<ul style="list-style-type: none"> temporary impacts to the seabed and sensitive fish habitats (for example, spawning and / or nursery habitats); long-term impacts to the seabed and sensitive fish habitats (for example, spawning and / or nursery habitats); underwater noise and vibration; potential changes to SSC; and basking shark collision with vessels. <p>O&M: The Cenos Offshore Wind Farm EIA determined that there will be no significant effects to fish receptors during the O&M stage from:</p> <ul style="list-style-type: none"> long-term impacts to the seabed and sensitive fish habitats (for example, spawning and / or nursery habitats); underwater noise and vibration; potential effects from EMF and heat generated by cables; operational windfarm may act as a FAD; secondary entanglement; and basking shark collision with vessels. <p>Cumulative effects These impacts (with the exception of vessel collision for basking shark, which was scoped out) have been assessed within Chapter 13: Fish Ecology and were determined to also be Not Significant. Key impacts which have the potential to lead to cumulative effects are considered below.</p> <p>Impact C2: temporary habitat loss and / or disturbance The Cenos Offshore Wind Farm has the potential to impact the same habitat types (spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the export cable corridor overlaps with the Project's offshore export cable corridor. The proportions of habitat with the potential to be impacted is expected to be equivalent to that impacted by the Project. The impact is temporary and occurs over a relatively small spatial extent and the recoverability of all fish receptors is considered likely in the short term. As such, the cumulative effect of temporary habitat loss or disturbance is considered to be Not Significant.</p> <p>Impact C3: temporary localised increases in SSC and smothering The Cenos Offshore Wind Farm includes similar infrastructure as the Project's therefore the activities that can lead to increases in SSC and deposition are likely to be the same or similar. It is highly unlikely that the impacts from both these projects will be occurring simultaneously, and the short duration of increased levels of SSC and redistribution of deposited sediments means that the potential for cumulative impact is minimised. Therefore, considering the small proportions of habitats that may be affected by any or all developments, the high level of tolerance of the habitats and species that may be affected by the Project and the predicted recovery in the short term of the habitats from this impact, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Impact C4: mortality, injury and behavioural changes resulting from underwater noise, vibration and particle motion for example, UXO clearance The Cenos Offshore Wind Farm includes similar infrastructure as the Project's therefore the construction activities that can lead to impacts to fish receptors from changes in underwater noise, vibration and particle motion are similar. The Cenos Offshore Wind Farm concluded no significant effects on all fish receptors from underwater noise. Recoverable injury and behavioural effects (TTS), affect receptors over a much larger area and therefore areas of effect arising from multiple projects have the potential to overlap, increasing the areas over which effects are experienced by receptors. Despite this larger area, the effects are temporary and recoverable, allowing recovery of fish receptors upon cessation of the impacting activities. Fish are generally mobile with the ability to move from disturbance. Mobile fish have a range of sensitivities to underwater noise, however there is a limited possibility that mobile fish would be cumulatively impacted by mortality or injurious impact ranges due to the small footprint of the area of effect. Construction will be intermittent and over a relatively short time period. Should construction work be happening at multiple Projects at the same time, there is the likelihood that cumulative behavioural (TTS) impacts will be experienced by mobile fish. These effects would be short-lived and recoverable in the short time. Therefore, the cumulative effect of underwater noise is considered to be Not Significant.</p> <p>Impact O2: long-term habitat loss and / or disturbance due to presence of offshore substation foundations, scour protection and cable protection The Cenos Offshore Wind Farm has the potential to impact the same habitat types (including spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the Project. The proportions of habitat with the potential to be impacted by the Cenos Offshore Wind Farm is <0.5% of the habitat present within the Cenos project area. Though this impact represents a long-term loss of habitat, the extent is highly localised and represents a negligible proportion of the wider availability of habitats around the Project. The proportions of habitat with the potential to be impact by the current Project is also considered to be a small amount and has been assessed as not</p>	<p>M-105 M-106 M-114 M-120 M-121 M-122</p>	<p>fish, elasmobranchs, diadromous fish and designated sites).</p>

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>significant for all fish receptor groups. Therefore, the cumulative effect of long-term habitat loss or disturbance is considered to be Not Significant.</p> <p>These, in combination with the embedded environmental measures proposed for the current Project further reduces the chances of significant cumulative effects.</p>		
OWF-052	Muir Mhòr Offshore Wind Farm (PO E2)	<p>Overview The Project's export cable corridor overlaps with the Muir Mhòr Offshore Wind Farm export cable corridor. It is expected that construction of the Project will overlap temporally with the operational stage of the Muir Mhòr Offshore Wind Farm. It is expected that construction stage for Muir Mhòr Offshore Wind Farm will be complete prior to commencement of the Project's construction stage. Both projects operational stages will overlap temporally.</p> <p>Construction and decommissioning The Muir Mhòr EIA determined that there will be no significant effects to fish receptors during the construction stage or decommissioning from:</p> <ul style="list-style-type: none"> • increases in SSCs and deposition of disturbed sediments to the seabed; • temporary habitat disturbance; • direct and indirect seabed disturbance leading to release of sediment contaminants; and • mortality, injury, behavioural impacts, and auditory masking arising from noise and vibration. <p>O&M: The Muir Mhòr Offshore Wind Farm EIA determined that there will be no significant effects to fish receptors during the O&M stage from:</p> <ul style="list-style-type: none"> • permanent and / or long-term habitat loss / alteration due to the addition of infrastructure to the area; • EMF impacts arising from cables during operational stage; • ghost fishing due to lost fishing gear becoming entangled in installed infrastructure; • introduction of new hard substrates and potential for fish aggregation; and • underwater noise and vibration from operational WTGs and vessels. <p>Secondary mitigation was introduced to reduce SSC and deposition levels from construction activities during herring spawning, ultimately resulting in a minor effect, Not Significant in EIA terms.</p> <p>Cumulative effects These impacts have been assessed within Chapter 13: Fish Ecology and were determined to also be Not Significant. Key impacts which have the potential to lead to cumulative effects are considered below.</p> <p>Impact C2: temporary habitat loss and / or disturbance The Muir Mhòr Offshore Wind Farm has the potential to impact the same habitat types (spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the export cable corridor overlaps with the Project's offshore export cable corridor. The proportions of habitat with the potential to be impacted is expected to be equivalent to that impacted by the Project. The impact is temporary and occurs over a relatively small spatial extent and the recoverability of all fish receptors is considered likely in the short term. As such, the cumulative effect of temporary habitat loss or disturbance is considered to be Not Significant.</p> <p>Impact C3: temporary localised increases in SSC and smothering The Muir Mhòr Offshore Wind Farm includes similar infrastructure as the Project's therefore the activities that can lead to increases in SSC and deposition are likely to be the same or similar. It is highly unlikely that the impacts from both these projects will be occurring simultaneously, with construction stages not overlapping and the short duration of increased levels of SSC and redistribution of deposited sediments means that the potential for cumulative impact is minimised. Therefore, considering the small proportions of habitats that may be affected by any or all developments, the high level of tolerance of the habitats and species that may be affected by the Project and the predicted recovery in the short term of the habitats from this impact, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Impact C4: mortality, injury and behavioural changes resulting from underwater noise, vibration and particle motion for example, UXO clearance The Muir Mhòr Offshore Wind Farm includes similar infrastructure as the Project's therefore the construction activities that can lead to impacts to fish receptors from changes in underwater noise, vibration and particle motion are similar. The Muir Mhòr Offshore Wind Farm</p>	<p>M-028 M-029 M-032 M-054 M-055 M-056 M-057 M-059 M-060 M-061 M-105 M-106 M-114 M-120 M-121 M-122</p>	<p>In consideration of the proposed embedded environmental measures listed, which for some impacts minimise cumulative impacts, no residual significant adverse effect is anticipated on fish receptors (including pelagic fish, demersal fish, elasmobranchs, diadromous fish and designated sites).</p>

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>concluded no significant effects on all fish receptors from underwater noise. Recoverable injury and behavioural effects (TTS), affect receptors over a much larger area and therefore areas of effect arising from multiple projects have the potential to overlap, increasing the areas over which effects are experienced by receptors. Despite this larger area, the effects are temporary and recoverable, allowing recovery of fish receptors upon cessation of the impacting activities. Fish are generally mobile with the ability to move from disturbance. Mobile fish have a range of sensitivities to underwater noise, however there is a limited possibility that mobile fish would be cumulatively impacted by mortality or injurious impact ranges due to the small footprint of the area of effect. Construction will be intermittent and over a relatively short time period. Should construction work be happening at multiple Projects at the same time, there is the likelihood that cumulative behavioural (TTS) impacts will be experienced by mobile fish. These effects would be short-lived and recoverable in the short time. Therefore, the cumulative effect of underwater noise is considered to be Not Significant.</p> <p>Impact O2: long-term habitat loss and / or disturbance due to presence of offshore substation foundations, scour protection and cable protection The Muir Mhòr Offshore Wind Farm has the potential to impact the same habitat types (including spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the Project. The proportions of habitat with the potential to be impacted by the Muir Mhòr Offshore Wind Farm is approximately 2% of the habitat present within the project area. Though this impact represents a long-term loss of habitat, the extent is highly localised and represents a negligible proportion of the wider availability of habitats around the Project. The proportions of habitat with the potential to be impacted by the current Project is also considered to be a small amount and has been assessed as not significant for all fish receptor groups. Therefore, the cumulative effect of long-term habitat loss or disturbance is considered to be Not Significant.</p> <p>These, in combination with the embedded environmental measures proposed for the current Project further reduces the chances of significant cumulative effects.</p>		
CP-003	Spittal to Peterhead Subsea Cable link	<p>Overview Spittal to Peterhead Subsea Cable link is located 52.9km southwest of the Project's OAA and approximately 0.5km north of the Project's offshore export cable corridor. The project is in pre-planning stage. Spittal to Peterhead Subsea Cable link's construction stage is expected to be complete prior to the Project's construction stage. Both projects' operational stages will overlap temporally.</p> <p>Construction and decommissioning The Spittal to Peterhead Subsea Cable link Marine Environmental Assessment determined that there will be no significant effects to fish receptors during the construction stage or decommissioning from:</p> <ul style="list-style-type: none"> temporary localised disturbance of seabed habitats; temporary disturbance via suspended sediment concentration; and, temporary disturbance via underwater noise and vibration. <p>O&M: The Spittal to Peterhead Subsea Cable link EIA determined that there will be no significant effects to fish receptors during the O&M stage from:</p> <ul style="list-style-type: none"> temporary localised disturbance of seabed habitats; temporary disturbance via suspended sediment concentration; temporary disturbance via underwater noise and vibration; long term localised disturbance of seabed habitats; EMFs and localised heating; fish aggregation effects; and, ghost fishing. <p>Cumulative effects These impacts have been assessed within Volume 1, Chapter 13: Fish Ecology and were determined to be not significant. As construction stages do not overlap, assessment of cumulative effects through construction activity have not been considered. Only long-term habitat loss associated with the Project's offshore export cable corridor and Spittal to Peterhead Subsea Cable link have been assessed.</p> <p>Impact O2: long-term habitat loss and / or disturbance due to presence of offshore substation foundations, scour protection and cable protection The Spittal to Peterhead Subsea Cable link has the potential to impact the same habitat types (including spawning and nursery grounds) as the Project. The proportions of habitat with the potential to be impacted by the Spittal to Peterhead Subsea Cable link is <0.5% of the habitat</p>	M-028 M-029 M-054 M-055 M-056 M-057 M-059 M-060 M-120 M-121 M-122	In consideration of the proposed embedded environmental measures listed, which for some impacts minimise cumulative impacts, No Significant effect is anticipated on fish receptors (including pelagic fish, demersal fish, elasmobranchs, diadromous fish and designated sites).

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>present within the near-field study area. Though this impact represents a long-term loss of habitat, the extent is highly localised and represents a negligible proportion of the wider availability of habitats around the Project. The proportions of habitat with the potential to be impacted by the current Project is also considered to be a small amount and has been assessed as not significant for all fish receptor groups. Therefore, the cumulative effect of long-term habitat loss or disturbance is considered to be Not Significant.</p> <p>These, in combination with the embedded environmental measures proposed for the current Project further reduces the chances of significant cumulative effects.</p>		
Tier 2				
OWF-013	Broadshore (PO NE6)	<p>Overview Broadshore is located approximately 46.6km west of the Project OAA and 37.8km southeast of the offshore export cable corridor. It is expected that the construction and O&M stage of the Project will overlap temporally with the construction and operational stage of Broadshore. At the time of writing, only a Scoping Report exists, however the following potential impacts have been scoped in for further assessment:</p> <p>Construction and decommissioning</p> <ul style="list-style-type: none"> physical disturbance and temporary loss of habitat; increased SSC and sediment re-deposition; remobilisation of existing contaminated sediments if present; underwater noise and vibration; changes in fishing activity; and vessel collision for basking shark. <p>O&M:</p> <ul style="list-style-type: none"> permanent habitat loss; physical disturbance and temporary loss of habitat; increased SSC and sediment re-deposition; remobilisation of existing contaminated sediments; underwater noise and vibration; secondary entanglement; EMFs; introduction of hard substrate; and changes in fishing activity. <p>Cumulative effects These impacts (with the exception of vessel collision for basking shark, which was scoped out) have been assessed within Chapter 13: Fish Ecology and were determined to be Not Significant. Key impacts which have the potential to lead to cumulative effects are considered below. Due to the distance, the only impact considered within the cumulative assessment for fish receptors for this development is underwater noise, considered below.</p> <p>Impact C4: mortality, injury and behavioural changes resulting from underwater noise, vibration and particle motion for example, UXO clearance Broadshore includes similar infrastructure as the Project's, therefore the construction activities that can lead to impacts to fish receptors from changes in underwater noise, vibration and particle motion are similar. Broadshore has not completed a full assessment of significant effects from underwater noise, however it is unlikely cumulative effects will be significant due to the distance between the projects. However, due to overlapping timescales for the construction stage, it is possible impact piling activities could occur simultaneously, although it is unlikely to happen on the same days. Recoverable injury and behavioural effects (TTS) affect receptors over a much larger area and therefore areas of effect arising from multiple projects have the potential to overlap, increasing the areas over which effects are experienced by receptors. Despite this larger area, the effects are temporary and recoverable, allowing recovery of fish receptors upon cessation of the impacting activities. Fish are generally mobile with the ability to move from disturbance. Mobile fish have a range of sensitivities to underwater noise, however there is a limited possibility that mobile fish would be cumulatively impacted by mortality or injurious impact ranges due to the small footprint of the area of effect. Construction will be intermittent and over a relatively short time period. Should construction work be happening</p>	M-032 M-105 M-114	In consideration of the proposed embedded environmental measures listed, which for noise impacts minimise cumulative impacts, No Significant effect is anticipated on fish receptors (including pelagic fish, demersal fish, elasmobranchs, diadromous fish and designated sites).

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		at multiple projects at the same time, there is the likelihood that cumulative behavioural (TTS) impacts will be experienced by mobile fish. These effects would be short-lived and recoverable in the short time. Therefore, the cumulative effect of underwater noise is considered to be Not Significant .		
CP-002	Eastern Green Link 3	<p>Overview Eastern Green Link 3 is located 80.5km southwest of the Project's OAA and 1.55km south of the Project's offshore export cable corridor. The project is in pre-planning stage. The Project's construction stage is expected to overlap the construction stage for Eastern Green Link 3. Both project's operational stages will overlap temporally. At the time of writing, only a Scoping Report exists, however the following potential impacts have been scoped in for further assessment:</p> <p>Construction and decommissioning</p> <ul style="list-style-type: none"> temporary habitat loss / seabed disturbance; permanent habitat loss. <p>O&M:</p> <ul style="list-style-type: none"> temporary habitat loss / seabed disturbance; permanent habitat loss; electromagnetic changes / Barrier to species movement. <p>Cumulative effects These impacts have been assessed within Chapter 13: Fish Ecology and were determined to be not significant. Key impacts which have the potential to lead to cumulative effects are considered below.</p> <p>Impact C2: temporary habitat loss and / or disturbance Eastern Green Link 3 has the potential to impact the same habitat types (spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the cable route overlaps with the Project's offshore export cable corridor. The proportions of habitat with the potential to be impacted is expected to be equivalent to that impacted by the Project. The impact is temporary and occurs over a relatively small spatial extent and the recoverability of all fish receptors is considered likely in the short term. As such, the cumulative effect of temporary habitat loss or disturbance is considered to be Not Significant.</p> <p>Impact C3: temporary localised increases in SSC and smothering Eastern Green Link 3 will require disturbance of the seabed and cable laying. These are activities that can lead to increases in SSC and deposition are likely to be the same or similar. It is highly unlikely that the impacts from both these projects will be occurring simultaneously, and the short duration of increased levels of SSC and redistribution of deposited sediments means that the potential for cumulative impact is minimised. Therefore, considering the small proportions of habitats that may be affected by any or all developments, the high level of tolerance of the habitats and species that may be affected by the Project and the predicted recovery in the short term of the habitats from this impact, the cumulative effect of increased SSC and smothering is considered to be Not Significant.</p> <p>Impact O2: long-term habitat loss and / or disturbance due to presence of offshore substation foundations, scour protection and cable protection Eastern Green Link 3 has the potential to impact the same habitat types (including spawning and nursery grounds of similar species, for example, Atlantic herring and sandeel) as the Project. Though this impact represents a long-term loss of habitat, the extent is highly localised and represents a negligible proportion of the wider availability of habitats around the Project. The proportions of habitat with the potential to be impacted by the current Project is also considered to be a small amount and has been assessed as not significant for all fish receptor groups. Therefore, the cumulative effect of long-term habitat loss or disturbance is considered to be Not Significant.</p>	M-028 M-029 M-032 M-054 M-055 M-056 M-057 M-059 M-060 M-061 M-105 M-106 M-114 M-120 M-121 M-122	In consideration of the proposed embedded environmental measures listed, which for some impacts minimise cumulative impacts No Significant effect is anticipated on fish receptors (including pelagic fish, demersal fish, elasmobranchs, diadromous fish and designated sites).
Tier 3a				
OWF-003	Aspen (INTOG 7)	<p>Overview Aspen (INTOG 7) is located approximately 25km southeast of the Project OAA and 27.3km southeast of the offshore export cable corridor. It is expected that the construction and O&M stage of the Project will overlap temporally with the operational stage of Aspen. At the time of writing, only a Scoping Report exists, however the following potential impacts have been scoped in for further assessment:</p> <p>Construction and decommissioning</p> <ul style="list-style-type: none"> mortality, injury, behavioural impacts and auditory masking arising from noise and vibration; 	M-032 M-105 M-114	In consideration of the proposed embedded environmental measures listed, which for noise impacts minimise cumulative impacts, No Significant effect is

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<ul style="list-style-type: none">temporary increases in SSC and deposition;direct and indirect seabed disturbance leading to release of sediment contaminants;temporary habitat disturbance; andincreased risk of introduction and / or spread of INNS. <p>O&M</p> <ul style="list-style-type: none">temporary increases in SSC and deposition;direct and indirect seabed disturbance leading to release of sediment contaminants;temporary habitat disturbance;increased risk of introduction and / or spread of INNS;long-term habitat loss;colonisation of hard substrates; andEMF effects arising from cables. <p>Cumulative effects These impacts have been assessed within Chapter 13: Fish Ecology and were determined to be Not Significant. Key impacts which have the potential to lead to cumulative effects are considered below. Due to the distance, the only impact considered within the cumulative assessment for fish receptors for this development is underwater noise, considered below.</p> <p>Impact C4: mortality, injury and behavioural changes resulting from underwater noise, vibration and particle motion for example, UXO clearance The Aspen (INTOG 7) includes similar infrastructure as the Project's therefore the construction activities that can lead to impacts to fish receptors from changes in underwater noise, vibration and particle motion are similar. The Aspen (INTOG 7) has not completed a full assessment of significant effects from underwater noise; however, it is unlikely cumulative effects will be significant due to the distance between the projects, and due to an absence of construction stage overlap. Recoverable injury and behavioural effects (TTS) affect receptors over a much larger area and therefore areas of effect arising from multiple projects have the potential to overlap, increasing the areas over which effects are experienced by receptors. Despite this larger area, the effects are temporary and recoverable, allowing recovery of fish receptors upon cessation of the impacting activities. Fish are generally mobile with the ability to move from disturbance. Mobile fish have a range of sensitivities to underwater noise, however there is a limited possibility that mobile fish would be cumulatively impacted by mortality or injurious impact ranges due to the small footprint of the area of effect. Should they overlap, construction will be intermittent and over a relatively short time period. Should construction work be happening at multiple Projects at the same time, there is the likelihood that cumulative behavioural (TTS) impacts will be experienced by mobile fish. These effects would be short-lived and recoverable in the short time. Therefore, the cumulative effect of underwater noise is considered to be Not Significant.</p>		anticipated on fish receptors (including pelagic fish, demersal fish, elasmobranchs, diadromous fish and designated sites).

33.6.8 Commercial fisheries cumulative effects assessment

- 33.6.8.1 For commercial fisheries a ZOI that covers the North Sea and up to 510km in distance from the Project has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed.
- 33.6.8.2 For commercial fisheries, the ZOI represents a balance between adequately capturing the operational range of fleets active across the Project area and maintaining a cumulative assessment that is both meaningful and proportionate. By extending the ZOI to cover the North Sea and up to 510km from the Project, the analysis ensures that potential cumulative effects on fleets operating across wide fishing grounds are properly identified. At the same time, the ZOI avoids being set so broadly that it dilutes the relevance of the assessment by incorporating extensive areas of alternative fishing grounds that would not realistically be displaced or impacted. This approach ensures that the CEA reflects the practical fishing dynamics of the fleets most likely to be affected, without overstating or underrepresenting the cumulative effect.
- 33.6.8.3 The commercial fisheries ZOI is shown in Figure 2 of **Volume 3, Appendix 33.5**.
- 33.6.8.4 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.8.5 Only those 'other developments' in the 'short list' that fall within the commercial fisheries ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the commercial fisheries ZOI are excluded from this assessment.
- 33.6.8.6 On the basis of the above, the 'other developments' that are scoped into the commercial fisheries CEA are outlined in **Volume 3, Appendix 33.1**.
- 33.6.8.7 **Volume 3, Appendix 33.5** describes the methodology used for commercial fisheries, which has not followed the NSIP guidance or the CEA methodology for Stage 4 outlined in **Section 33.4**.
- 33.6.8.8 For 'other developments' where there is not enough information publicly available as set out in **paragraph 33.4.4.1**, have not been taken forward in stage 4 and outlined in Table 2.1 of **Volume 3, Appendix 33.5**.
- 33.6.8.9 The CEA for commercial fisheries is set out in **Volume 3, Appendix 33.5**, with a summary provided in **Table 33.14**.

Table 33.14 Cumulative effects assessment for commercial fisheries

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1c		Cumulative impact 1: Reduction in access to, or exclusion from established fishing grounds Carbon capture and storage projects, the Eastern Green Link 3 cable, and potential wave and tidal extensions are also considered within the cumulative assessment. These developments have a highly localised footprint, with impacts confined to small seabed areas or linear corridors. As such, they do not materially alter patterns of access to established fishing grounds beyond what has already been assessed at the project-alone level. Their contribution to cumulative effects is Negligible . Cumulative impact 2: Displacement leading to gear conflict and increased fishing pressure on adjacent grounds Carbon capture and storage projects, the Eastern Green Link 3 cable, and wave or tidal extensions are of a much smaller scale than offshore wind farms and occupy a very limited spatial footprint. Their localised effects are unlikely to displace fishing effort at a scale that would generate conflict or increase pressure on adjacent grounds. These projects therefore do not add to the cumulative displacement effects and are assessed to remain at the project-alone level. Cumulative impact 3: Disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity Carbon capture and storage projects, the Eastern Green Link 3 cable, and potential wave and tidal extensions may give rise to short-term disturbance during installation, but these effects are localised and of limited spatial extent. Their footprint is small relative to the wider fishing grounds of the North Sea, and they do not result in detectable changes to fish or shellfish resources at stock level. Accordingly, they do not contribute additional cumulative disturbance beyond what is already captured at the project-alone level	M-029 M-030 M-031 M-038 M-039 M-048 M-049 M-050 M-051 M-052 M-053 M-054 M-106 M-120 M-122	Cumulative impact 1: Reduction in access to, or exclusion from established fishing grounds. Moderate adverse significance for demersal otter trawl, demersal seine, dredging, pelagic trawl and pelagic seine and Minor Adverse (Not Significant) for all other receptors. Cumulative impact 2: Displacement leading to gear conflict and increased fishing pressure on adjacent grounds. Moderate Adverse (Significant) for all receptors. Cumulative impact 3: Disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity. Minor Adverse (Not Significant) for all receptors.
CCS-001	Viking CCS (Viking Cluster)			
CCS-004	Orion CCS (CS017)			
CCS-005	Poseidon Project (CS009)			
CCS-001	Eastern Green Link 2 HVDC Cable and Cable Protection			
WT-014	EMEC Magallanes 2 Extension			
Tier 1d		Cumulative impact 3: Disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity Carbon capture and storage projects, the Eastern Green Link 3 cable, and potential wave and tidal extensions may give rise to short-term disturbance during installation, but these effects are localised and of limited spatial extent. Their footprint is small relative to the wider fishing grounds of the North Sea, and they do not result in detectable changes to fish or shellfish resources at stock level. Accordingly, they do not contribute additional cumulative disturbance beyond what is already captured at the project-alone level	Additional mitigation measures M-218 M-219 M-220 M-221 M-222 M-223	
CCS-003	Acorn Carbon Capture and Storage Site			
Tier 1a		Cumulative impact 1: Reduction in access to, or exclusion from established fishing grounds Cumulative effects on access to established fishing grounds arise where offshore wind farms overlap with key fishing areas. Fixed foundation wind farms generally allow a degree of continued access, with demersal otter trawl, seine, potting and, in some cases, scallop dredging able to resume operations once construction is complete. Overtrawl surveys, cable protection and project-level measures, such as obstacle-free corridors, have supported this resumption. Fishermen have demonstrated adaptability, adjusting gear deployment and fishing practices to continue operating within or around offshore wind farm areas. In contrast, floating wind farms present greater challenges. Fishing activity is unlikely to resume within floating arrays during any phase, resulting in a more permanent exclusion of grounds. Evidence from the ABPmer (2022) spatial squeeze analysis highlights the growing cumulative competition for space between commercial fisheries and offshore developments. The recently published Social and Economic Impact Assessment (Scottish Government, 2025), accompanying the Draft Updated Sectoral Marine Plan for Offshore Wind, similarly identifies commercial fisheries as a key sector affected and provides quantified estimates of potential economic costs within ScotWind projects, reinforcing the need for coordinated management of spatial pressures. While the present overlap has largely been in areas of lower fishing intensity, future expansion of both floating offshore wind and spatial conservation management will increase pressures. Nevertheless, project-specific mitigation, disruption payments, and communication measures have helped to offset direct losses and reduce disruption to fishing operations.	M-029 M-030 M-031 M-038 M-039 M-048 M-049 M-050 M-051 M-052 M-053 M-054 M-106 M-120 M-122	Cumulative impact 1: Reduction in access to, or exclusion from established fishing grounds. Moderate adverse significance for demersal otter trawl, demersal seine, dredging, pelagic trawl and pelagic seine and Minor Adverse (Not Significant) for all other receptors. Cumulative impact 2: Displacement leading to gear conflict and increased fishing pressure on adjacent grounds. Moderate Adverse (Significant) for all receptors. Cumulative impact 3: Disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity. Minor Adverse (Not Significant) for all receptors.
OWF-061	Seagreen Offshore Wind Farm			
Tier 1c				
OWF-009	Berwick Bank Offshore Wind Farm			
OWF-022	Dogger Bank C, Dogger Bank Windfarm			
OWF-027	East Anglia ONE North			
OWF-028	East Anglia TWO			
OWF-032	Green Volt – Floating Offshore Wind Farm (INTOG 6)			
OWF-054	Norfolk Boreas Offshore Wind Farm			
			Additional mitigation measures M-218 M-219 M-220 M-221 M-222 M-223	

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
OWF-059	Salamander (INTOG 3)	<p>Overall, the cumulative reduction in access to, or exclusion from, established fishing grounds represents a significant constraint on certain fleets, particularly demersal otter trawl, seine, scallop dredging and pelagic trawl, while impacts are lower for inshore potting and static gear fisheries. Considering the persistence of restrictions, the increasing role of floating wind farms, and the overlapping implementation of MPA management measures, this impact is assessed as being of Moderate Adverse (Significant) in EIA terms.</p> <p>Cumulative impact 2: Displacement leading to gear conflict and increased fishing pressure on adjacent grounds</p> <p>Displacement of fishing activity occurs where access to traditional fishing grounds is reduced, forcing fleets to operate in alternative areas. For fixed foundation offshore wind farms, displacement effects have tended to be temporary, with many fleets resuming activity within arrays once construction has finished. Scallop dredgers, demersal otter trawlers and potting fleets have generally re-established operations, while pelagic trawl has been constrained but with alternative fishing opportunities available outside wind farm footprints. In contrast, floating offshore wind farms represent a longer-term or permanent displacement, as fishing is not expected to resume within array areas. This intensifies competition in adjacent fishing grounds and raises the potential for gear conflict between fleets targeting overlapping species.</p>		
OWF-062	Sheringham and Dudgeon Offshore Wind Farm Extension			
OWF-072	West of Orkney Offshore Wind Farm (PO N1)			
OWF-133	Berwick Bank Offshore Wind Farm (Cambois Connection)			
OWF-134	Seagreen 1A Offshore Wind Farm			
Tier 1d				
OWF-014	Buchan Offshore Wind Farm (PO NE8)	<p>The cumulative pressures are compounded by the expansion of Marine Protected Area (MPA) management measures, which also displace effort into fewer accessible grounds. These combined pressures heighten risks of conflict and increased fishing intensity on remaining grounds. Project-level mitigation such as obstacle-free zones, disruption agreements, and proactive engagement with the fishing industry can help reduce the severity of displacement, but cannot eliminate the redistribution of effort.</p>		
OWF-015	Caledonia Offshore Wind Farm (PO NE4)			
OWF-017	Cenos Floating Offshore Wind Farm (INTOG 11)			
OWF-023	Dogger Bank South East	<p>Taken together, displacement effects from floating offshore wind and MPA restrictions are expected to lead to sustained competition for fishing grounds, with moderate implications for the efficiency and safety of fishing operations. On this basis, the cumulative impact of displacement leading to gear conflict and increased fishing pressure on adjacent grounds is considered to be of Moderate Adverse (Significant) in EIA terms.</p> <p>Cumulative impact 3: Disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity</p> <p>The construction and operation of offshore wind farms can result in disturbance to fish and shellfish through underwater noise, sediment plumes, and long-term seabed habitat changes. These effects are generally temporary during construction, localised in nature, and limited in scale. Scientific evidence indicates that while individual fish and shellfish may exhibit short-term behavioural responses or displacement, these impacts are not detectable at the stock level. Similarly, long-term seabed habitat loss from scour and cable protection is restricted to small footprints, typically within areas of common and widespread habitat types.</p>		
OWF-029	Five Estuaries Offshore Wind Farm			
OWF-052	Muir Mhòr Floating Wind Farm (PO E2)			
OWF-056	Ossian Floating Offshore Wind Farm (PO E1)			
OWF-057	Outer Dowsing Offshore Wind Farm			
OWF-135	Dogger Bank South West, RWE Renewables	<p>Cumulatively, even with the expansion of offshore wind in the North Sea, the disturbance effects are not predicted to interact in ways that significantly alter fish or shellfish populations, nor are they expected to create resource-driven displacement of fisheries at a meaningful scale. The fishing industry is therefore unlikely to experience disruption to activity from resource-level changes beyond minor, short-term or localised adjustments.</p> <p>Accordingly, the disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity is considered to be of Minor Adverse (Significant) in EIA terms.</p>		

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 2		<p>Cumulative impact 1: Reduction in access to, or exclusion from established fishing grounds Additional offshore wind farms and the implementation of offshore MPAs both contribute to the cumulative footprint; however, the effect does not increase the overall assessment beyond moderate adverse significance. The geographic spread of wind farms across the North Sea and the east coast of the UK means that impacts are distributed across different fleet operators, while MPA measures layer further restrictions onto bottom-contact gear in particular. These combined pressures must also be considered in the context of a changing fisheries outlook, where fleets are already adjusting to revised total allowable catches (TACs), stock distribution shifts, and wider environmental pressures. Taken together, these factors reinforce the cumulative burden but do not raise the significance above a Moderate level.</p> <p>Cumulative impact 2: Displacement leading to gear conflict and increased fishing pressure on adjacent grounds Additional offshore wind farms and MPA management measures contribute to the displacement footprint, but the cumulative effect remains at moderate adverse significance. The wide geographic distribution of projects across the North Sea and UK east coast means that while pressure on preferred fishing areas does increase, it is distributed across multiple fleet operators rather than concentrated in a single location. This effect is compounded by fleets already needing to respond to changes in TACs, shifting fish stock trends, and wider environmental pressures, which together drive adaptation strategies and influence fishing patterns. Although these interacting factors increase competition for space, they do not raise the cumulative significance above Moderate.</p> <p>Cumulative impact 3: Disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity While additional wind farms and the implementation of offshore MPAs both contribute incrementally to the overall pressures on fishing activity, the effect of fish and shellfish disturbance remains at minor adverse significance. This outcome reflects the highly localised nature of disturbance impacts and the fact that fleets already face ongoing challenges linked to changing TACs, stock movements, and wider environmental variability, which together exert a stronger influence on fishing opportunities than offshore development effects alone. These factors ensure that the significance does not rise beyond Minor in cumulative terms.</p>	<p>M-029 M-030 M-031 M-038 M-039 M-048 M-049 M-050 M-051 M-052 M-053 M-054 M-106 M-120 M-122</p> <p>Additional mitigation measures M-218 M-219 M-220 M-221 M-222 M-223</p>	<p>Cumulative impact 1: Reduction in access to, or exclusion from established fishing grounds. Moderate adverse (Significant) for demersal otter trawl, demersal seine, dredging, pelagic trawl and pelagic seine and Minor Adverse (Not Significant) for all other receptors.</p> <p>Cumulative impact 2: Displacement leading to gear conflict and increased fishing pressure on adjacent grounds. Moderate Adverse (Significant) for all receptors.</p> <p>It is highlighted that the Project is committed to implementing a proportionate fisheries monitoring programme (M-222) at the scale of the commercial fisheries regional study area. The Project continues to engage with the Regional Commercial Fisheries Working Group and is supportive of developing co-ordinated monitoring where feasible. This commitment to monitoring does not reduce the residual cumulative effect for impacts 1 and 2.</p> <p>Cumulative impact 3: Disturbance of commercially important fish and shellfish resources leading to displacement or disruption of fishing activity. Minor Adverse (Not Significant) for all receptors.</p>
OWF-008	Bellrock Offshore Wind Farm (PO E1)			
OWF-013	Broadshore Offshore Wind Farm (PO NE6)			
OWF-018	Bowdun Offshore Wind Farm (PO E3)			
OWF-019	Ayre Offshore Wind Farm (PO NE2) Cluaran Ear-Thuath			
OWF-051	Morven Offshore Wind Farm (PO E1)			
OWF-066	Stromar Offshore Wind Farm (PO NE3)			
OWF-082	Spiorad na Mara Offshore Wind Farm (PO N4)			
OWF-085	Dogger Bank D Offshore Wind Farm			
CP-002	Eastern Green Link 3			
OG-001	Central North Sea Electrification Project			
MPAs	Offshore and Inshore Marine Protected Areas (MPAs)			
Tier 3		<p>Additional projects do not raise the cumulative impact beyond that assessed for Tier 2, since Tier 3 projects are geographically dispersed and their construction is anticipated to occur incrementally over an extended timeframe.</p>	<p>M-029 M-030 M-031 M-038 M-039 M-048 M-049 M-050 M-051 M-052 M-053 M-054 M-106 M-120 M-122</p>	<p>Does not raise the cumulative impact beyond that assessed for Tier 2.</p>
CP-004	Buchan Oil Field Electrification			
OWF-003	Aspen Offshore Wind Farm (INTOG 7)			
OWF-042	Havbredey Offshore Wind Farm (PO N2)			
OWF-043	Talisk Offshore Wind Farm (PO N3)			
OWF-108	Odin			

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
OWF-080	Utsira nord - phase 2 Floating Wind Farm		Additional mitigation measures M-218 M-219 M-220 M-221 M-222 M-223	
OWF-088	Vestavind B			
OWF-090	Vestavind C			
OWF-094	Utsira nord - phase 1			
OWF-110	Nordsøen - Tender 2			
OWF-111	Nordsøen - Tender 3			
OWF-112	Nordsøen - Tender 4			
OWF-113	Nordsøen - Tender 5			
OWF-114	Nordsøen - Tender 6			
OWF-115	Nordsøen - Tender 7			
OWF-116	Nordsøen - Tender 8			
OWF-117	Nordsøen - Tender 9			
OWF-118	Nordsøen - Tender 10			
OWF-120	N-19.1			
OWF-122	N-19.3			

33.6.9 Shipping and navigation cumulative effects assessment

- 33.6.9.1 For shipping and navigation, a ZOI of 50nm (92.6km) surrounding the OAA has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The maximum distance within which developments are considered for the CEA is 50nm from the OAA, 10nm from the reactive compensation platform search area, and 2nm from the offshore export cable corridor on the basis that there is not considered to be a direct pathway between the Project and any development beyond these distances. This distance is standard within shipping and navigation assessments and provides a reasonable overview of cumulative traffic patterns. The shipping and navigation ZOI is shown in **Volume 2, Figure 33.14: 'Other developments' screened into the CEA for shipping and navigation.**
- 33.6.9.2 Given the unique nature of shipping and navigation, the 'short list' and tiering system applied in the assessment of the CEA differs from that assumed in the overarching EIA Report (see **Chapter 5: Approach to the EIA**).
- 33.6.9.3 The methodology used to identify cumulative developments that may interact with the Projects ZOI for shipping and navigation is outlined in Section 3.3 of **Volume 3, Appendix 15.1: Navigational Risk Assessment**. This approach takes into account the varying type, status and location of developments, and so different scenarios have been considered in the cumulative risk assessment, which allocates developments into the scenarios depending upon this dedicated criterion.
- 33.6.9.4 On the basis of the above, the 'other developments' that are scoped into shipping and navigation CEA are outlined in Section 13 of **Volume 3, Appendix 15.1**.
- 33.6.9.5 The CEA for shipping and navigation is set out in Section 21 of **Volume 3, Appendix 15.1** but in summary, the risk assessment concluded that there would be **No Significant** risks arising from the Project cumulatively with those other developments identified from the cumulative screening with embedded environmental measures in place during the construction, O&M, or decommissioning stage. The significance of risk for all hazards across the cumulative risk assessment were predicted to be broadly acceptable or tolerable with mitigation and as low as reasonably practicable assuming the implementation of the embedded environmental measures identified which is **Not Significant** in EIA terms.

33.6.10 Marine archaeology and cultural heritage cumulative effects assessment

- 33.6.10.1 For marine archaeology and cultural heritage, a ZOI of 5km from the Project's boundary has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The marine archaeology and cultural heritage ZOI is shown in **Volume 2, Figure 33.15: 'Other developments' screened into the CEA for marine archaeology and cultural heritage**.
- 33.6.10.2 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.10.3 Only those 'other developments' in the 'short list' that fall within the marine archaeology and cultural heritage ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the marine archaeology and cultural heritage ZOI are excluded from this assessment.
- 33.6.10.4 On the basis of the above, the 'other developments' that are scoped into the marine archaeology and cultural heritage CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.15**.
- 33.6.10.5 For 'other developments' where there is not enough information publicly available as set out in **paragraph 33.4.4.1**, the following shortlisted 'other developments' have not been taken forward to Stage 4:
- AGG-01 North Buchan Ness; AGG-002 Peterhead Harbour; AGG-006 Middel Buchan Ness disposal sites, insufficient availability of environmental information and subsequently an assessment is not possible;
 - CCS-003 Acorn Carbon Capture and Storage Site, insufficient availability of environmental information for the offshore components of the development and subsequently an assessment is not possible;
 - OW-0001 Construction of Outfall Pip – North base jetty, Peterhead Harbour; and
 - CP-001 Central North Sea Electrification Project.
- 33.6.10.6 A qualitative assessment considering the Project in combination with other reasonably foreseeable 'other developments' on marine archaeological and cultural heritage receptors has been undertaken and noting the current status of those 'other developments' at the time of writing, and the available are, additive cumulative effects are considered to be **Not Significant**, and not greater than that assessed below.
- 33.6.10.7 The CEA for marine archaeology and cultural heritage is set out in **Table 33.15**.

Table 33.15 Cumulative effects assessment for marine archaeology and cultural heritage

Short list ID	Tier	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1a					
OWF-040	1a	Hywind Scotland Pilot Park	<p>The Hywind Scotland Pilot Park’s export cable corridor partially overlaps with the Project from 1.2km to the southeast of Lunderton Landfall to 9.1km southeast of Lunderton landfall. Within the overlapped corridor there is potential for cumulative effects as a result of direct physical impact on potential unknown archaeological remains, identified geophysical anomalies, palaeo-landscape features, and potential palaeo-environmental remains within the near shore.</p> <p>All marine archaeological and cultural heritage receptors are vulnerable to direct impact and would not be capable of recovering from impact. The value of the receptors would be of up to high value.</p> <p>Impact on identified geophysical anomalies will be avoided through the implementation of approved Archaeological Exclusion Zones (AEZs) which will avoid any impact to the receptors. It is anticipated that following the initial discovery of any currently potential unknown archaeological remains of medium or high value, an AEZ or Temporary Exclusion Zone (TEZ) would be determined with the regulator and further impact would be mitigated through avoidance. Given that avoidance is both the most common form of mitigation and the best mitigation for marine archaeology and cultural heritage receptors, it would be expected that once the location for receptors are within the heritage databases and known by the regulator, impacts to those receptors would be avoided or minimised and further impact would be unlikely.</p>	M-034 M-035 M-199	No Significant cumulative effect is anticipated.
			<p>The Hywind Scotland Pilot Park’s export cable corridor partially overlaps with the Project from 1.2km to the southeast of Lunderton Landfall to 9.1km southeast of Lunderton Landfall. Within the overlapped corridor there is potential for cumulative effects as a result of indirect physical impact on potential unknown archaeological remains, identified geophysical anomalies, palaeo-landscape features, and potential palaeo-environmental remains within the near shore.</p> <p>All marine archaeological and cultural heritage receptors are vulnerable to direct impact and would not be capable of recovering from impact. The value of the receptors would be of up to high value.</p> <p>Impact on identified geophysical anomalies will be avoided through sensitive design and the implementation of approved AEZs, which will minimise any impact to the receptors. It is anticipated that following the initial discovery of any receptors of medium or high value, an AEZ or TEZ would be determined with the regulator and further impact would be minimised.</p>	M-036 M-199	Minor Adverse (Not Significant) cumulative effect.
Tier 1c					
OWF-032	1c	Green Volt Offshore Wind Farm (INTOG 6)	<p>The Green Volt Offshore Wind Farm’s proposed export cable corridor partially overlaps with the Project’s from Lunderton landfall east for 37km along the export cable corridor. Within the overlapped corridor, there is potential for cumulative effects as a result of direct physical impact on potential unknown archaeological remains, identified geophysical anomalies, palaeo-landscape features, and potential palaeo-environmental remains within the near shore.</p> <p>All marine archaeological and cultural heritage receptors are vulnerable to direct impact and would not be capable of recovering from impact. The value of the receptors would be of up to high value.</p> <p>Impact on identified geophysical anomalies will be avoided through the implementation of approved AEZs, which will avoid any impact to the receptors. It is anticipated that following the initial discovery of any currently potential unknown archaeological remains of medium or high value, an AEZ or TEZ would be determined with the regulator and further impact would be mitigated through avoidance. Given that avoidance is both the most common form of mitigation and the best mitigation for marine archaeology and cultural heritage receptors, it would be expected that once the location for receptors are within the heritage databases and known by the regulator, impacts to those receptors would be avoided or minimised and further impact would be unlikely.</p>	M-034 M-035 M-199	No Significant cumulative effect is anticipated.
			<p>The Green Volt Offshore Wind Farm’s proposed export cable corridor partially overlaps with the Project. Within the overlapped corridor, there is potential for cumulative effects as a result of indirect physical impact on potential unknown archaeological remains, identified geophysical anomalies, palaeo-landscape features, and potential palaeo-environmental remains within the</p>	M-036 M-199	Minor adverse (Not Significant) cumulative effect.

Short list ID	Tier	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			<p>near shore. The known evidence of scour observed during the archaeological assessment of the geophysical data (Appendices 16.3 and 16.4) suggests that scour would be localised, not extending more than a kilometre.</p> <p>All marine archaeological and cultural heritage receptors are vulnerable to direct impact and would not be capable of recovering from impact. The value of the receptors would be of up to high value.</p> <p>Impact on identified geophysical anomalies will be avoided through sensitive design and the implementation of approved AEZs which will minimise any impact to the receptors. It is anticipated that following the initial discovery of any receptors of medium or high value, an AEZ or TEZ would be determined with the regulator and further impact would be minimised.</p>		
OWF-059	1c	Salamander Offshore Wind Farm (INTOG 3)	<p>The Salamander Offshore Wind Farm's export cable corridor partially overlaps with the Project from the proposed Lunderton Landfall east / northeast for 26.8km. Within the overlapped corridor, there is potential for cumulative effects as a result of direct physical impact on potential unknown archaeological remains, identified geophysical anomalies, palaeolandscape features, and potential palaeoenvironmental remains within the near shore.</p> <p>All marine archaeological and cultural heritage receptors are vulnerable to direct impact and would not be capable of recovering from impact. The value of the receptors would be of up to high value.</p> <p>Impact on identified geophysical anomalies will be avoided through the implementation of approved AEZs which will avoid any impact to the receptors. It is anticipated that following the initial discovery of any currently potential unknown archaeological remains of medium or high value, an AEZ or TEZ would be determined with the regulator and further impact would be mitigated through avoidance. Given that avoidance is both the most common form of mitigation and the best mitigation for marine archaeology and cultural heritage receptors, it would be expected that once the location for receptors are within the heritage databases and known by the regulator, impacts to those receptors would be avoided or minimised and further impact would be unlikely.</p>	M-034 M-035 M-199	No Significant cumulative effect is anticipated.
			<p>The Salamander Offshore Wind Farm's export cable corridor partially overlaps with the Project from the proposed Lunderton Landfall east / northeast for 26.8km. Within the overlapped corridor there is potential for cumulative effects as a result of indirect physical impact on potential unknown archaeological remains, identified geophysical anomalies, palaeolandscape features, and potential palaeoenvironmental remains within the near shore.</p> <p>All marine archaeological and cultural heritage receptors are vulnerable to direct impact and would not be capable of recovering from impact. The value of the receptors would be of up to high value.</p> <p>Impact on identified geophysical anomalies will be avoided through sensitive design and the implementation of approved AEZs which will minimise any impact to the receptors. It is anticipated that following the initial discovery of any receptors of medium or high value, an AEZ or TEZ would be determined with the regulator and further impact would be mitigated through avoidance.</p>	M-036 M-199	Minor Adverse (Not Significant) cumulative effect.
CP-001	1c	Eastern Green Link 2 HVDC Cable and Cable Protection	There is no physical overlap of the proposed Eastern Green Link 2 HVDC Cable and Cable Protection with the Project; therefore, there is no potential for cumulative effects from direct physical impact. Additionally, the Eastern Green Link 2 HVDC Cable and Cable Protection is considered to be at too far a distance from the Project for indirect physical impacts from scour to impact the receptors; subsequently, it is considered that there is no potential for cumulative effects from indirect impact.	N/A	N/A
Tier 1d					
OWF-014	1d	Buchan Offshore Wind Farm (PO NE8)	<p>The Buchan Offshore Wind Floating Energy Alliance NE8's proposed export cable corridor partially overlaps with the Project 3.6km to the northeast of the Scotston landfall. There are no known marine archaeology and cultural heritage receptors within the area of overlap, and no cumulative effect is, therefore, anticipated on known receptors.</p> <p>Within the area of overlap, there is potential for cumulative effects as a result of direct physical impact on potential unknown archaeological remains and potential palaeoenvironmental remains within the near shore. The value of the receptors would be of up to high value. The receptors would not recover once impacted.</p> <p>It is anticipated that following the initial discovery of any receptors of medium or high value, an AEZ or TEZ would be determined with the regulator and further impact would be mitigated through avoidance. Given that avoidance is both the most common form of mitigation and the best mitigation for marine archaeology and cultural heritage receptors, it would be expected</p>	M-034 M-035 M-199	No Significant cumulative effect is anticipated.

Short list ID	Tier	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			that once the location for receptors are within the heritage databases and known by the regulator, impacts to those receptors would be avoided or minimised and further impact would be unlikely.		
			<p>The Buchan Offshore Wind Floating Energy Alliance NE8's proposed export cable corridor partially overlaps with the Project 3.6km to the northeast of the Scotston landfall. Within the overlapped corridor, there is potential for cumulative effects as a result of indirect physical impact on potential unknown archaeological remains and potential palaeoenvironmental remains within the near shore. There are no known marine archaeology and cultural heritage receptors within the area of overlap. The known evidence of scour observed during the archaeological assessment of the geophysical data (Volume 3, Appendix 16.3 and Volume 3, Appendix 16.4) suggests that scour would be localised, not extending more than a kilometre from the initial disturbance.</p> <p>All marine archaeological and cultural heritage receptors are vulnerable to indirect impact from scour and would not be capable of recovering from impact. The value of the receptors would be of up to high value.</p>	M-036 M-199	Minor Adverse (Not Significant) cumulative effect.
OWF-017	1d	Cenos Offshore Wind Farm (INTOG 11)	<p>The Cenog Offshore Wind Farm's proposed export cable corridor partially overlaps with the Project from approximately 7km off the Project's landfall to 27km off landfall. Within the overlapped corridor, there is potential for cumulative effects as a result of direct physical impact on identified geophysical anomalies, potential unknown archaeological remains, and palaeo-landscape features.</p> <p>All marine archaeological and cultural heritage receptors are vulnerable to direct impact and would not be capable of recovering from impact. The value of the receptors would be of up to high value.</p> <p>Impact on identified geophysical anomalies will be avoided through the implementation of approved AEZs, which will avoid any impact to the receptors. It is anticipated that following the initial discovery of any currently potential unknown archaeological remains of medium or high value, an AEZ or TEZ would be determined with the regulator and further impact would be mitigated through avoidance. Given that avoidance is both the most common form of mitigation and the best mitigation for marine archaeology and cultural heritage receptors, it would be expected that once the location for receptors are within the heritage databases and known by the regulator, impacts to those receptors would be avoided or minimised and further impact would be unlikely.</p>	M-034 M-035 M-199	No Significant cumulative effect is anticipated.
			<p>The Cenog Offshore Wind Farm's proposed export cable corridor partially overlaps with the Project. Within the overlapped corridor, there is potential for cumulative effects as a result of indirect physical impact on potential unknown archaeological remains, identified geophysical anomalies, and potential palaeo-environmental remains within the near shore. The known evidence of scour observed during the archaeological assessment of the geophysical data (Appendices 16.3 and 16.4) suggests that scour would be localised, not extending more than a kilometre from the initial disturbance.</p> <p>All marine archaeological and cultural heritage receptors are vulnerable to indirect impact from scour and would not be capable of recovering from impact. The value of the receptors would be of up to high value.</p> <p>Impact on identified geophysical anomalies will be avoided through sensitive design and the implementation of approved AEZs which will minimise any impact to the receptors. It is anticipated that following the initial discovery of any receptors of medium or high value, an AEZ or TEZ would be determined with the regulator and further impact would be mitigated through avoidance.</p>	M-036 M-199	Minor Adverse (Not Significant) cumulative effect.
OWF-052	1d	Muir Mhòr Offshore Wind Farm (PO E2)	<p>The Muir Mhòr Offshore Wind Farm's export cable corridor partially overlaps with the Project's offshore export cable corridor from the proposed Lunderton landfall east / northeast for 23km. Within the overlapped section of export cable corridor, there is potential for cumulative effects as a result of direct physical impact on potential unknown archaeological remains, identified geophysical anomalies, palaeo-landscape features, and potential palaeo-environmental remains within the near shore.</p> <p>All marine archaeological and cultural heritage receptors are vulnerable to direct impact and would not be capable of recovering from impact. The value of the receptors would be of up to high value.</p> <p>Impact on identified geophysical anomalies will be avoided through the implementation of approved AEZs, which will avoid any impact to the receptors. It is anticipated that following the initial discovery of any currently potential unknown archaeological</p>	M-034 M-035 M-199	No Significant cumulative effect is anticipated.

Short list ID	Tier	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			remains of medium or high value, an AEZ or TEZ would be determined with the regulator and further impact would be mitigated through avoidance. Given that avoidance is both the most common form of mitigation and the best mitigation for marine archaeology and cultural heritage receptors, it would be expected that once the location for receptors are within the heritage databases and known by the regulator, impacts to those receptors would be avoided or minimised and further impact would be unlikely.		
			<p>The Muir Mhòr Offshore Wind Farm's export cable corridor partially overlaps with the Project's offshore export cable corridor from the proposed Lunderton landfall east / northeast for 23km. Within the overlapped corridor there is potential for cumulative effects as a result of indirect physical impact on potential unknown archaeological remains, identified geophysical anomalies, palaeo-landscape features, and potential palaeo-environmental remains within the near shore.</p> <p>All marine archaeological and cultural heritage receptors are vulnerable to direct impact and would not be capable of recovering from impact. The value of the receptors would be of up to high value.</p> <p>Impact on identified geophysical anomalies will be avoided through sensitive design and the implementation of approved AEZs which will minimise any impact to the receptors. It is anticipated that following the initial discovery of any receptors of medium or high value, an AEZ or TEZ would be determined with the regulator and further impact would be mitigated through avoidance.</p>	M-036 M-199	Minor Adverse (Not Significant) cumulative effect.
CP-003	1d	Spittal to Peterhead Subsea Cable link	There is no physical overlap of the proposed Spittal to Peterhead Subsea Cable link with the Project; therefore, there is no potential for cumulative effects from direct physical impact. Additionally, the Spittal to Peterhead Subsea Cable link is considered to be at too far a distance from the Project for indirect physical impacts from scour to impact the receptors; subsequently, it is considered that there is limited potential for cumulative effects from indirect impact.	N/A	N/A
OG-001	2	Central North Sea Electrification Project	There is no physical overlap of the proposed Central North Sea Electrification Project with the Project; therefore, there is no potential for cumulative effects from direct physical impact. Additionally, the Central North Sea Electrification Project is considered to be at too far a distance from the Project for indirect physical impacts from scour to impact the receptors; subsequently, it is considered that there is no potential for cumulative effects from indirect impact.	N/A	N/A
CP-002	2	Eastern Green Link 3	There is no physical overlap of the proposed Eastern Green Link 3 with the Project; therefore, there is no potential for cumulative effects from direct physical impact. Additionally, the Eastern Green Link 3 is considered to be at too far a distance from the Project for indirect physical impacts from scour to impact the receptors; subsequently, it is considered that there is no potential for cumulative effects from indirect impact.	N/A	N/A

33.6.11 Infrastructure and other marine users cumulative effects assessment

- 33.6.11.1 For infrastructure and other marine users a ZOI of 10nm (18.5km) has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The ZOI is in accordance with best practice, to account for the movement of other mobile activities in relation to oil and gas activities and infrastructure, the boundary of the Offshore Red Line Boundary plus a 1km buffer has been used to screen these 'other developments'. This buffer is based upon 500m safety zones, which will be applied in relation to the Project together with 500m safety zones that are implemented around subsea pipelines and active oil and gas infrastructure. This 1km buffer has also been used to screen subsea cables and active disposal sites on the same basis. The infrastructure and other marine users ZOI and 1km buffer is shown in **Volume 2, Figure 33.16: 'Other developments' screened into the CEA for infrastructure and other marine user.**
- 33.6.11.2 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.11.3 Only those 'other developments' in the 'short list' that fall within the infrastructure and other marine users ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the seascape, landscape and visual ZOI are excluded from this assessment.
- 33.6.11.4 On the basis of the above, the 'other developments' that are scoped into the infrastructure and other marine users CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.16**.
- 33.6.11.5 For 'other developments' where there is not enough information publicly available as set out in **paragraph 33.4.4.1**, the following shortlisted 'other developments' have not been taken forward to Stage 4.
- 33.6.11.6 The above criteria for ruling out 'other developments' applies to the following developments:
- OW-001 (Construction of Outfall pipe – North base jetty Peterhead Harbour): no information on temporal overlap and no environmental information provided.
 - OWF-012 Flora (INTOG 4): no information on temporal overlap and no environmental information provided.
 - AGG-006 (Middle Buchan Ness), AGG-007 (Middle Buchan Ness B), disposal sites: closed disposal sites and no environmental information provided.
- 33.6.11.7 The CEA for infrastructure and other marine users is set out in **Table 33.16**.
- 33.6.11.8 Certain impacts assessed for the Project alone are not considered in the cumulative assessment due to:
- the highly localised nature of the impacts; and / or
 - management measures in place for the Project will also be in place on other projects reducing the risk of impact occurring.
- 33.6.11.9 Therefore, the CEA for infrastructure and other marine users has only considered the temporary obstruction to other offshore wind farm, the temporary obstruction to utilities developments; and the temporary obstruction to licenced disposal sites.

- 33.6.11.10 A qualitative assessment considering the Project in combination with other reasonably foreseeable 'other developments' on infrastructure and other marine users receptors has been undertaken and noting the current status of those 'other developments' at the time of writing, and the available are, additive cumulative effects are considered to be **Not Significant**, and not greater than that assessed below.

Table 33.16 Cumulative effects assessment for infrastructure and other marine users

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1a				
OWF-040	Hywind Scotland Pilot Park	Hywind Scotland Pilot Park is operational during the construction stage of the Project. The basis of the assessment at the time of writing is the timing of the decommissioning activities for Hywind Scotland Pilot Park (forecast for decommissioning in the mid-2030s and would be complete in 2037. Therefore, Hywind Scotland Pilot Park can only have a potential cumulative impact during the Project's construction stage. The Project's offshore cable corridor crosses the Hywind's offshore cable route.		
		<p><u>Temporary obstruction to licenced disposal sites (construction)</u></p> <p>Overview</p> <p><i>Construction</i></p> <p>The construction of the Project and 'other developments' has the potential to temporary disrupt the operation of Hywind Scotland Pilot. This may be due to pre-construction activities such as UXO and marine surveys, the establishment of safety zones, and the presence of partially completed infrastructure during construction works. Depending on the port chosen as an engineering and construction base, movements of vessels contracted to undertake construction activities associated with the Project have the potential to interfere with the routine operations and activities of existing offshore wind farms.</p> <p><i>O&M</i></p> <p>Infrastructure associated with the Project and 'other developments' could present a potential obstruction to operations at the Hywind Scotland Pilot Park, given their proximity to the Project. The selection of a port for O&M activities will influence vessel traffic patterns, and vessels supporting the Project's O&M stage may have potential to disrupt routine operations and activities of the Hywind Scotland Pilot Park. Major Component Replacement (MCR) may be necessary and may require the use of large vessels and the use of temporary 500m safety zones.</p> <p><i>Decommissioning</i></p> <p>The presence of partially decommissioned infrastructure of the Project and 'other developments' may result in the obstruction to the Hywind Scotland Pilot Park within the vicinity of the Project. Movements of vessels contracted to undertake decommissioning activities, and the associated decommissioning works related to the Project have the potential to interfere with the routine operations and activities of the Hywind Scotland Pilot Park.</p> <p>Hywind Scotland Pilot Park is forecast for decommissioning in 2037. As a result, the Hywind Scotland Pilot Park is likely to no longer be present at the time of decommissioning of the Project and therefore no impacts would be predicted to occur. It is possible that the Hywind Scotland Pilot Park could be repowered at the end of its operational life and as such, the presence of the project is considered as the worst-case for assessment. Any repowering would likely need a new consent and / or licence, as such the Project would likely be assessed as part of the baseline for that application.</p> <p>Sensitivity</p> <p>The sensitivity of the receptor Hywind Scotland Pilot Park is deemed to be high.</p> <p>Magnitude</p> <p>There is potential for cumulative impacts from that the O&M repair and replacement works and decommissioning activities for Hywind Scotland Pilot Park.</p> <p>The Hywind Scotland Pilot Park WTGs would be serviced annually using crew transfer vessels, with inspections of array and export cables. Mooring substructure would occur at intervals of one to four years using vessels with Remotely Operated Vehicles (ROVs) (Statoil, 2015). Unplanned maintenance works would also be required (10 visits per year for WTGs), although in 2024 Hywind Scotland Pilot Park towed the WTGs to Norway for maintenance so could recur throughout the O&M stage. Overall, the O&M works are predicted to be short-term, intermittent, small scale and localised to the site.</p> <p>The decommissioning of Hywind Scotland Pilot Park will follow the same sequence as construction. The mooring lines will be disconnected, and the WTG units will be towed back nearshore. The frequency of repetition is temporary.</p> <p>The obstruction to North Buchan Ness Disposal Site would be minimal, cumulatively with the other Tier 1 projects.</p>	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120	Minor Adverse (Not Significant).

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of licenced disposal sites.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be very low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>		
AGG-001	North Buchan Ness Disposal Site	<p>North Buchan Ness Disposal Site is part of the baseline but has an ongoing impact. There are no details available in relation to the frequency of operations at North Buchan Ness Disposal Site but given the likely low level of ongoing impact associated with operation of these sites. The Project's offshore cable corridor overlaps North Buchan Ness Disposal Site.</p>		
		<p><u>Temporary obstruction to other offshore wind farms (construction, O&M and decommissioning)</u></p> <p>Overview The construction of the Project and 'other developments' has the potential to interact with the vessel operations of the existing North Buchan Ness licenced disposal site, with the licenced disposal site located in the nearshore in the nearshore area in the vicinity of Peterhead. As such, the potential interaction is likely to be associated with the installation of the Project's offshore export cables within the nearshore.</p> <p>Sensitivity The sensitivity of the receptor North Buchan Ness licenced disposal site is medium.</p> <p>Magnitude Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of other offshore wind farms.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be very low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	<p>M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120</p>	<p>Minor Adverse (Not Significant).</p>
		<p><u>Temporary obstruction to subsea cables and utilities (construction, O&M and decommissioning)</u></p> <p>Overview There is an overlap of the offshore export cable corridor of the Project and the offshore export cable for Hywind Scotland Pilot, it is anticipated that the Hywind Scotland Pilot Park cables will not be crossed by the offshore export cables,</p> <p>Construction The Project's construction programme and 'other developments' could potentially result in cumulative impact of temporary obstruction to the decommissioning activities of Hywind Scotland Pilot Park offshore export cable.</p> <p>O&M O&M activities associated with the Project along with 'other developments' could potentially result in cumulative impact of temporary obstruction to the O&M and decommissioning activities of Hywind Scotland Pilot Park offshore export cable.</p> <p>O&M activities associated with the Project, as well as any temporary safety zones around MCR activities (for example removal and replacement of cables), and increased vessel traffic have the potential to lead to the temporary reduction of access to offshore export cables during decommissioning activities for Hywind Scotland Pilot Park.</p> <p>Sensitivity The sensitivity of the receptor Hywind Offshore Wind Farm export cables is deemed to be high.</p> <p>Magnitude Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction to subsea cables and utilities.</p>	<p>M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120 M-186 M-187</p>	<p>The cumulative effect is of Moderate Adverse (Potentially Significant) in EIA terms.</p> <p>The basis of the assessment at the time of writing is the timing of the decommissioning activities for Hywind Scotland Pilot Park (forecast for decommissioning in the mid-2030s and would be complete in 2037). The Applicant will liaise with Hywind Scotland Pilot Park's developers and the users of North Buchan Disposal site on already agreed safety measures and timings of work should the programme for decommissioning for Hywind Scotland Pilot Park be maintained. Therefore, the cumulative effect is reduced to Minor (Not Significant).</p>

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		As outlined above North Buchan Ness Disposal Site is part of the baseline but has an ongoing impact. It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be low .		
Tier 1c				
OWF-032	Green Volt Offshore Wind Farm (INTOG 6)	Green Volt Offshore Wind Farm has been consented, but the construction stage is not likely to overlap temporally with the construction stage of the Project. The O&M stage of Green Volt Offshore Wind Farm is likely to overlap with the O&M stage for the Project. This 'other development' is 9.2km south of the OAA and its offshore cable route crosses with the Project's offshore export cable corridor.		
		<p><u>Temporary obstruction to other offshore wind farms (O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude O&M activities are anticipated throughout the 35-year design life of Green Volt Offshore Wind Farm. O&M of Green Volt after commissioning will comprise of both scheduled and unscheduled events (Green Volt Limited, 2023). Scheduled works on the WTG and offshore electrical infrastructure will include annual or bi-annual maintenance, statutory inspection and routine inspection, visits. Overall, the O&M works are predicted to be short-term, intermittent, small scale and localised to the site.</p> <p>The increased vessel numbers during the O&M of the Project and Green Volt Offshore Wind Farm may result in temporary obstruction to the Hywind Scotland Pilot Park. However, the distance between the receptor Hywind Scotland Pilot Park and the array site of Green Volt Offshore Wind Farm indicates that the obstruction to Hywind Scotland Pilot Park would be minimal cumulative impact with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction to other offshore wind farms. It is assumed similar commitments will be made in relation to Green Volt Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be very low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120	Minor Adverse (Not Significant).
		<p><u>Temporary obstruction to subsea cables and utilities (O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude O&M activities are anticipated throughout the 35-year design life of Green Volt Offshore Wind Farm. O&M of Green Volt after commissioning will comprise of both scheduled and unscheduled events (Green Volt, 2023). Scheduled works on the WTG and offshore electrical infrastructure will include annual or bi-annual maintenance, statutory inspection and routine inspection, visits. Overall, the O&M works are predicted to be short-term, intermittent, small scale and localised to the site.</p> <p>The increased vessel numbers during the O&M of the Project and Green Volt Offshore Wind Farm may result in temporary obstruction to the Hywind Scotland Pilot Park. However, the distance between the receptor Hywind Scotland Pilot Park and the array site of Green Volt Offshore Wind Farm indicates that the obstruction to Hywind Scotland Pilot Park would be minimal cumulative impact with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction to subsea cables and utilities.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be low.</p>	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120 M-186 M-187	<p>The cumulative effect is of Moderate Adverse (Potentially Significant) in EIA terms.</p> <p>The basis of the assessment at the time of writing is the timing of the decommissioning activities for Hywind Scotland Pilot Park (forecast for decommissioning in the mid-2030s and would be complete in 2037). The Applicant will liaise with Hywind Scotland Pilot Park's developers and the users of North Buchan Disposal site on already agreed safety measures and timings of work should the programme for decommissioning for Hywind Scotland Pilot Park be maintained. Therefore, the cumulative effect is reduced to minor (Not Significant).</p>

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p><u>Temporary obstruction to licenced disposal sites (O&M and decommissioning)</u> See ID OWF-040 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude There is potential for cumulative impacts from that the O&M repair and replacement works and decommissioning activities for Green Volt Offshore Wind Farm. Overall, the O&M works are predicted to be short-term, intermittent, small scale and localised to the site.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of other offshore wind farms. Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction to other offshore wind farms. It is assumed similar commitments will be made in relation to Green Volt Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be very low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	<p>M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120</p>	<p>Minor (Not Significant).</p>
OWF-059	Salamander Offshore Wind Farm (INTOG 3)	<p>Salamander Offshore Wind Farm has been awarded consent. There is likely to be an overlap with the construction stage of the Salamander Offshore Wind Farm (Salamander, 2024) and within the first-year construction programme of the Project. The O&M stage for the Salamander Offshore Wind Farm is likely to overlap with the O&M for the Project. Salamander Offshore Wind Farm offshore export cable corridor overlaps the Project's offshore export cable corridor.</p>		
		<p><u>Temporary obstruction to other offshore wind farms (construction, O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude The increased vessel numbers and any major maintenance safety zones during the O&M of the 'other development' may result in temporary obstruction to the Hywind Scotland Pilot Park export cables. However, the distance between these projects and the location of Salamander Offshore Wind Farm further offshore than Hywind Scotland Pilot Park, would indicate that the obstruction to Hywind Scotland Pilot Park would be minimal cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of other offshore wind farms. It is assumed similar commitments will be made in relation to Salamander Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	<p>M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120</p>	<p>Minor Adverse (Not Significant).</p>
		<p><u>Temporary obstruction to subsea cables and utilities (construction, O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude The increased vessel numbers and any major maintenance safety zones during the O&M of the 'other development' may result in temporary obstruction to the Hywind Scotland Pilot Park export cables. However, the distance between these projects and the location of Salamander Offshore Wind Farm further offshore than Hywind Scotland Pilot Park, would indicate that the obstruction to Hywind Scotland Pilot Park would be minimal cumulatively with the other Tier 1 projects.</p>	<p>M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120 M-186 M-187</p>	<p>The cumulative effect is of Moderate Adverse (Potentially Significant) in EIA terms.</p> <p>The basis of the assessment at the time of writing is the timing of the decommissioning activities for Hywind Scotland Pilot Park (forecast for decommissioning in the mid-2030s and would be complete in 2037). The Applicant</p>

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of subsea cables and utilities. It is assumed similar commitments will be made in relation to Salamander Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be low.</p>		will liaise with Hywind Scotland Pilot Park’s developers and the users of North Buchan Disposal site on already agreed safety measures and timings of work should the programme for decommissioning for Hywind Scotland Piot Park be maintained. Therefore, the cumulative effect is reduced to Minor (Not Significant) .
		<p><u>Temporary obstruction to licenced disposal sites (construction, O&M and decommissioning)</u> See ID OWF-040 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude The increased vessel numbers and any major maintenance safety zones during the O&M of the ‘other development’ may result in temporary obstruction to the open North Buchan Ness Disposal Site. However, the distance between Salamander Offshore Wind Farm and its location further offshore than North Buchan Ness Disposal Site, would indicate that the obstruction would be minimal, cumulatively with the other Tier 1 projects. Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of licenced disposal sites. It is assumed similar commitments will be made in relation to Salamander Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120	Minor (Not Significant).
Tier 1d				
OWF-014	Buchan Offshore Wind Farm (PO NE8)	<p>Buchan Offshore Wind Farm has submitted its application but not yet determined. The construction stage for Buchan Offshore Wind Farm is likely to overlap the construction stage for the Project beginning Q1 of 2030 and run over a period of up to three years (Buchan Offshore Wind Limited, 2025). This ‘other development’s’ offshore export cable corridor overlaps the Project’s offshore export cable corridor.</p>		
		<p><u>Temporary obstruction to other offshore wind farms (construction, O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude The full number of vessel movements across the project build is likely to be around 2,540. The increased vessel numbers and any major maintenance safety zones during the construction of the ‘other development’ may result in temporary obstruction to the Hywind Scotland Pilot Park. During the O&M period of Buchan Offshore Wind Farm it is expected to have four offshore export cable repair events over its lifetime. The maximum return transits per year required to undertake O&M activities is 137(Buchan Offshore Wind Farm Limited, 2025).</p> <p>However, the distance between these projects and the location of Buchan Offshore Wind Farm further offshore than Hywind Scotland Pilot Park, would indicate that the obstruction to Hywind Scotland Pilot Park would be minimal cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of other offshore wind farms. It is assumed similar commitments will be made in relation to Buchan Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p>		

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>		
		<p><u>Temporary obstruction to subsea cables and utilities (construction, O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude The full number of vessel movements across the project build is likely to be around 2,540. The increased vessel numbers and any major maintenance safety zones during the construction of the 'other development' may result in temporary obstruction to the Hywind Scotland Pilot Park. During the O&M period of Buchan Offshore Wind Farm it is expected to have four offshore export cable repair events over its lifetime. The maximum return transits per year required to undertake O&M activities is 137 (Buchan Offshore Wind Farm Limited, 2025).</p> <p>However, the distance between these projects and the location of Cenoss Offshore Wind Farm further offshore than Hywind Scotland Pilot Park export cables, would indicate that the obstruction to Hywind Scotland Pilot Park export cables would be minimal cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of subsea cables and utilities. It is assumed similar commitments will be made in relation to Cenoss Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be low.</p>	<p>M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120 M-186 M-187</p>	<p>The cumulative effect is of Moderate (Potentially Significant) in EIA terms.</p> <p>The basis of the assessment at the time of writing is the timing of the decommissioning activities for Hywind Scotland Pilot Park (forecast for decommissioning in the mid-2030s and would be complete in 2037). The Applicant will liaise with Hywind Scotland Pilot Park's developers and the users of North Buchan Disposal site on already agreed safety measures and timings of work should the programme for decommissioning for Hywind Scotland Pilot Park be maintained. Therefore, the cumulative effect is reduced to Minor (Not Significant).</p>
		<p><u>Temporary obstruction to licenced disposal sites (construction, O&M and decommissioning)</u> See ID OWF-040 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude The full number of vessel movements across the project build is likely to be around 2,540. The increased vessel numbers and any major maintenance safety zones during the construction of the 'other development' may result in temporary obstruction to the Hywind Scotland Pilot Park. During the O&M period of Buchan Offshore Wind Farm it is expected to have four offshore export cable repair events over its lifetime. The maximum return transits per year required to undertake O&M activities is 137 (Buchan Offshore Wind Farm Limited, 2025).</p> <p>However, the distance between Cenoss Offshore Wind Farm and its location further offshore than North Buchan Ness Disposal Site, would indicate that the obstruction would be minimal, cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of licenced disposal sites. It is assumed similar commitments will be made in relation to Cenoss Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	<p>M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120</p>	<p>Minor (Not Significant).</p>
OWF-017	Cenos Offshore Wind Farm (INTOG 11)	<p>Cenos Offshore Wind Farm has submitted its application but not yet determined. The construction stage for Cenoss Offshore Wind Farm is likely to overlap the construction stage for the Project (2020 to 2036). However, durations for major works are subject to change, arising for example from weather or site conditions (Cenos Offshore Windfarm Limited, 2024). This 'other development's' offshore export cable corridor overlaps the Project's offshore export cable corridor.</p>		

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p><u>Temporary obstruction to other offshore wind farms (construction, O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude There will be up to 22 vessels operating simultaneously during the construction stage of the Cenos Offshore Wind Farm (Cenos Offshore Windfarm Limited, 2024). The increased vessel numbers and any major maintenance safety zones during the construction of the 'other development' may result in temporary obstruction to the Hywind Scotland Pilot Park. During the O&M period (35 years) for Cenos Offshore Wind Farm, there will be both planned and unscheduled monitoring and maintenance of the generation and transmission infrastructure, there will be up to 539 maintenance vessel transits per year during the O&M stage of Cenos Offshore Wind Farm (Cenos Offshore Windfarm Limited, 2024). However, the distance between these projects and the location of Cenos Offshore Wind Farm further offshore than Hywind Scotland Pilot Park, would indicate that the obstruction to Hywind Scotland Pilot Park would be minimal cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of other offshore wind farms. It is assumed similar commitments will be made in relation to Cenos Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120	Minor (Not Significant).
		<p><u>Temporary obstruction to subsea cables and utilities (construction, O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude There will be up to 22 vessels operating simultaneously during the construction stage of the Cenos Offshore Wind Farm (Cenos Offshore Windfarm Limited, 2024). The increased vessel numbers and any major maintenance safety zones during the construction of the 'other development' may result in temporary obstruction to the Hywind Scotland Pilot Park export cables. During the O&M period (35 years) for Cenos Offshore Wind Farm, there will be both planned and unscheduled monitoring and maintenance of the generation and transmission infrastructure, there will be up to 539 maintenance vessel transits per year during the O&M stage of Cenos Offshore Wind Farm (Cenos Offshore Windfarm Limited, 2024). However, the distance between these projects and the location of Cenos Offshore Wind Farm further offshore than Hywind Scotland Pilot Park export cables, would indicate that the obstruction to Hywind Scotland Pilot Park export cables would be minimal cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of subsea cables and utilities. It is assumed similar commitments will be made in relation to Cenos Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be low.</p>	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120 M-186 M-187	<p>The cumulative effect is of Moderate (Potentially Significant) in EIA terms.</p> <p>The basis of the assessment at the time of writing is the timing of the decommissioning activities for Hywind Scotland Pilot Park (forecast for decommissioning in the mid-2030s and would be complete in 2037). The Applicant will liaise with Hywind Scotland Pilot Park's developers and the users of North Buchan Disposal site on already agreed safety measures and timings of work should the programme for decommissioning for Hywind Scotland Pilot Park be maintained. Therefore, the cumulative effect is reduced to Minor (Not Significant).</p>
		<p><u>Temporary obstruction to licenced disposal sites (construction, O&M and decommissioning)</u> See ID OWF-040 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude There will be up to 22 vessels operating simultaneously during the construction stage of the Cenos Offshore Wind Farm (Cenos Offshore Windfarm Limited, 2024). The increased vessel numbers and any major maintenance safety zones during the construction of the 'other development' may result in temporary obstruction to the North Buchan Ness Disposal Site. During the O&M period (35 years) for Cenos Offshore Wind Farm, there will be both planned and unscheduled monitoring and maintenance</p>	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120	Minor (Not Significant).

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>of the generation and transmission infrastructure, there will be up to 539 maintenance vessel transits per year during the O&M stage of Cenos Offshore Wind Farm (Cenos Offshore Windfarm Limited, 2024). However, the distance between Cenos Offshore Wind Farm and its location further offshore than North Buchan Ness Disposal Site, would indicate that the obstruction would be minimal, cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of licenced disposal sites. It is assumed similar commitments will be made in relation to Cenos Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>		
OWF-052	Muir Mhòr Offshore Wind Farm (PO E2)	Muir Mhòr Offshore Wind Farm has submitted its application but not yet determined. The construction stage for Muir Mhòr Offshore Wind Farm is not likely to overlap the construction stage for the Project (Muir Mhòr Offshore Wind Farm Limited, 2024a). This 'other development's' offshore export cable corridor overlaps the Project's offshore export cable corridor.		
		<p><u>Temporary obstruction to other offshore wind farms (O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude During the O&M stage of Muir Mhòr Offshore Wind Farm, the total number of vessel return trips per year is 239 (Muir Mhòr Offshore Wind Farm Limited, 2024a). The increased vessel numbers and any major maintenance safety zones during the O&M of the 'other development' may result in temporary obstruction to the Hywind Scotland Pilot Park. However, the distance between these projects and the location of Muir Mhòr Offshore Wind Farm further offshore than Hywind Scotland Pilot Park, would indicate that the obstruction to Hywind Scotland Pilot Park would be minimal cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of other offshore wind farms. It is assumed similar commitments will be made in relation to Muir Mhòr Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120	Minor (Not Significant).
		<p><u>Temporary obstruction to subsea cables and utilities (O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude During the O&M stage of Muir Mhòr Offshore Wind Farm, the total number of vessel return trips per year is 239 (Muir Mhòr Offshore Wind Farm Limited, 2024a). The increased vessel numbers and any major maintenance safety zones during the O&M of the 'other development' may result in temporary obstruction to the Hywind Scotland Pilot Park export cables. However, the distance between these projects and the location of Muir Mhòr Offshore Wind Farm further offshore than Hywind Scotland Pilot Park, would indicate that the obstruction to Hywind Scotland Pilot Park would be minimal cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of subsea cables and utilities. It is assumed similar commitments will be made in relation to Muir Mhòr Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p>	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120 M-186 M-187	<p>The cumulative effect is of Moderate (Potentially Significant) in EIA terms.</p> <p>The basis of the assessment at the time of writing is the timing of the decommissioning activities for Hywind Scotland Pilot Park (forecast for decommissioning in the mid-2030s and would be complete in 2037). The Applicant will liaise with Hywind Scotland Pilot Park's developers and the users of North Buchan Disposal site on already agreed safety measures and timings of work should the programme for decommissioning</p>

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>		for Hywind Scotland Pilot Park be maintained. Therefore, the cumulative effect is reduced to Minor (Not Significant) .
		<p><u>Temporary obstruction to licenced disposal sites (O&M and decommissioning)</u> See ID OWF-040 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude During the O&M stage of Muir Mhòr Offshore Wind Farm, the total number of vessel return trips per year is 239 (Muir Mhòr Offshore Wind Farm Limited, 2024a). The increased vessel numbers and any major maintenance safety zones during the O&M of the 'other development' may result in temporary obstruction of the North Buchan Ness Disposal Site. However, the distance between Muir Mhòr Offshore Wind Farm and its location further offshore than North Buchan Ness Disposal Site, would indicate that the obstruction would be minimal, cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction to licenced disposal sites. It is assumed similar commitments will be made in relation to Muir Mhòr Offshore Wind Farm.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120	Minor (Not Significant).
CP-003	Spittal to Peterhead Subsea Cable Link	<p>The Spittal to Peterhead Subsea Cable Link has submitted its application but not yet determined. The construction stage for Spittal to Peterhead Subsea Cable Link is not likely to overlap the construction stage for the Project (ERM, 2025). This 'other development' is 0.5km north from the Project's offshore export cable corridor.</p>		
		<p><u>Temporary obstruction to other offshore wind farms (O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude Once the subsea cable is buried and fully commissioned and operational, submarine cables will not require routine maintenance. However, regular cable surveys will be undertaken using standard geophysical survey equipment and / or ROVs. If such surveys and / or other sources of monitoring data indicate areas of shallow burial, exposures and / or free spans, then maintenance activities may be required. There is no information publicly available outlining the total number of vessel transits during the O&M stage for Spittal to Peterhead Subsea Cable Link (ERM, 2025). Therefore, assessment on increased vessel is qualitative and assumed there will be increased vessel activity during the O&M stage of the 'other development'.</p> <p>The increased vessel numbers and any major maintenance safety zones during the O&M of the 'other development' may result in temporary obstruction to the Hywind Scotland Pilot Park. However, the distance between these projects and the location of Spittal to Peterhead Subsea Cable Link offshore than Hywind Scotland Pilot Park, would indicate that the obstruction to Hywind Scotland Pilot Park would be minimal cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of other offshore wind farms. It is assumed similar commitments will be made in relation to Spittal to Peterhead Subsea Cable Link.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120	Minor (Not Significant).

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p><u>Temporary obstruction to subsea cables and utilities (O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude Once the subsea cable is buried and fully commissioned and operational, submarine cables will not require routine maintenance. However, regular cable surveys will be undertaken using standard geophysical survey equipment and / or ROVs. If such surveys and / or other sources of monitoring data indicate areas of shallow burial, exposures and / or free spans, then maintenance activities may be required. There is no information publicly available outlining the total number of vessel transits during the O&M stage for Spittal to Peterhead Subsea Cable Link (ERM, 2025). Therefore, assessment on increased vessel is qualitative and assumed there will be increased vessel activity during the O&M stage of the 'other development'.</p> <p>The increased vessel numbers and any major maintenance safety zones during the O&M of the 'other development' may result in temporary obstruction to the Hywind Scotland Pilot Park export cables. However, the distance between these projects would indicate that the obstruction to Hywind Scotland Pilot Park would be minimal cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of subsea cables and utilities. It is assumed similar commitments will be made in relation to Spittal to Peterhead Subsea Cable Link.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	<p>M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120 M-186 M-187</p>	<p>The cumulative effect is of Moderate (Potentially Significant) in EIA terms.</p> <p>The basis of the assessment at the time of writing is the timing of the decommissioning activities for Hywind Scotland Pilot Park (forecast for decommissioning in the mid-2030s and would be complete in 2037). The Applicant will liaise with Hywind Scotland Pilot Park's developers and the users of North Buchan Disposal site on already agreed safety measures and timings of work should the programme for decommissioning for Hywind Scotland Pilot Park be maintained. Therefore, the cumulative effect is reduced to Minor (Not Significant).</p>
		<p><u>Temporary obstruction to licenced disposal sites (O&M and decommissioning)</u> See ID OWF-040 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude Once the subsea cable is buried and fully commissioned and operational, submarine cables will not require routine maintenance. However, regular cable surveys will be undertaken using standard geophysical survey equipment and / or ROVs. If such surveys and / or other sources of monitoring data indicate areas of shallow burial, exposures and / or free spans, then maintenance activities may be required. There is no information publicly available outlining the total number of vessel transits during the O&M stage for Spittal to Peterhead Subsea Cable Link (ERM, 2025). Therefore, assessment on increased vessel is qualitative and assumed there will be increased vessel activity during the O&M stage of the 'other development'.</p> <p>The increased vessel numbers and any major maintenance safety zones during the O&M of the 'other development' may result in temporary obstruction of the North Buchan Ness Disposal Site. However, the distance between Spittal to Peterhead Subsea Cable Link and its location further offshore than North Buchan Ness Disposal Site, would indicate that the obstruction would be minimal, cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction to licenced disposal sites. It is assumed similar commitments will be made in relation to Spittal to Peterhead Subsea Cable Link.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	<p>M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120</p>	<p>Minor (Not Significant).</p>
CCS-003	Acorn Carbon Capture and Storage Site	Acorn Carbon Capture and Storage Site has submitted its application but not yet determined. The construction stage for Acorn Carbon Capture is not likely to overlap the construction stage for the Project. This 'other development' overlaps the Project's OAA and offshore export cable corridor.		

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p><u>Temporary obstruction to other offshore wind farms (O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude Based at the St Fergus gas terminal in North East Scotland, Acorn Carbon Capture Storage can repurpose existing gas pipelines to take carbon dioxide, direct to the Acorn storage site in the North Sea. There is no information publicly available outlining offshore O&M activities. Therefore, assessment is qualitative and assumed there will be increased vessel activity during the O&M stage of the 'other development'.</p> <p>The increased vessel numbers and any major maintenance safety zones during the O&M of the 'other development' may result in temporary obstruction to the Hywind Scotland Pilot Park. However, the distance between these projects and how far offshore Acorn Carbon Capture Storage Site is from Hywind Scotland Pilot Park would indicate that the obstruction to Hywind Scotland Pilot Park would be minimal cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of subsea cables and utilities. It is assumed similar commitments will be made in relation to Spittal to Peterhead Subsea Cable Link.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	<p>M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120</p>	<p>Minor (Not Significant).</p>
		<p><u>Temporary obstruction to subsea cables and utilities (O&M and decommissioning)</u> See ID AGG-001 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude Based at the St Fergus gas terminal in North East Scotland, Acorn Carbon Capture Storage can repurpose existing gas pipelines to take carbon dioxide, direct to the Acorn storage site in the North Sea. There is no information publicly available outlining offshore O&M activities. Therefore, assessment is qualitative and assumed there will be increased vessel activity during the O&M stage of the 'other development'.</p> <p>The increased vessel numbers and any major maintenance safety zones during the O&M of the 'other development' may result in temporary obstruction to the Hywind Scotland Pilot Park export cables. However, the distance between these projects and how far offshore Acorn Carbon Capture Storage Site is from Hywind Scotland Pilot Park would indicate that the obstruction to Hywind Scotland Pilot Park would be minimal cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction of subsea cables and utilities. It is assumed similar commitments will be made in relation to Acorn Carbon Capture Storage Site.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	<p>M-029 M-030 M-031 M-038 M-039 M-044 M-054 M-120 M-186 M-187</p>	<p>The cumulative effect is of Moderate (Potentially Significant) in EIA terms.</p> <p>The basis of the assessment at the time of writing is the timing of the decommissioning activities for Hywind Scotland Pilot Park (forecast for decommissioning in the mid-2030s and would be complete in 2037). The Applicant will liaise with Hywind Scotland Pilot Park's developers and the users of North Buchan Disposal site on already agreed safety measures and timings of work should the programme for decommissioning for Hywind Scotland Pilot Park be maintained. Therefore, the cumulative effect is reduced to Minor (Not Significant).</p>
		<p><u>Temporary obstruction to licenced disposal sites (O&M and decommissioning)</u> See ID OWF-040 for overview of cumulative impact and sensitivity of the receptor.</p> <p>Magnitude Based at the St Fergus gas terminal in North East Scotland, Acorn Carbon Capture Storage can repurpose existing gas pipelines to take carbon dioxide, direct to the Acorn storage site in the North Sea. There is no information publicly available outlining</p>	<p>M-029 M-030 M-031 M-038 M-039 M-044 M-054</p>	<p>Minor (Not Significant).</p>

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>offshore O&M activities. Therefore, assessment is qualitative and assumed there will be increased vessel activity during the O&M stage of the 'other development'.</p> <p>The increased vessel numbers and any major maintenance safety zones during the O&M of the 'other development' may result in temporary obstruction to the North Buchan Ness Disposal Site. However, the distance between these projects and how far offshore Acorn Carbon Capture Storage Site is from Hywind Scotland Pilot Park would indicate that the obstruction to North Buchan Ness Disposal Site would be minimal cumulatively with the other Tier 1 projects.</p> <p>Table 18.10 in Chapter 18: Infrastructure and Other Marine Users provides the Project's embedded environmental measure relevant to infrastructure and other marine users that will reduce risk of impact associated with temporary obstruction to licenced disposal sites. It is assumed similar commitments will be made in relation to Acorn Carbon Capture Site.</p> <p>With the embedded environmental measures in place, the impact is predicted to cause a very slight change from the baseline. The frequency of repetition is intermittent with high reversibility.</p> <p>It is considered the magnitude of the impact with the Project (for which the impact of the Project alone was deemed to be low (see Table 18.14 of Chapter 18: Infrastructure and Other Marine Users) will be very low.</p>	M-120	
Tier2				
No Tier 2 'other developments' screened in for infrastructure and other marine users.				
Tier 3				
No Tier 2 'other developments' screened in for infrastructure and other marine users.				

33.6.12 Ground conditions and contamination cumulative effects assessment

- 33.6.12.1 For ground conditions and contamination, a ZOI, as applied as the study area for ground conditions in **Chapter 19: Ground Conditions and Contamination** has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The ZOI is defined as the Onshore Red Line Boundary (shown in **Volume 2, Figure 4.1: Onshore Red Line Boundary and indicative onshore infrastructure**) with a 250m buffer extending around it, which forms the study area. This buffer is applied inland only, other than in relation to land contamination receptors – where potential for impacts on the coastal environment is also considered. The 250m buffer in relation to land contamination assessment relates to the potential for contaminants to migrate from the site to offsite receptors through the soil or in groundwater, or to migrate onto the site through soil or in groundwater from offsite sources. For soils and agricultural land, although these receptors are geographically discrete and will typically not be substantially influenced by changes to their surroundings or vice versa, the hydrogeological effects of activities such as dewatering of excavations could potentially extend beyond the Onshore Red Line Boundary, use of a 250m boundary therefore ensures that any sensitive receptors beyond the Onshore Red Line Boundary that may be affected are identified.
- 33.6.12.2 The ground conditions and contamination ZOI is shown in **Volume 2, Figure 33.17**.
- 33.6.12.3 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.12.4 Only those 'other developments' in the 'short list' that fall within the ground conditions and contamination ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the ground conditions and contamination ZOI are excluded from this assessment.
- 33.6.12.5 On the basis of the above, the 'other developments' that are scoped into the ground conditions and contamination CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.17**. For 'other developments' where there is not enough information publicly available, as set out in **paragraph 33.4.4.1**, the following shortlisted 'other developments' have not been taken forward to Stage 4:
- ON-014 Broadshore Hub Offshore Wind Farms (Broadshore, Sinclair and Scaraben) - onshore infrastructure development has been scoped out of the assessment as there is insufficient relevant information available on the area and type of land and soil affected by the development, or the likely construction timescales.
- 33.6.12.6 The CEA for ground conditions and contamination is set out in **Table 33.17**.
- 33.6.12.7 Review of the short list of other developments confirms that most of those requiring temporary disturbance to soils within agricultural land (such as to install underground cables) include some mitigation measures to limit impacts on soils, such as separate storage of excavated topsoil and subsoil for reuse in reinstatement. Some mitigation measures also include soil management plans or soil protection strategies. These measures will limit the potential for significant cumulative effects in relation to damage to soils. The Project has mitigation measures in place to minimise its impacts on soils due to their temporary disturbance during construction (measures include M-070, also M-015, M-071, and M-016). The main potential for significant cumulative effects on soils is therefore associated with the permanent loss of naturally occurring in situ soil resources for hard development (meaning development which includes construction of buildings, removal of

soils and replacement with engineered fill materials or structures or sealing of soils below hardstanding).

- 33.6.12.8 A New Perspective on Land and Soil in Environmental Impact Assessment guidance (IEMA, 2022b) provides an outline methodology for assessing the cumulative effects of land loss for undeveloped agricultural land at the national and local scale. This considers annual average land losses, and whether a Project is likely to change the annual average land loss, when it occurs in combination with other developments. This assessment is based on the IEMA approach as outlined below. Where the effect of the Project and other development could result in the loss of more than 1 per cent of the estimated annual average land loss for Scotland, this is considered to be potentially significant.
- 33.6.12.9 The Onshore Red Line Boundary avoids mapped peat and carbon rich soils through design and mitigation measures, including the use of trenchless crossings, and will therefore not result in any cumulative effects on these soil resources. The Onshore Red Line Boundary also avoids soil resources within areas with nature conservation designations.
- 33.6.12.10 The main feature influencing soil sensitivity within the Onshore Red Line Boundary is the Land Capability for Agriculture (LCA) class (James Hutton Institute, 2025). To provide wider context for the assessment, the CEA has therefore been informed by available regional information for Aberdeenshire on the LCA classes and their geographical coverage within the region. Land within the Onshore Red Line Boundary is mainly shown as LCA class 3.2, which according to available mapping, is the most common LCA class, covering around 35.3 per cent of the region, or 308,711ha (this is based on 1:50,000 scale mapping which is available for 83.4 per cent of Aberdeenshire, approximately 875,319ha, and 1:250,000 scale mapping for the remaining 16.6 per cent). The next most common grade is 6.3, covering 14.7 per cent of Aberdeenshire, or 129,022ha. By comparison, prime agricultural land (class 2 and class 3.1 only, no class 1 is shown in Aberdeenshire), is shown in just 7.0 per cent of Aberdeenshire, or 61,424ha. The Onshore Red Line Boundary avoids prime agricultural land and therefore will not result in any cumulative effects on soil resources in prime agricultural land.
- 33.6.12.11 The LCA maps (James Hutton Institute, 2025) include urban areas, however, the LCA surveys used to produce the maps were completed between 1984 and 1986, and this means that development on agricultural land since c.1986 is not reflected in the 'urban' areas shown on LCA mapping. Available statistics on the total area of agricultural land in Scotland published by the Scottish Government (Scottish Government, 2018b) indicate an average annual loss of agricultural land of 0.09 per cent of the total area between 1982 and 2018 (equivalent statistics are not currently available on a regional basis). If it is assumed that this average loss has continued in Aberdeenshire between 1986 and 2025, the area of class 3.2 could have reduced to approximately 298,024ha. Using the same annual average loss, from the stated total agricultural land area in 2018 of 6,183,709ha, the current area for 2025 could be in the region of 6,144,727ha, and the area of prime agricultural land could have reduced to 59,298ha. Prime agricultural land has historically received some protection in planning policy, meaning that the annual percentage losses of prime land may be lower. However, in general, better quality agricultural land is preferred for development due to the same factors that make it favourable for agriculture, such as flat or gently sloping topography, climatic conditions, and good drainage. For this reason, although the statistics do not break down the LCA classes of land no longer included in the total agricultural land area, they are considered likely to be representative of the loss of moderate to good (or very good) agricultural land.
- 33.6.12.12 The Project will result in the permanent loss of up to 19.8ha of soils in agricultural land of LCA class 3.2 for hard development. This equates to 0.007 per cent of the estimated LCA class 3.2 land in 2025 of 298,024ha. None of this land occurs within the greenbelt identified in the Aberdeenshire Local Development Plan (Aberdeenshire Council, 2023b) as this is clustered around the outskirts of the city of Aberdeen.

33.6.12.13 In relation to land contamination, UK legislation and Scottish planning policy require all developments to be suitable for their proposed use, with risks to human health, the water environment, property, and other environmental receptors, from land contamination appropriately managed. Additionally, during construction work, it can reasonably be assumed that good and standard construction practices and actions will be undertaken to meet the legislative requirements under The Construction (Design and Management) Regulations 2015 and the Health and Safety at Work Act etc. by the 'other developments' such that the risk of pollution incidents will be low, and unexpected contamination found during construction of the 'other developments' will be managed in line with the statutory guidance (Land Contamination Risk Management (LCRM))³ (Environment Agency, 2020). With the Project and the other developments following the LCRM guidance there should not be potential for a significant cumulative effect.

³ As of June 2025, Scottish Environmental Protection Agency (SEPA) (has formally adopted LCRM as the UK-wide framework for land contamination risk management and that SEPA has published an information note specifically addressing the use of LCRM in Scotland.

Table 33.17 Cumulative effects assessment for ground conditions and contamination

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1							
ON-001	1	APP/2024/1714	SSEN Netherton Hub	National for Erection of a Strategic Electricity Transmission Hub Including 400kV AC Substation, 132kV AC Substation, 2 HVDC Converter Stations, Transmission Hall, Spares Warehouse, Operations Base and Associated Works.	<p>ON-001 requires permanent development of around 211.4ha of agricultural land and therefore impacts on soil resources. This land includes some prime agricultural land (58.0ha of LCA class 3.1) and the remainder (153.4ha) is class 3.2. These losses of agricultural land are assessed to be major adverse, and significant. No mitigation measures are proposed to mitigate the effects. The assessment of cumulative effects in this report is based on the loss of soils and agricultural land in a given year as compared to the average annual loss of agricultural land for Scotland.</p> <p>A total of up to 19.8ha required for the Project's onshore substations and transition joint bays, joint bays and link boxes along the</p>	M-083 M-073 M-067 M-017 M-018	<p>The permanent development on soils within agricultural land will occur over several years and the average annual loss of land is less than 1% of the anticipated average agricultural land loss in Scotland. On this basis the cumulative effect for soil resources is considered to be Not Significant.</p> <p>Not Significant.</p> <p>No significant cumulative effect is predicted for land contamination receptors.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>onshore export cable corridor. This is the permanent 'hard development' footprint for the Project and the mitigation applied is a commitment to minimise the permanent footprint, to minimise land take.</p> <p>ON-001 has a 5–8-year construction period and the Project's onshore substations has a 6-year construction period. With the Project, this results in a possible annual combined loss of 46ha, which is 0.79% of the average annual loss area of 5,783ha). This is below the 1% threshold advised in the IEMA guidance on cumulative effects and on this basis, it is concluded that the effect is Not Significant.</p> <p>In relation to land contamination, ON-001 is located within land with potential for land contamination to be present. The available planning documents confirm a requirement for the nature</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					and extent of any contamination identified to be investigated and appropriate mitigation put in place. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.		
ON-004	1	APP/2023/1454	Green Volt Offshore Wind Farm (onshore infrastructure)	Formation of Onshore Landfall Point, Laying of Underground Cable and Erection of Substation.	ON-004 includes the permanent development of an onshore substation (4.5ha) on agricultural land and a 35km onshore cable route corridor. As the development includes the construction of underground electrical cables it will also include a small additional area of permanent hard development for the cable joint pits. In combination with the Project, based on a worst case permanent hard development area of 5.0ha, there would be a permanent loss of soils in agricultural land of 24.8ha. Together the developments could result in the permanent loss of c.0.0004% of Scotland's agricultural land area (compared to an estimated	M-083 M-013 M-015 M-016 M-017 M-018 M-021 M-023 M-025 M-069 M-070 M-072 M-074 M-076	No significant cumulative effect is predicted for soil and agricultural land receptors. Not Significant. No significant cumulative effect is predicted for land contamination receptors. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>average annual loss of 0.09%). ON-004 is expected to be in operation when the Project's construction begins. On this basis, given that the loss will occur in different years, and together with the Project would only amount to 0.4% of the average annual loss of soil resources in agricultural land, there should therefore not be potential for significant cumulative effects on soil resources.</p> <p>In relation to land contamination, a contaminated land desk study has been completed for ON-004. It is assumed that ON-004 will be designed and constructed in accordance with the applicable legislative requirements and statutory guidance (LCRM) (Environment Agency, 2020) for land contamination. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-007	1	APP/2023/1671 APP/2021/1712 ECU00003226	Kirkton Solar Photovoltaic and Energy Storage Facility - Elgin Energy Esco Ltd	Electricity generating station with installed capacity in excess of 50MW consisting of a solar Photovoltaic (PV) farm of approximately 50MW capacity and a battery energy storage facility of approximately 20MW capacity, with ancillary development.	An LCA report has been prepared for the ON-007 which confirms, based on LCA mapping, that the development avoids prime agricultural land, around half of the site (54.9ha) is class 3.2 and the remaining 57.8ha is lower grade land. The LCA report states that soils would remain in situ as far as possible, the rows of panels will be fixed atop frame tables which will be pushed or screwed into the ground. Grazing by sheep would be possible around the panels. Permanent loss of the soil resource as a result of the development is therefore likely to be limited (includes a substation 6m x 3.2m, and 50 inverter substations, 7m x 2.5m). Underground cabling will run between the inverter substations. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project. Available information indicates that construction of ON-007 will be completed	M-083 M-013 M-015 M-016 M-017 M-018 M-021 M-023 M-025 M-069 M-070 M-072 M-074 M-076	No significant cumulative effect is predicted for soil and agricultural land receptors. Not Significant. No significant cumulative effect is predicted for land contamination receptors. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>prior to construction of the Project, therefore there will not be potential for a significant effect.</p> <p>No documentation relating to land contamination has been identified however it is assumed that ON-007 will be designed and constructed in accordance with the applicable legislative requirements and statutory guidance (LCRM) (Environment Agency, 2020) for land contamination. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.</p>		
ON-010	1	ENQ/2023/0729 APP/2024/1410	Salamander Offshore Wind Farm (onshore infrastructure) - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	Planning Permission in Principle for Onshore Transmission Infrastructure for Salamander Offshore Windfarm including	ON-010 is located in agricultural land of mainly low LCA classes (mainly 6.2, with some 3.2, but no prime agricultural land) and will include the loss of c.3.0ha of agricultural land to accommodate the onshore substations, energy balancing infrastructure (EBI), and an onshore substation compound	M-083 M-013 M-015 M-016 M-017 M-018 M-021 M-023 M-025 M-069 M-070	<p>No significant cumulative effect is predicted for soil and agricultural land receptors.</p> <p>Not Significant.</p> <p>No significant cumulative effect is predicted for land contamination receptors.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				Formation of Landfall Infrastructure, Export Cables, Substation and Associated Works at Land to the East of Lunderton, St Fergus, Peterhead.	Mitigation measures to minimise impacts on soils include a soil management plan. In combination with the Project, based on a worst case permanent hard development area of 3.0ha, there would be a permanent loss of soils in agricultural land of approximately 22.8ha. Together the developments could result in the permanent loss of approximately 0.0004% of Scotland's agricultural land area (compared to an estimated average annual loss of 0.09%). ON-010 is expected to be constructed by the time the Project's construction begins (in 2029). However, if the construction stage was to overlap, given that the loss will likely occur in different years, and together with the Project would only amount to 0.4% of the average annual loss of soil resources in agricultural land, there should therefore not be potential for significant cumulative effects on soil resources.	M-072 M-074 M-076	

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					No documentation relating to land contamination has been identified however it is that ON-010 will be designed and constructed in accordance with the applicable legislative requirements and statutory guidance (LCRM) (Environment Agency, 2020) for land contamination. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.		
ON-012	1	APP/2024/2000	Muir Mhòr Offshore Wind Farm (onshore infrastructure) - Fred Olsen Seawind Limited / Vattenfall Wind Power Limited	Onshore Transmission Infrastructure for Muir Mhòr Offshore Wind Farm including Formation of Onshore Landfall Point, Laying of Underground Cables, Erection of Substation, and Associated Works to	ON-012 will include permanent development of an onshore substations, transition joint bays, and cable joint bays, in addition to some permanent access track and Sustainable Drainage Systems (SuDs) ponds / other features. Up to 25ha is allowed for the substation buildings, drainage, access, landscaping etc. Mitigation measures to minimise impacts on soils include minimising permanent land take and implementation of a soil management plan during	M-083 M-013 M-015 M-016 M-017 M-018 M-021 M-023 M-025 M-069 M-070 M-072 M-074 M-076	No significant cumulative effect is predicted for soil and agricultural land receptors. Not Significant. No significant cumulative effect is predicted for land contamination receptors. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				connect to the Transmission Grid.	<p>construction. Together the developments could result in the (worst case – as some of the soils may stay in situ for landscaping etc. for ON-012) permanent loss of c.0.0007% of Scotland's agricultural land area (compared to an estimated average annual loss of 0.09%). ON-012's construction stage could overlap with the Project. In combination with the Project this would amount to 0.8% of the average annual loss of soil resources in agricultural land, there should therefore not be potential for significant cumulative effects on soil resources.</p> <p>Potential contamination sources are present within the Project site for ON-012. The EIA Report for ON-012 confirms that further investigation of potential contaminated land risk, including at the Inverquinzie Canal and Peterhead to Mintlaw Railway (Formartine and Buchan Way) will be completed. It is therefore</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					assumed that ON-010 will be designed and constructed in accordance with the applicable legislative requirements and statutory guidance (LCRM) (Environment Agency, 2020) for land contamination. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.		
ON-024	1	APP/2023/1501	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding- Storage Yard 8 - Independent Oilfield Services	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and Distribution) and Formation of Hardstanding.	<p>There is no potential for significant cumulative effects on soil receptors as ON-024 is entirely located in previously developed land and relates to a change in commercial land use.</p> <p>There is evidence of consideration of potential contamination in the form of a Phase 1 contaminated land desk study completed for ON-024. It is assumed that ON-024 will be designed and constructed in accordance with the applicable legislative requirements and statutory guidance (LCRM)</p>	<p>M-013 M-017 M-018 M-021 M-025 M-072 M-074</p>	<p>No significant cumulative effect is predicted for soil and agricultural land receptors.</p> <p>Not Significant.</p> <p>No significant cumulative effect is predicted for land contamination receptors.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					(Environment Agency, 2020) for land contamination. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.		
ON-025	1	APP/2023/0784	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding - Storage Yard 2 - Independent Oilfield Services	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and Distribution) and Formation of Hardstanding.	<p>There is no potential for significant cumulative effects on soil receptors as ON-025 is entirely located in previously developed land and relates to a change in commercial land use.</p> <p>There is evidence of consideration of potential contamination in the form of a risk assessment completed for ON-025 in relation to potential radioactive contamination. It is assumed that ON-025 will be designed and constructed in accordance with the applicable legislative requirements and statutory guidance (LCRM) (Environment Agency, 2020) for land contamination. There should therefore not be potential for significant</p>	<p>M-013 M-017 M-018 M-021 M-025 M-072 M-074</p>	<p>No significant cumulative effect is predicted for soil and agricultural land receptors.</p> <p>Not Significant.</p> <p>No significant cumulative effect is predicted for land contamination receptors.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					cumulative effects on land contamination receptors with the Project.		
ON-026	1	APP/2025/0444	Installation of BESS with an installed capacity of 180MW and associated infrastructure (Salamander project) - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	s.36 consent application for the proposed EBI of the Salamander Project.	<p>ON-026 will require up to 2.5ha for EBI, 0.1ha for access roads, 0.5ha for an onshore substation. Transition joint bays, and possibly underground cable joint bays, would also be included as permanent development. A total area of around 2.65ha of permanent development is likely to be needed. The LCA classes applicable to ON-026 are mainly lower grade land, including LCA classes 4.1 and 6.2, with some 3.2. No prime agricultural land is within the site. Given the relatively small area of soils within agricultural land affected, there should not be potential for significant cumulative effects with the Project.</p> <p>The EIA Report for ON-026 includes consideration of potential land contamination impacts. It is assumed that ON-026 will be designed and constructed in accordance</p>	<p>M-083 M-013 M-015 M-016 M-017 M-018 M-021 M-023 M-025 M-069 M-070 M-072 M-074 M-076</p>	<p>No significant cumulative effect is predicted for soil and agricultural land receptors.</p> <p>Not Significant.</p> <p>No significant cumulative effect is predicted for land contamination receptors.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					with the applicable legislative requirements and statutory guidance (LCRM) (Environment Agency, 2020) for land contamination. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.		
Tier 2							
ON-002	2	24/00786/NSIP	Eastern Green Link 3 (onshore cable) - National Grid Electricity Transmission - National Grid Electricity Transmission	Onshore infrastructure for Eastern Green Link 3 project to include HVDC underground cable from landfall to Peterhead Net Zero 2030 development site near Longside.	ON-002 relates to the development of an underground cable running from the coast south of Peterhead mainly through agricultural land to SSEN Netherton Hub. A small area of permanent hard development is likely to be needed (including the joint bays required along the cable route), however it is expected that most soils excavated to construct the cable will be reinstated, and the land will be restored for agricultural use for the operational stage. Based on mitigation measures being used to protect temporarily excavated	M-013 M-015 M-016 M-017 M-018 M-021 M-023 M-025 M-069 M-070 M-072 M-074 M-076	No significant cumulative effect is predicted for soil and agricultural land receptors. Not Significant. No significant cumulative effect is predicted for land contamination receptors. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>soils from permanent damage, there should therefore not be potential for significant cumulative effects on soil resources with the Project.</p> <p>In relation to land contamination, ON-002 is likely to encounter localised areas of land with potential for land contamination to be present. The available planning documents confirm that ground investigation is being undertaken to inform design. It is assumed that ON-002 will be designed and constructed in accordance with the applicable legislative requirements and statutory guidance (LCRM) (Environment Agency, 2020) for land contamination. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.</p>		
ON-006	2	ECU00005165	Beaully-Blackhillock-New Deer-Peterhead	400kV OHL connection between	ON-006 requires the construction of towers for a 400kV OHL over	M-013 M-015 M-016	No significant cumulative effect is predicted for soil and agricultural land receptors.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			400kV Overhead Line (OHL) (New Deer to Peterhead section) – SSEN	Blackhillock and Peterhead via New Deer.	<p>approximately 185km route. There will be some permanent hard development associated with this at each tower location; however available planning documents confirm that measures to mitigate effects on soils and agricultural land are included, and this extends to consideration of the locations of the towers in relation to agricultural land to minimise impacts. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.</p> <p>In relation to land contamination, ON-006 is likely to encounter localised areas of land with potential for land contamination to be present. The available planning documents confirm that ground investigation is being undertaken to inform design. It is assumed that ON-006 will be designed and constructed in accordance with the applicable legislative requirements and statutory</p>	<p>M-017 M-018 M-021 M-023 M-025 M-069 M-070 M-072 M-074 M-076</p>	<p>Not Significant.</p> <p>No significant cumulative effect is predicted for land contamination receptors.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					guidance (LCRM) (Environment Agency, 2020) for land contamination. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.		
ON-013	2	ENQ/2024/0943 ENQ/2024/1603	Buchan Offshore Wind Farm (onshore infrastructure) - Buchan Offshore Wind Limited	Buchan Offshore Wind Farm - Onshore Aspects Including the Landfall, Onshore Cable Route Corridor, Onshore Substation and Onshore Cable Circuits.	ON-013 includes the permanent development of an onshore substation which requires up to 7.5ha of land for the permanent development. The underground cable route is also likely to require some additional permanent hard development, such as joint bays and transition joint bays at the landfall. ON-013 is mainly located in agricultural land, and review of LCA mapping indicates that this is mainly likely to be class 3.2. It is likely that ON-013 will avoid prime agricultural land. Together the developments could result in the (worst case – as some of the soils may stay in situ for landscaping etc. for ON-012) permanent loss of c.0.0005% of	M-083 M-013 M-015 M-016 M-017 M-018 M-021 M-023 M-025 M-069 M-070 M-072 M-074 M-076	No significant cumulative effect is predicted for soil and agricultural land receptors. Not Significant. No significant cumulative effect is predicted for land contamination receptors. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>Scotland's agricultural land area (compared to an estimated average annual loss of 0.09%). ON-013 may be in construction at the same time as the Project. Together with the Project, the loss of soil resources within agricultural land would amount to 0.5% of the average annual loss, there should therefore not be potential for significant cumulative effects on soil resources.</p> <p>Planning documentation for ON-013 confirms that a Phase 1 Contaminated Land Risk Assessment is to be undertaken for the site. It is therefore assumed that ON-010 will be designed and constructed in accordance with the applicable legislative requirements and statutory guidance (LCRM) (Environment Agency, 2020) for land contamination. There should therefore not be potential for significant cumulative effects on land</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					contamination receptors with the Project.		
Tier 3							
ON-028	3	ECU00006168	Netherton Hub 400kV OHL Connection to New Deer and Peterhead: Rebuild – SSEN	Installation of a new 400 kV OHL between a point on the existing New Deer to Peterhead OHL, approximately 5km west of Peterhead Substation, and connection into Peterhead Substation. The development also includes removal of the associated length of the existing 400 kV New Deer to Peterhead OHL and installation of temporary	<p>ON-028 requires construction of towers for a 400kV OHL over approximately 5km route. There will be some permanent hard development associated with this at each tower location; however available planning documents confirm that measures to mitigate effects on soils and agricultural land are included, and this extends to consideration of the locations of the towers in relation to agricultural land to minimise impacts. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.</p> <p>In relation to land contamination, ON-028 is likely to encounter localised areas of land with potential for land contamination to be present. The available planning documents confirm</p>	<p>M-013 M-015 M-016 M-017 M-018 M-021 M-023 M-025 M-069 M-070 M-072 M-074 M-076</p>	<p>No significant cumulative effect is predicted for soil and agricultural land receptors.</p> <p>Not Significant.</p> <p>No significant cumulative effect is predicted for land contamination receptors.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				OHL circuit to facilitate the transfer of the connection from the existing New Deer to Peterhead 400kV OHL to the diverted lines.	that ground investigation is being undertaken to inform design. It is assumed that ON-028 will be designed and constructed in accordance with the applicable legislative requirements and statutory guidance (LCRM) (Environment Agency, 2020) for land contamination. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.		

33.6.13 Water resources and flood risk cumulative effects assessment

- 33.6.13.1 For water resources and flood risk, a ZOI has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The water resources and flood risk ZOI is defined as the extent of surface water sub-catchments intersected by the Onshore Red Line Boundary. The sub-catchments of these surface water bodies have been delineated based upon the topography within the main river catchments. The water resources and flood risk ZOI is shown in **Volume 2, Figure 33.18**.
- 33.6.13.2 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.2**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.13.3 Only those 'other developments' in the 'short list' that fall within the water resources and flood risk ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the water resources and flood risk ZOI are excluded from this assessment.
- 33.6.13.4 On the basis of the above, the 'other developments' that are scoped into the water resources and flood risk CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.18**.
- 33.6.13.5 For 'other developments' where there is not enough information publicly available as set out in **paragraph 33.4.4.1**, the following shortlisted 'other developments' have not been taken forward to Stage 4.
- 33.6.13.6 The following 'other developments' have not been taken forward to Stage 4 due to insufficient availability of environmental information and subsequently an assessment is not possible for the following developments:
- ON-002: Eastern Green Link 3 ;
 - ON-006: Beaulieu - Blackhillock-New Deer-Peterhead 400kV OHL (New Deer to Peterhead section);
 - ON-013: Buchan Offshore Wind Farm (onshore infrastructure);
 - ON-014: Broadshore Hub Offshore Wind Farms (Comprises three offshore wind farms: Broadshore, Sinclair and Scaraben) – onshore infrastructure; and
 - ON-028: Netherton Hub 400kV OHL Connection to New Deer and Peterhead: Rebuild.
- 33.6.13.7 A qualitative assessment considering the Project in combination with other reasonably foreseeable 'other developments' on water resources and flood risk receptors has been undertaken, and noting the current status of those 'other developments' at the time of writing, and the likely timing of implementation, additive cumulative effects are considered to be Not Significant, and not greater than that assessed below.
- 33.6.13.8 The CEA for water resources and flood risk is set out in **Table 33.18**.

Table 33.18 Cumulative effects assessment for water resources and flood risk

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1							
ON-001	1	APP/2024/1714	SSEN Netherton Hub	Erection of a Strategic Electricity Transmission Hub Including 400kV AC Substation, 132kV AC Substation, Two HVDC Converter Stations, Transmission Hall, Spares Warehouse, Operations Base and Associated Works.	The onshore export cable corridor would connect into the consented SSEN Netherton Hub development. There is likely to be an overlap in temporal scope, with SSEN Netherton Hub's construction and operational dates overlapping with the Project's construction programme. Both SSEN Netherton Hub and the Project's onshore export cable corridor interacts with part of the groundwater catchment supplying the Parkhill Private Water Supply (PWS). The Netherton Hub EIA Report (SSEN, 2024a) identified that it could potentially significantly impact upon the quantity and quality of the Parkhill PWS and as part of SSEN Netherton	M-002 M-004 M-082 M-124 M-129 M-137	On the basis of the successful implementation of environmental measures (namely in this case the provision of an alternative supply at Parkhill) there would be no potential for residual likely significant effects to arise. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>Hub's additional mitigation measures, the scheme has committed to the provision of an alternative supply by the developer (SSEN). Similarly for this Project</p> <p>Chapter 20: Water Resources and Flood Risk, Section 20.9 has identified potential effects on Parkhill (PWS 30) from the proposed HDD (or similar trenchless technique) directly below the well and the Applicant has made a specific commitment to the provision of an alternative supply at that location. These measures would effectively remove any pathways from SSEN Netherton Hub and the Project upon the Parkhill PWS. This in turn would negate the need for any further assessment or monitoring of the Parkhill PWS and ensure there are no significant cumulative effects.</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-004	1	APP/2023/1454	Green Volt Offshore Wind Farm (onshore infrastructure) - Green Volt Offshore Windfarm Limited	Formation of Onshore Landfall Point, Laying of Underground Cable and Erection of Substation.	The Green Volt project is at the consented planning stage. The consented planning application directly crosses the River Ugie in two places, including crossings of the North Ugie Water and South Ugie Water, upstream of the proposed trenchless crossing for the onshore export cable corridor of the Project. The Green Volt landfall also shares the same land parcel as the Project's Lunderton South Landfall of the Project, and shares several water environment receptors (wetlands, PWS catchments, Scottish Environment Protection Agency, Controlled Activity Regulations abstractions and Groundwater Dependent Terrestrial Ecosystems). This includes part of the catchment for PWS 10 (Lunderton Farmhouse) and PWS 11 (Westfield).	M-002 M-004 M-005 M-008 M-077 M-082 M-126 M-137 M-138 M-139	There is no potential for significant cumulative effects to arise given that the construction programmes of Green Volt and MarramWind do not overlap. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>However, based on the information presented in the Green Volt EIA Reports (Green Volt, 2023) construction is expected to be completed well in advance of the onset construction on the Project. On that basis there is unlikely to be cumulative effects on the water quantity and / or quality serving these receptors from construction activities (for example, earthworks) on Green Volt and the Project.</p> <p>Furthermore, even under a scenario where Green Volt construction activities were delayed there are sufficient mitigation measures in place. It is assumed that good industry practice measures will be successfully implemented by both developments such as CIRIA's Environmental Good Practice on Site (CIRIA, 2023), along with other embedded environmental measures</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					set out within the MarramWind (Chapter 20: Water Resources and Flood Risk) and Green Volt EIA Reports (Green Volt, 2023) to ensure there are no significant cumulative effects.		
ON-007	1	APP/2023/1671 APP/2021/1712 ECU00003226	Kirkton Solar Photovoltaic and Energy Storage Facility - Elgin Energy Esco Ltd	Electricity generating station with installed capacity in excess of 50MW consisting of a solar PV farm of approximately 50MW capacity and a battery energy storage facility of approximately 20MW capacity, with ancillary development.	<p>The Kirkton Solar Photovoltaic and Energy Storage Facility planning application has been consented. The Kirkton development crosses several field drains and small unnamed watercourses located downstream and downgradient of a proposed trenchless crossing and onshore export cable corridor of the Project. The Kirkton development also shares several water environmental receptors, including wetlands.</p> <p>Based on information available for the Kirkton facility it is unlikely that there will be an overlap in construction works with the</p>	M-002 M-004 M-005 M-077 M-082 M-138 M-139	<p>On the basis of the successful implementation of the embedded environmental measures there is no potential for significant cumulative effects to arise.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>Project. On that basis there is unlikely to be any potential for cumulative effects from temporary construction activities.</p> <p>However, In the event that construction on Kirkton storage facility was delayed and there was an overlap in construction programmes then there are sufficient mitigation measures in place to avoid any temporary cumulative effects on water quality or quantity from earthworks during construction.</p> <p>It is assumed that good industry practice measures will be successfully implemented on the Project and Kirkton development sites, such as CIRIA's Environmental Good Practice on the development site (CIRIA, 2023), along with other embedded environmental measures set out in the MarramWind (Chapter 20: Water Resources and</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					Flood Risk) and a future EIA Report for the Project to ensure there are no significant cumulative effects.		
ON-010	1	ENQ/2023/0729 APP/2024/1410	Salamander Offshore Wind Farm (onshore infrastructure) -Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	Planning Permission in Principle for Onshore Transmission Infrastructure for Salamander Offshore Windfarm including Formation of Landfall Infrastructure, Export Cables, Substation and Associated Works at Land to the East of Lunderton, St Fergus, Peterhead.	<p>The Salamander Offshore Wind Farm (onshore infrastructure) planning application has been consented. The development shares the same land parcel as the Lunderton North landfall and associated trenchless crossing locations of the A90, and shares water environment receptors (for example, wetlands, PWSs).</p> <p>Based on the available information for Salamander there is unlikely to be an overlap in construction start dates between the projects. On that basis there is unlikely to be potential for cumulative effects to arise. However, In the event that construction on Salamander was delayed and there was an overlap in construction programmes</p>	<p>M-002 M-004 M-005 M-077 M-082 M-137 M-138 M-139</p>	<p>On the basis of the successful implementation of the embedded environmental measures there is no potential for significant cumulative effects to arise.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					then there are sufficient mitigation measures in place to avoid any temporary cumulative effects on water quality or quantity. It is assumed that good industry practice measures will be successfully implemented on both sites, such as CIRIA's Environmental Good Practice on Site (CIRIA, 2023), along with other embedded environmental measures set out within the MarramWind (Chapter 20: Water Resources and Flood Risk) and the Salamander EIA Report (Salamander, 2024) to ensure there are no significant cumulative effects.		
ON-012	1	APP/2024/2000	Muir Mhòr Offshore Wind Farm (onshore infrastructure) - Fred Olsen Seawind Limited / Vattenfall Wind Power Limited	Onshore Transmission Infrastructure for Muir Mhòr Offshore Wind Farm including Formation of Onshore Landfall Point, Laying of	The Muir Mhòr Offshore Wind Farm (onshore infrastructure) planning application has been consented. The Muir Mhòr Offshore Wind Farm (onshore infrastructure) shares the same land	M-001 M-004 M-005 M-082 M-137	On the basis of the successful implementation of the embedded environmental measures there is no potential for significant

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				Underground Cables, Erection of Substation, and Associated Works to connect to the Transmission Grid.	<p>parcel as the Lunderton North landfall and associated trenchless crossings of the A90 and the River Ugie Water Framework Directive waterbody, as well as the catchment of PWS 10 (Lunderton Farmhouse) and PWS 11 (Westfield).</p> <p>There may be potential for temporary cumulative effects on water quality or quantity towards receptors from ground disturbance and mobilisation of sedimentation and development of temporary infrastructure during construction. In the absence of information about the Muir Mhòr construction programme it is assumed that there could be an overlap in the construction stage with the Project.</p> <p>It is assumed that good industry practice measures will be successfully implemented on both</p>		<p>cumulative effects to arise.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					development sites, such as CIRIA's Environmental Good Practice on Site (CIRIA, 2023), along with embedded environmental measures set out within the MarramWind (Chapter 20: Water Resources and Flood Risk) and Muir Mhòr Offshore Wind Farm EIA Report (Muir Mhòr, 2024b) to ensure there are no significant cumulative effects.		
ON-024	1	APP/2023/1501	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding- Storage Yard 8 -Independent Oilfield Services	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and Distribution) and Formation of Hardstanding.	The consented storage yard planning application is within part of the Project's water resources and flood risk ZOI and catchment, but not within the Onshore Red Line Boundary. Construction and operation timeframes are unknown; however, the consented storage yard has a small footprint within a different sub catchment to the Project, and there are no shared water environment receptors. On this basis there is unlikely to be any	M-002 M-004 M-008 M-013 M-015	On the basis of the successful implementation of the embedded environmental measures there is no potential for significant cumulative effects to arise. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>potential for cumulative effects.</p> <p>Furthermore, it is also assumed that good industry practice measures will be successfully implemented on both sites, such as CIRIA's Environmental Good Practice on the site (CIRIA, 2023) along with the MarramWind (Chapter 20: Water Resources and Flood Risk) embedded measures to ensure there are no significant cumulative effects.</p>		
ON-025	1	APP/2023/0784	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding - Storage Yard 2 - Independent Oilfield Services	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and Distribution) and Formation of Hardstanding.	<p>The consented storage yard planning application is within part of the Project's water resources and flood risk ZOI and catchment but not within the Onshore Red Line Boundary. Construction and operation timeframes are unknown; however, the consented storage yard has a small footprint within a different sub catchment to the Project, and there are no shared water environment</p>	<p>M-001 M-004 M-008 M-013 M-015</p>	<p>On the basis of the successful implementation of the embedded environmental measures there is no potential for significant cumulative effects to arise.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>receptors. On this basis there is unlikely to be any potential for cumulative effects.</p> <p>Furthermore, it is assumed that good industry practice measures will be successfully implemented on both sites, such as CIRIA's Environmental Good Practice on Site (CIRIA, 2023), along with embedded environmental measures set out in the MarramWind EIA (Chapter 20: Water Resources and Flood Risk) and within the storage yard Surface Water Disposal Recommendation Report (S.A. McGregor, 2017) to ensure there are no significant cumulative effects.</p>		
ON-026	1	APP/2025/0444	Installation of BESS with an installed capacity of 180MW and associated infrastructure (Salamander project) - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	S.36 consent application for the proposed EBI of the Salamander Project. The proposed Onshore Development comprises the	The consented planning application for the installation of BESS overlaps the Lunderton North Landfall and associated trenchless crossings of the A90 and shares multiple other water	M-001 M-004 M-005 M-077 M-138 M-139	On the basis of the successful implementation of the embedded environmental measures there is no potential for significant

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				onshore components that are required for the operation of the Salamander Project.	<p>environment receptors (for example, wetlands).</p> <p>For these potential receptors there may be potential cumulative impacts on water quality / quantity associated with ground disturbance and mobilisation of sediments / contaminants and the development of temporary infrastructure elements during construction.</p> <p>It has been assumed that the battery storage system will have the same construction programme as the Salamander Offshore Wind Farm (onshore infrastructure), which is unlikely to have an overlap in the construction stage with the Project. However, in the event that construction was delayed and there was an overlap in construction programmes then there are sufficient mitigation measures in place to avoid any temporary cumulative</p>		<p>cumulative effects to arise.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					effects on water quality or quantity. It is assumed that good industry practice measures will be successfully implemented on both sites, such as CIRIA's Environmental Good Practice on Site (CIRIA, 2023), along with other embedded environmental measures set out within the MarramWind EIA Report (Chapter 20: Water Resources and Flood Risk) and the Salamander EIA Report (Salamander, 2024) to ensure there are no significant cumulative effects.		
ON-008	1	APP/2022/0369	Inverugie Meadows Residential Mixed-Use Development - Claymore Homes Ltd	Residential Mixed-Use Development Comprising up to 800 Residential Homes (25% affordable), a Local Neighbourhood Centre, Land Reserved for Employment Purposes, a Primary School and a Possible Future Rail	The Inverugie Meadows Residential Mixed-Use Development planning application is currently awaiting determination. The development is within the water resources and flood risk ZOI, but not within the Onshore Red Line Boundary and is approximately 1.8km downstream of the	M-002 M-004 M-138 M-139	On the basis of the successful implementation of environmental measures there is no potential for significant cumulative effects to arise. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				Halt, Associated Roads and Drainage Infrastructure, New Landscaping and Open Spaces and a Local Nature Reserve.	<p>proposed trenchless crossing of the River Ugie. Any potential cumulative effect on water quantity and / or quality from temporary construction activities such as earthworks and trenchless crossing works are likely to be minimised due to the use of appropriate standoff distances, combined with separation distance between the respective works and the influence of dilution along the River Ugie.</p> <p>Timescales of construction for the residential development are unknown at this stage, but it is assumed that there would be an overlap with the Project as part of a precautionary approach.</p> <p>However, it is assumed that good industry practice measures will be successfully implemented on both development sites, such as CIRIA's</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					Environmental Good Practice on Site (CIRIA, 2023), along with other embedded environmental measures set out in the MarramWind EIA Report (Chapter 20: Water Resources and Flood Risk) and current planning documents (Claymore Homes Ltd, 2025) for the proposed residential development to ensure there are no significant cumulative effects.		

33.6.14 Air quality cumulative effects assessment

- 33.6.14.1 For air quality, a ZOI that covers a 250m buffer from the Onshore Red Line Boundary has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The CEA only covers the construction stage and therefore the 250m buffer has been applied in line with the IAQM (IAQM, 2024) guidance on assessing dust from demolition and construction. The air quality ZOI is shown in **Volume 2, Figure 33.19**.
- 33.6.14.2 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.14.3 Only those 'other developments' in the 'short list' that fall within the air quality ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the air quality ZOI are excluded from this assessment.
- 33.6.14.4 On the basis of the above, the 'other developments' that are scoped into the air quality CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.19**.
- 33.6.14.5 The CEA for air quality is set out in **Table 33.19**.

Table 33.19 Cumulative effects assessment for air quality

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1							
ON-001	1	APP/2024/1714	SSEN Netherton Hub	National for Erection of a Strategic Electricity Transmission Hub Including 400kV AC Substation, 132kV AC Substation, 2 HVDC Converter Stations, Transmission Hall, Spares Warehouse, Operations Base and Associated Works.	<p>There is the potential for cumulative effects to occur during the construction stage as the projects are expected to overlap. Cumulative impacts are likely to occur on receptors that fall within 250m of the Red Line Boundaries of both projects.</p> <p>As SSEN Netherton Hub will be subject to the same controls as the Project, including mitigation to abate dust emissions, no likely significant effects are expected.</p>	M-007 M-063	Not Significant.
ON-004	1	APP/2023/1454	Green Volt Offshore Wind Farm (onshore infrastructure) - Green Volt Offshore Windfarm Limited	Formation of Onshore Landfall Point, Laying of Underground Cable and Erection of Substation.	No cumulative effects are anticipated as construction of the projects would not overlap. Therefore, no likely significant effects are expected.	M-007 M-063	Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-007	1	APP/2023/1671 APP/2021/1712 ECU00003226	Kirkton Solar Photovoltaic and Energy Storage Facility - Elgin Energy Esco Ltd	Electricity generating station with installed capacity in excess of 50MW consisting of a solar PV farm of approximately 50MW capacity and a battery energy storage facility of approximately 20MW capacity, with ancillary development.	No cumulative effects are anticipated as construction of the projects would not overlap. Therefore, no likely significant effects are expected.	M-007 M-063	Not Significant.
ON-010	1	ENQ/2023/0729 APP/2024/1410	Salamander Offshore Wind Farm (onshore infrastructure) - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	Planning Permission in Principle for Onshore Transmission Infrastructure for Salamander Offshore Windfarm including Formation of Landfall Infrastructure, Export Cables, Substation and Associated Works	No cumulative effects are anticipated as construction of the projects does not overlap. Therefore, no likely significant effects are expected.	M-007 M-063	Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				at Land to the East of Lunderton, St Fergus, Peterhead.			
ON-012	1	APP/2024/2000	Muir Mhòr Offshore Wind Farm (onshore infrastructure) - Fred Olsen Seawind Limited / Vattenfall Wind Power Limited	Onshore Transmission Infrastructure for Muir Mhòr Offshore Wind Farm including Formation of Onshore Landfall Point, Laying of Underground Cables, Erection of Substation, and Associated Works to connect to the Transmission Grid.	<p>There is the potential for cumulative effects to occur during the construction stage as the projects are expected to overlap. Cumulative impacts are likely to occur on receptors that fall within 250m of the Red Line Boundaries of both projects.</p> <p>As Muir Mhòr Offshore Wind Farm will be subject to the same controls as the Project, including mitigation to abate dust emissions, no likely significant effects are expected.</p>	M-007 M-063	Not Significant.
ON-024	1	APP/2023/1501	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding - Storage Yard 8 - Independent Oilfield Services	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and Distribution) and Formation of Hardstanding.	No cumulative effects are anticipated as no construction activities are anticipated, as it associated with a change of use. Therefore, no likely significant effects are expected.	M-007 M-063	Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-025	1	APP/2023/0784	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding - Storage Yard 2 - Independent Oilfield Services	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and Distribution) and Formation of Hardstanding.	No cumulative effects are anticipated as no construction activities are anticipated, as it associated with a change of use. Therefore, no likely significant effects are expected.	M-007 M-063	Not Significant.
ON-026	1	APP/2025/0444	Installation of BESS with an installed capacity of 180MW and associated infrastructure (Salamander project) - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	S.36 consent application for the proposed EBI of the Salamander Project. The proposed Onshore Development comprises the onshore components that are required for the operation of the Salamander Project.	No cumulative effects are anticipated as construction of the projects does not overlap. Therefore, no likely significant effects are expected.	M-007 M-063	Not Significant.
Tier 2							
ON-002	2	24/00786/NSIP	Eastern Green Link 3 (onshore cable) - National Grid	Onshore infrastructure for Eastern Green Link 3 project to	There is the potential for cumulative effects to occur during the construction stage as the projects may overlap. Cumulative	M-007 M-063	Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			Electricity Transmission	include HVDC underground cable from landfall to Peterhead Net Zero 2030 development site near Longside.	impacts are likely to occur on receptors that fall within 250m of the Red Line Boundaries of both projects. As Eastern Green Link 3 will be subject to the same controls as the Project, including mitigation to abate dust emissions, no likely significant effects are expected.		
ON-006	2	ECU00005165	Beaully-Blackhillock-New Deer-Peterhead 400kV OHL (New Deer to Peterhead section) - SSEN	400kV OHL connection between Blackhillock and Peterhead via New Deer.	There is the potential for cumulative effects to occur during the construction stage as the projects may overlap. Cumulative impacts are likely to occur on receptors that fall within 250m of the Red Line Boundaries of both projects. As Beaully-Blackhillock-New Deer-Peterhead 400kV OHL will be subject to the same controls as the Project, including mitigation to abate dust emissions, no likely significant effects are expected.	M-007 M-063	Not Significant.
ON-013	2	ENQ/2024/0943 ENQ/2024/1603	Buchan Offshore Wind Farm (onshore infrastructure) - Buchan Offshore Wind Limited	Buchan Offshore Wind Farm - Onshore Aspects Including the Landfall(s),	There is the potential for cumulative effects to occur during the construction stage as the projects may overlap. Cumulative impacts are likely to occur on	M-007 M-063	Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				Onshore Cable Route Corridor, Onshore Substation and Onshore Cable Circuits.	receptors that fall within 250m of the Red Line Boundaries of both projects. As Buchan Offshore Wind Farm will be subject to the same controls as the Project, including mitigation to abate dust emissions, no likely significant effects are expected.		
ON-014	2	N/A	Broadshore Hub Offshore Wind Farms (Broadshore, Sinclair and Scaraben) - onshore infrastructure - Broadshore Offshore Wind Farm Limited	Three offshore windfarms Broadshore, Sinclair and Scaraben) - onshore infrastructure. Landfall at Fraserburgh or Rattray Head, grid connection in the vicinity of Peterhead.	There is the potential for cumulative effects to occur during the construction stage as the projects may overlap. Cumulative impacts are likely to occur on receptors that fall within 250m of the Red Line Boundaries of both projects. As Broadshore Hub Offshore Wind Farms will be subject to the same controls as the Project, including mitigation to abate dust emissions, no likely significant effects are expected.	M-007 M-063	Not Significant.

33.6.15 Land use cumulative effects assessment

- 33.6.15.1 For land use, the ZOI is defined as the Onshore Red Line Boundary with a 250m buffer and this has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The land use ZOI is shown in **Volume 2, Figure 33.20**.
- 33.6.15.2 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.15.3 Only those 'other developments' in the 'short list' that fall within the land use ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the land use ZOI are excluded from this assessment.
- 33.6.15.4 On the basis of the above, the 'other developments' that are scoped into the land use CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.20**.
- 33.6.15.5 For 'other developments' where there is not enough information publicly available as set out in **paragraph 33.4.4.1**, the following shortlisted 'other developments' have not been taken forward to Stage 4.
- ON-014 Broadshore Hub Offshore Wind Farms (Broadshore, Sinclair and Scaraben) - onshore infrastructure development has been scoped out of the assessment as there is insufficient relevant information available on the area and type of land uses affected by the development, or the likely construction timescales.
- 33.6.15.6 The CEA for land use is set out in **Table 33.20**.
- 33.6.15.7 The Project's onshore export cable corridor avoids settlements, open space and land used by the community that might be directly affected or severed. Fragmentation of woodland, semi-natural land or sensitive habitats is also avoided through sensitive routing of the onshore export cable corridor and the use of HDD (or similar trenchless technique) to avoid disturbance of / change to land cover. Development on prime agricultural land (Class 1, 2 or 3 LCA grades) is also avoided by the Project with the aim of preserving the best quality agricultural land for its future food / biomass production capability. The main land use with potential for significant cumulative effects is agriculture, mainly in land of LCA class 3.2, which is suitable for a mixture of arable and grazing use.

Table 33.20 Cumulative effects assessment for land use

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1							
ON-001	1	APP/2024/1714	SSEN Netherton Hub	National for Erection of a Strategic Electricity Transmission Hub Including 400kV AC Substation, 132kV AC Substation, 2 HVDC Converter Stations, Transmission Hall, Spares Warehouse, Operations Base and Associated Works.	ON-001 requires permanent development of around 211.4ha of agricultural land. The assessment in the EIA Report for ON-001 concluded that as this equates to permanent loss of 0.03% of agricultural land in Aberdeenshire, the impact on Aberdeenshire's agricultural output would be negligible. This assessment appears to be based on the reported total agricultural area in Aberdeenshire (657,171ha for Grampian) in the Scottish Agricultural Census (Scottish Government, 2025b). The Project will result in the permanent loss of up to 19.8ha for hard development (substation, access roads etc) and also 36ha for landscaping and drainage (these areas are explained in Section 19.7 in Chapter 19: Ground Conditions and Contamination). This would result in a small increase in the percentage of permanent loss of agricultural activity to 0.04% of the total area in 2023. There is similar agricultural land in the surrounding	M-001 M-063 M-066 M-083 M-112	No significant cumulative effect is predicted for land use land receptors. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					area where similar farming activities can continue, and potentially significant cumulative effects on land use receptors are therefore unlikely.		
ON-004	1	APP/2023/1454	Green Volt Offshore Wind Farm (onshore infrastructure) - Green Volt Offshore Windfarm Limited	Formation of Onshore Landfall Point, Laying of Underground Cable and Erection of Substation.	ON-004 includes the permanent development of an onshore substation (4.5ha) on agricultural land and a 35km onshore cable route corridor. The two projects combined will only require permanent development on a small proportion of the agricultural area in Aberdeenshire (657,171ha for Grampian in the Scottish Agricultural Census [Scottish Government, 2025b]). Green Volt's cable corridor will intersect the onshore export cable corridor for the Project from the Lunderton South landfall to the onshore export cable corridor at Cairnhill, north of the River Ugie. The cable route for ON-004 will also require a cable servitude area (or equivalent) which will limit some land uses. Restrictions are likely to be in relation to excavation activities, building construction, and some planting, notably tree planting. However, most agricultural activities that are currently undertaken, including grazing of livestock, planting of grasses, cultivation and	M-001 M-026 M-027 M-063 M-066 M-083	No significant cumulative effect is predicted for land use land receptors. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>harvesting of crops, are likely to continue to be possible within cable corridor servitudes.</p> <p>Disruption to agricultural activities within the project boundaries will occur on multiple occasions during construction of the projects, due to the phasing of construction works, ON-004 is expected to be operational during the construction of the Project. There would be localised temporary impacts on agricultural activities within the project boundaries, but not the wider area.</p> <p>Potentially significant cumulative effects on land use receptors due to the combined projects are therefore unlikely.</p>		
ON-007	1	APP/2023/1671 APP/2021/1712 ECU00003226	Kirkton Solar Photovoltaic and Energy Storage Facility - Elgin Energy Esco Ltd	Electricity generating station with installed capacity in excess of 50MW consisting of a solar PV farm of approximately	An LCA report has been prepared for the ON-007 which confirms, based on LCA mapping, that the development avoids prime agricultural land, around half of the site (54.9ha) is class 3.2 and the remaining 57.8ha is lower grade land. Although a large area of land is required, and in combination with the Project this equates to 0.03% of the agricultural area in	M-001 M-063 M-066 M-083 M-112	<p>No significant cumulative effect is predicted for land use land receptors.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				50MW capacity and a battery energy storage facility of approximately 20MW capacity, with ancillary development.	Aberdeenshire (657,171ha for Grampian in the Scottish Agricultural Census (Scottish Government, 2025b) the LCA report states that the existing soils would largely remain on the site and grazing by sheep would be possible around the panels. ON-007 is likely to be constructed prior to construction of the Project commencing. There should therefore not be potential for significant cumulative effects on land use receptors with the Project.		
ON-008	1	APP/2022/0369	Inverugie Meadows Residential Mixed-Use Development - Claymore Homes Ltd	Residential Mixed-Use Development Comprising up to 800 Residential Homes (25% affordable), a Local Neighbourhood Centre, Land Reserved for Employment Purposes, a Primary School and a Possible Future Rail Halt, Associated	<p>The Inverugie Meadows Residential Mixed-Use Development planning application is currently awaiting determination. The development is adjacent to but not within the land use ZOI. The development will involve the loss of agricultural land, shown as LCA class 3.2, with some lower grade land of class 4.2 of approximately 76ha in area. Like the Project, this development avoids prime agricultural land.</p> <p>Timescales of construction for the residential development are unknown at this stage, but it is assumed that there would be an overlap with the Project as part of a precautionary approach.</p>	M-001 M-063 M-066 M-083 M-112	<p>No significant cumulative effect is predicted for land use land receptors.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				Roads and Drainage Infrastructure, New Landscaping and Open Spaces and a Local Nature Reserve.	In combination with the Project, although a large area of land is required, this equates to 0.01% of the agricultural area in Aberdeenshire (657,171ha for Grampian in the Scottish Agricultural Census (Scottish Government, 2025b). Based on this small percentage, even if the two developments take place simultaneously, there should not be potential for significant cumulative effects on land use receptors with the Project.		
ON-010	1	ENQ/2023/0729 APP/2024/1410	Salamander Offshore Wind Farm (onshore infrastructure) - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	Planning Permission in Principle for Onshore Transmission Infrastructure for Salamander Offshore Windfarm including Formation of Landfall Infrastructure, Export Cables, Substation and Associated Works at Land	ON-010 is located in agricultural land of mainly low LCA classes (mainly 6.2, with some 3.2, but no prime agricultural land) and will include the loss of approximately 3.0ha of agricultural land to accommodate the onshore substation, EBI, and an onshore substation compound. ON-010 overlaps the Project at the Lunderton North landfall area. The development is expected to be in operation by the time construction of the Project takes place. The combined developments will result in the permanent loss of agricultural land which will impact the affected	M-001 M-063 M-066 M-083 M-112	No significant cumulative effect is predicted for land use land receptors. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				to the East of Lunderton, St Fergus, Peterhead.	farms and landholders; however, the area will be small in relation to the available land for agriculture in Aberdeenshire and there is similar agricultural land in the surrounding area where similar farming activities can continue. Potentially significant cumulative effects on land use receptors are therefore unlikely.		
ON-012	1	APP/2024/2000	Muir Mhòr Offshore Wind Farm (onshore infrastructure) - Fred Olsen Seawind Limited / Vattenfall Wind Power Limited	Onshore Transmission Infrastructure for Muir Mhòr Offshore Wind Farm including Formation of Onshore Landfall Point, Laying of Underground Cables, Erection of Substation, and Associated Works to connect to the Transmission Grid.	ON-012 will include permanent development of an onshore substations, transition joint bays, and cable joint bays along the underground cable route, in addition to some permanent access track and SuDs ponds / other features. Up to 25ha is allowed for the substation buildings, drainage, access, landscaping etc. Mitigation measures include minimising permanent land take. The cable corridor will intersect the onshore export cable corridor for the Project from the Lunderton North landfall to the onshore export cable corridor at Cairnhill. The cable route for ON-012 will also require a cable servitude area (or equivalent) which will limit some land uses. Restrictions are likely to be in relation to excavation activities, building construction, and some	M-001 M-063 M-066 M-083 M-112	No significant cumulative effect is predicted for land use land receptors. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>planting, notably tree planting. However, most agricultural activities that are currently undertaken, including grazing of livestock, planting of grasses, cultivation and harvesting of crops, are likely to continue to be possible within cable corridor servitudes.</p> <p>Disruption to agricultural activities within the project boundaries will occur on multiple occasions during construction of the projects, due to the phasing of construction works. There is potential for the construction stage for ON-012 to overlap with the Project. There would be localised temporary impacts on agricultural activities within the project boundaries, but not the wider area.</p> <p>Potentially significant cumulative effects on land use receptors due to the combined projects are therefore unlikely.</p>		
ON-026	1	APP/2025/0444	Installation of BESS with an installed capacity of 180MW and associated infrastructure	S.36 consent application for the proposed EBI of the Salamander Project. The	ON-026 will require up to 2.5ha for EBI, 0.1ha for access roads, 0.5ha for an onshore substation. A total area of around 2.65ha of permanent development is likely to be needed. The LCA classes applicable to ON-	M-001 M-063 M-066 M-083 M-112	No significant cumulative effect is predicted for land use

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			(Salamander project) - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	proposed Onshore Development comprises the onshore components that are required for the operation of the Salamander Project.	026 are mainly lower grade land, including LCA classes 4.1 and 6.2, with some 3.2. No prime agricultural land is within the site. ON-026 overlaps the Project at the Lunderton North landfall area. The development is expected to be in operation by the time construction of the Project takes place. The combined developments will result in the permanent loss of agricultural land which will impact the affected farms and landholders; however, the area will be small in relation to the available land for agriculture in Aberdeenshire and there is similar agricultural land in the surrounding area where similar farming activities can continue. Potentially significant cumulative effects on land use receptors are therefore unlikely.		land receptors. Not Significant.
ON-024	1	APP/2023/1501	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding- Storage Yard 8 - Independent Oilfield Services	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and Distribution) and Formation of Hardstanding.	There is no potential for significant cumulative effects on land use receptors as ON-024 is entirely located in previously developed land and relates to a change in commercial land use within an existing commercial land use area.	M-003 M-027 M-063 M-066 M-084	Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-025	1	APP/2023/0784	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding - Storage Yard 2 - Independent Oilfield Services	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and Distribution) and Formation of Hardstanding.	There is no potential for significant cumulative effects on land use receptors as ON-025 is entirely located in previously developed land and relates to a change in commercial land use within an existing commercial land use area.	M-003 M-027 M-063 M-066 M-084	Not Significant.
Tier 2							
ON-002	2	24/00786/NSIP	Eastern Green Link 3 (onshore cable) - National Grid Electricity Transmission	Onshore infrastructure for Eastern Green Link 3 project to include HVDC underground cable from landfall to Peterhead Net Zero 2030 development site near Longside.	<p>ON-002 lies within 80m of the Onshore Red Line Boundary and approximately 500m of the onshore substations. It is likely that construction of ON-002 will overlap with construction of the Project.</p> <p>Design information for ON-002 is not available. However, similar activities to those required for the Project are likely during construction, and similar types of temporary and permanent development.</p> <p>Disruption to agricultural activities within the project boundaries will occur on multiple occasions during construction of the projects, due to the phasing of construction works. It</p>	M-001 M-063 M-066 M-083 M-112	<p>No significant cumulative effect is predicted for land use land receptors.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					is assumed that similar mitigation measures would be in place to avoid or limit impacts on land use receptors. Therefore significant cumulative effects on land use receptors are unlikely.		
ON-006	2	ECU00005165	Beauly-Blackhillock-New Deer-Peterhead 400kV OHL (New Deer to Peterhead section) – SSEN	400kV OHL connection between Blackhillock and Peterhead via New Deer.	ON-006 requires the construction of towers for a 400kV OHL over approximately 185km route. ON-006 overlaps the Project at the onshore export cable route connection to SSEN Netherton Hub. There will be some permanent hard development associated with ON-006 at each tower location; however, available planning documents confirm that measures to mitigate effects on agricultural land are included, and this extends to consideration of the locations of the towers to minimise impacts on agricultural activities. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.	M-001 M-063 M-066 M-083 M-112	No significant cumulative effect is predicted for land use land receptors. Not Significant.
ON-013	2	ENQ/2024/0943 ENQ/2024/1603	Buchan Offshore Wind Farm (onshore infrastructure) - Buchan Offshore Wind Limited	Buchan Offshore Wind Farm - Onshore Aspects Including the	ON-013 includes the permanent development of an onshore substation which requires up to 7.5ha of land for the permanent development and an underground cable route. ON-013 is mainly	M-001 M-063 M-066 M-083 M-112	No significant cumulative effect is predicted for land use

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				Landfall(s), Onshore Cable Route Corridor, Onshore Substations and Onshore Cable Circuits.	<p>located in agricultural land, and review of LCA mapping indicates that this is mainly likely to be class 3.2. It is likely that ON-013 will avoid prime agricultural land. The cable route for ON-13 intersects the onshore export cable route for the Project to the east and southeast of Longside Airfield. Construction dates for ON-013 and the Project have the potential to overlap. The combined developments will result in the permanent loss of agricultural land which will impact the affected farms and landholders; however, the area will be small in relation to the available land for agriculture in Aberdeenshire and there is similar agricultural land in the surrounding area where similar farming activities can continue.</p> <p>Disruption to agricultural activities within the project boundaries will potentially occur on multiple occasions during construction of the projects, due to the phasing of construction works. There would be significant temporary impacts on agricultural activities within the project boundaries, but not the wider area.</p>		land receptors. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					Potentially significant cumulative effects on land use receptors are therefore unlikely.		
ON-014	2	N/A	Broadshore Hub Offshore Wind Farms (Broadshore, Sinclair and Scaraben) - onshore infrastructure - Broadshore Offshore Wind Farm Limited	Three offshore windfarms Broadshore, Sinclair and Scaraben) - onshore infrastructure. Landfall at Fraserburgh or Rattray Head, grid connection in the vicinity of Peterhead.	<p>ON-014 Scoping Boundary overlaps with the Onshore Red Line Boundary, comprising the Scotstown landfall, onshore export cable corridor and onshore substation(s). Construction and operation of ON-014 and the Project are expected to overlap.</p> <p>Design information for ON-014 is not available. However, similar activities to those required for the Project are likely during construction, and similar types of temporary and permanent development.</p> <p>Disruption to agricultural activities within the project boundaries will occur on multiple occasions during construction of the projects, due to the phasing of construction works. It is assumed that similar mitigation measures would be in place to avoid or limit impacts on land use receptors.</p> <p>Potentially significant cumulative effects on land use receptors due to</p>	M-001 M-063 M-066 M-083 M-112	<p>No significant cumulative effect is predicted for land use receptors.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					the combined projects are therefore unlikely.		
Tier 3							
ON-028	3	ECU00006168	Netherton Hub 400kV OHL Connection to New Deer and Peterhead: Rebuild – SSEN	Installation of a new 400 kV OHL between a point on the existing New Deer to Peterhead OHL, approximately 5km west of Peterhead Substation, and connection into Peterhead Substation. The development also includes removal of the associated length of the existing 400 kV New Deer to Peterhead OHL and installation of temporary OHL circuit to	ON-028 requires construction of towers for a 400kV OHL over approximately 5km route. There will be some permanent hard development associated with this at each tower location; however measures to mitigate effects on agricultural land are included, and this extends to consideration of the locations of the towers in relation to agricultural land to minimise impacts. There should therefore not be potential for significant cumulative effects on land contamination receptors with the Project.	M-001 M-063 M-066 M-083 M-112	No significant cumulative effect is predicted for land use land receptors. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				facilitate the transfer of the connection from the existing New Deer to Peterhead 400kV OHL to the diverted lines.			

33.6.16 Terrestrial ecology and ornithology cumulative effects assessment

- 33.6.16.1 For terrestrial ecology and ornithology, a maximum 5km ZOI has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The Terrestrial ecology and ornithology ZOI is shown in **Volume 2, Figure 33.21**.
- 33.6.16.2 The study area has been defined for Important Ecological Features (IEFs) based on their relevant ZOI, as presented below. The assessment of cumulative effects on ecological features is based on professional judgement, consideration of baseline conditions within the Onshore Red Line Boundary and the surrounding area, together with the findings from various technical studies.
- Ancient woodland and dune grasslands: The ZOI for these habitat features has been assessed as other developments which overlap / interact with these features within 1km of the Onshore Red Line Boundary.
 - Badger / otter / water vole: The ZOI for these species has been assessed as 1km from the Onshore Red Line Boundary using professional judgement. Otter can have much larger territories (up to 32km for males and 20km for females (NatureScot, 2025), however impacts because of works within suitable otter habitat are localised hence a 1 km ZOI is considered appropriate. It is possible that any other developments affecting badger setts and / or resting places and supporting habitat (for example, foraging and commuting habitat) within this ZOI could combine with the Project to elevate the significance of effects on badgers / otter and water vole using the Project and surrounding area.
 - Bats: The ZOI for which bats are assessed is 3km from the Onshore Red Line Boundary because the core sustenance zone for common pipistrelle bats is 2km, and for soprano pipistrelle and brown long-eared bats is 3km (BCT, 2016). Therefore, it is possible that any other developments affecting roosts and supporting bat habitat (for example, woodland, flight paths) within this ZOI could combine with the Project to elevate the significance of effects on bats using the Onshore Red Line Boundary and surrounding area.
 - Fish: The ZOI for fish is assessed as other developments which overlap/ interact with the River Ugie catchment. It is expected that those other developments which overlap / interact with this ZOI would be subject to legal obligations for these species, including avoidance or embedded mitigation including restrictions on timings of works to protect migratory salmonids, their spawn, and migrating 'smolts', as well as prevention of sedimentation to prevent smothering of fish eggs. It is assumed that existing hydrological connections will be maintained at watercourses. It is anticipated that all other developments in proximity to watercourses would be undertaken in line with the developer's embedded mitigation measures. It is therefore considered unlikely for the Project to combine with any other developments to cause a significant cumulative effect on fish.
 - Pink-footed geese: 5km is considered an appropriate distance within which to identify potential connectivity for mobile species such as pink-footed geese, considering the presence of functionally linked land between the south of the Loch of Strathbeg SPA / RAMSAR and the Onshore Red Line Boundary.
- 33.6.16.3 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.

- 33.6.16.4 Only those 'other developments' in the 'short list' that fall within the terrestrial ecology and ornithology ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the terrestrial ecology and ornithology ZOI are excluded from this assessment.
- 33.6.16.5 On the basis of the above, the 'other developments' that are scoped into the terrestrial ecology and ornithology are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.21**.
- 33.6.16.6 For 'other developments' where there is not enough information publicly available from July 2025, as set out in **paragraph 33.4.4.1** the following shortlisted 'other developments' have not been taken forward to Stage 4.
- ON-002 - Eastern Green Link 3 (Onshore cable);
 - ON-006 - Beaulby-Blackhillock-New Deer-Peterhead 400kV OHL (New Deer to Peterhead section) – SSEN;
 - ON-011 - Peterhead - Energy Storage Project;
 - ON-013 - Buchan Offshore Wind Farm (onshore infrastructure);
 - ON-014 - Broadshore Hub Offshore Wind Farms (Broadshore, Sinclair and Scaraben) - onshore infrastructure;
 - ON-016 - Wellbank Farm Battery Energy Storage System;
 - ON-024 - Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding- Storage Yard 8;
 - ON-025 - Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding - Storage Yard 2;
 - ON-027 - Peterhead Flexpower 500MW BESS; and
 - ON-028 - Netherton Hub 400kV OHL Connection to New Deer and Peterhead: Rebuild.
- 33.6.16.7 A qualitative assessment considering the Project in combination with other reasonably foreseeable 'other developments' on terrestrial ecology and ornithology receptors has been undertaken, and noting the current status of those 'other developments' at the time of writing, and the likely timing of implementation, additive cumulative effects are considered to be Not Significant, and not greater than that assessed below.
- 33.6.16.8 The CEA for terrestrial ecology and ornithology is set out in **Table 33.21**.

Table 33.21 Cumulative effects assessment for terrestrial ecology and ornithology

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1							
ON-001	1	APP/2024/17 14	SSEN Netherton Hub - SSEN	National for Erection of a Strategic Electricity Transmission Hub Including 400kV AC Substation, 132kV AC Substation, 2 HVDC Converter Stations, Transmission Hall, Spares Warehouse, Operations Base and Associated Works.	<p>The onshore export cable corridor for the Project connects into the consented SSEN Netherton Hub development. Construction of ON-001 is expected to overlap temporally with the construction of the Project.</p> <p>Of the identified IEFs, badger, otter and bats are potentially present within a ZOI of both developments. However, as the SSEN Netherton Hub will also be subject to the same controls as the Project, there would be no potential for significant cumulative effects to arise.</p>	M-011 M-063 M-134 M-135 M-136	<p>Based on the successful implementation of the embedded environmental measures of both developments there would be no potential for significant cumulative effects to arise.</p> <p>Not Significant</p>
ON-003	1	APP/2023/17 88	Peterhead Super Grid Transformer Replacement - SSEN	Onshore elements of the Eastern Green Link 2 project to include: rection of HVDC Electrical Converter Station and Associated Access Tracks, Drainage Works	ON-003 is over 4km from the Onshore Red Line Boundary, with no connectivity for bats and with no pink-footed geese recorded utilising the Site.	M-063 M-135 M-136	<p>Given the lack of connectivity between the two developments, there would be no potential for significant cumulative effects to arise.</p> <p>Not Significant</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				and Landscaping Including Enclosure.			
ON-004	1	APP/2023/1454	Green Volt Offshore Wind Farm (Onshore Infrastructure) - Green Volt Offshore Windfarm Limited	Formation of Onshore Landfall Point, Laying of Underground Cable and Erection of Substation.	<p>ON-004 is at the consented planning stage. The proposed development directly crosses the River Ugie in two places, including crossings through the North Ugie Water and South Ugie Water, potentially upstream of the Project's onshore export cable corridor. The Green Volt project's landfall also shares the same land parcel as the Project's Lunderton South landfall. Green Volt are expected to construct their onshore infrastructure between 2025 and 2027, becoming operational in 2027. The Project construction start date is 2030. As such, there will be no temporal overlap between the projects.</p> <p>Identified IEFs within a potential ZOI of both developments include sand dunes associated with Rattray Head to Peterhead Local Nature Conservation Site, ancient woodland and Atlantic salmon. However, both Green Volt and Marram projects have avoided these features through sensitive design and / or incorporated trenchless cable installation methodologies to ensure avoidance of direct or indirect impact pathways. Additionally, badger, otter and bats are</p>	<p>M-002 M-005 M-006 M-007 M-008 M-011 M-027 M-063 M-132 M-134 M-135 M-136 M-213 M-216</p>	<p>Based on the successful implementation of the embedded environmental measures from both developments, there would be no potential for significant cumulative effects to arise.</p> <p>Not Significant</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					potentially present within a ZOI of both developments. However, during construction, good industry practice measures will be implemented by the Marram Project and Green Volt as set out within the EIA Report (Green Volt, 2023). On this basis, due to the lack of temporal overlap between the two developments and the inclusion of embedded measures for both developments, there would be no potential for significant cumulative effects to arise.		
ON-005	1	APP/2021/2681 (PPiP application)	Eastern Green Link 2- HVDC Converter Station - SSEN	Onshore elements of the Eastern Green Link 2 project to include: rection of HVDC Electrical Converter Station and Associated Access Tracks, Drainage Works and Landscaping Including Enclosure.	ON-005 is more than 3.5km from the Onshore Red Line Boundary, Details relating to the ecological assessment were not available. However, a submitted Construction Environment Management Plan (CEMP) with pre-commencement surveys and comprehensive suite of species protection plans (SPPs) was considered acceptable by Aberdeenshire Council's Natural Environment Team. Implementation of the CEMP and the Project's embedded measures would ensure that there would be no potential for significant cumulative effects to arise.	M-063 M-135 M-136	Based on the successful implementation of the embedded environmental measures from both developments, there would be no potential for significant cumulative effects to arise. Not Significant
ON-007	1	APP/2023/1671 APP/2021/1712	Kirkton Solar Photovoltaic and energy storage	Electricity generating station with installed capacity in excess	The Kirkton Solar Photovoltaic and Energy Storage Facility project is at the consented planning stage. The development overlaps the Onshore Red	M-063 M-134 M-135 M-136	Based on the successful implementation of the embedded

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		ECU00003226	facility - Elgin Energy Esco Ltd	of 50MW consisting of a solar PV farm of approximately 50MW capacity and a battery energy storage facility of approximately 20MW capacity, with ancillary development.	<p>Line Boundary of the Scotstown landfall. Of the identified IEFs, pink-footed geese (associated with Loch of Strathbeg SPA) were recorded foraging during all baseline survey visits and the SPA lies within the core foraging range for pink-footed geese. Additionally, prior to mitigation, adverse effects were recorded for otter and breeding birds.</p> <p>The consent indicates that the Kirkton Project will start construction by 2027 and they have proposed a 16-week construction programme. On this basis the construction programme does not overlap with the Project construction programme, for which the start date is 2030.</p> <p>Following the implementation of the mitigation measures detailed in the Kirkton Solar PV Ecological Assessment Report, which reduce the effects of the development to IEFs throughout all phases of its lifespan, no significant residual negative effects were predicted. In regard to the in-combination assessment prepared within the Kirkton Solar Photovoltaic and Energy Storage Facility Habitats Regulations Appraisal (HRA), all potential in combination effects were predicted to have either a negligible effect or no effect on the SPA population. This assessment did not include the</p>	M-135	<p>environmental measures from both projects, there would be no potential for significant cumulative effects to arise.</p> <p>Not Significant</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					Marram Project. However, based on the lack of temporal overlap of the two developments and given the inclusion of embedded measures applied with respect to the Project, there would be no potential for significant cumulative effects to arise.		
ON-008	1	APP/2022/0369	Inverugie Meadows Residential Mixed-Use Development - Claymore Homes Ltd	Residential Mixed-Use Development Comprising up to 800 Residential Homes	ON-008 is approximately 230m to the south of the Onshore Red Line Boundary. Habitats on site were found to have relatively low ecological value, however they were identified as supporting several protected or notable species requiring mitigation and habitat enhancement measures. Legislation pertaining to wildlife would be addressed through a suite of proposed mitigation measures including vegetation removal outside the bird breeding season, checking of low potential roost trees by a licensed bat ecologist prior to removal and installation of bat boxes within the site. Additionally, proposals for a detailed biodiversity management plan include retained/created habitat along and adjacent to the River Ugie and a proposed nature reserve in proximity to the River Ugie. Alongside the Project's own embedded measures, there would be no potential for significant cumulative effects in relation to IEFs such as bat, badger and otters to arise.	M-002 M-006 M-010 M-027 M-063 M-085 M-086 M-135 M-136 M-215 M-216	Based on the successful implementation of the embedded environmental measures from both projects, there would be no potential for significant cumulative effects to arise. Not Significant

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-009	1	APP/2022/0846; ECU00003433	Peterhead Carbon Capture Power Station	Erection of Low Carbon Electricity Generating Comprising a High Efficiency Combined Cycle Gas Turbine Unit, Carbon Capture Plant, Works to Existing Cooling Water, Natural Gas and Electrical Grid Connections, Other Ancillary and Associated Works.	ON-009 is >4m to the south east of the Onshore Red Line Boundary. The development is also expected to be in operation when the Project's construction begins. Alongside the Project's own embedded measures, there would be no potential for significant cumulative effects in relation to all identified IEFs.	M-063 M-135 M-136	Based on the distance and successful implementation of the embedded environmental measures from both developments, there would be no potential for significant cumulative effects to arise.
ON-010	1	ENQ/2023/0729 APP/2024/1410	Salamander Offshore Wind Farm - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	Planning Permission in Principle for Onshore Transmission Infrastructure for Salamander Offshore Windfarm including Formation of Landfall Infrastructure, Export Cables, Substation and Associated Works at Land to the East	Salamander Offshore Wind Farm (onshore infrastructure) has been approved at the planning stage and shares the same land parcel as the Lunderton North landfall, and trenchless crossing locations of the A90. The construction programme is expected to be 2027 to 2029 and on this basis does not overlap with the Marram project construction programme, for which the start date is 2030. The Salamander Onshore transmission infrastructure site was not found to be used regularly by pink-footed geese, with only low numbers recorded during the surveys within the site (Salamander Offshore Wind Farm	M-063 M-134 M-135 M-136 M-135	Based on the avoidance of regularly used pink-footed geese foraging habitat and the successful implementation of the embedded environmental measures from both developments, there would be no potential for significant cumulative effects to arise. Not Significant

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				of Lunderton, St Fergus, Peterhead.	EIA Report 2024). Disturbance was considered short-term, localised and temporary and would be minimised at the landfall due to the trenchless cable installation. Additionally, implementation of trenchless cable installation technologies at their landfall will ensure avoidance of sand dune communities. All effects on all other ecological and ornithological IEFs across all phases of the Salamander development were determined to be minor or lesser (Not Significant), requiring no additional mitigation or monitoring. In light of the provision of embedded measures for the Project including a Bird Protection Plan and based on the adoption of good industry practice measures at the Salamander site as set out within the Salamander Offshore Wind Farm EIA (2024) Report, and based on the lack of temporal overlap of the two projects, there would be no potential for significant cumulative effects to arise.		
ON-012	1	APP/2024/2000	Muir Mhòr Offshore Wind Farm - Fred Olsen Seawind Limited / Vattenfall Wind Power Limited	Onshore Transmission Infrastructure for Muir Mhòr Offshore Wind Farm including Formation of Onshore Landfall	Muir Mhòr Offshore Wind Farm (onshore infrastructure) intersects the Onshore Red Line Boundary at the Lunderton North landfall, one of the trenchless crossing locations of the A90, the export cable corridor of the Project, the trenchless crossing of the River Ugie and an intersection of the two cable corridors	M-002 M-005 M-006 M-007 M-008 M-011 M-027 M-063	Based on the successful implementation of the embedded environmental measures from both developments there would be no potential

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				Point, Laying of Underground Cables, Erection of Substation, and Associated Works to connect to the Transmission Grid.	where they approach their respective grid connection points at SSEN Netherton Hub. The construction programme for the two developments may also overlap. Both developments avoid areas of ancient woodland, and both commit to the implementation of trenchless cable installation techniques at landfall and River Ugie crossings, resulting in the avoidance of sand dune communities and River Ugie. Embedded measures are incorporated in both projects to ensure no cumulative significant effects. The Muir Mhòr ornithological assessment did not predict any species as being affected to more than a negligible level, including pink-footed geese. As part of the Muir Mhor development, good industry practice measures will be successfully implemented during the construction phase as set out within the Muir Mhòr EIA Report (June 2025). Alongside the Project embedded measures which include a Bird Protection Plan, no significant cumulative effects are predicted.	M-132 M-134 M-135 M-136 M-213 M-216	for significant cumulative effects to arise. Not Significant
ON-015	1	APP/2021/22 65	Extension to Quarry for the Extraction of Minerals	Extension to permission for 20 years to facilitate the extraction of available mineral resources.	ON-15 is more than 3 km from the Onshore Red Line Boundary and works to reinstate the site will be undertaken by June 2026 well in advance of the Project's commencement of construction 2030. Embedded measures incorporated	M-063 M-135 M-136	Given the lack of connectivity and incorporation of best practice measures to safeguard protected species there would be

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					within both developments, will ensure that there is no potential for any significant cumulative effects for identified IEFs including breeding birds and badger.		no potential for significant cumulative effects.
ON-017	1	APP/2024/0229	Erection of 3 Wind Turbines (Height to Hub 60m, Height to Tip 100m) and Associated Infrastructure	Up to 2.35MW generating capacity	ON-17 is more than 4 km from the Onshore Red Line Boundary. Given the distance between the development, the lack of suitability for protected species at the development site and confirmation of no likely significant adverse effect on local bird populations, alongside the commitment to provide a Habitat Management and Monitoring Plan, no significant cumulative effects are predicted.	M-063 M-135 M-136	Based on the lack of connectivity with any notable species or habitats and inclusion of a habitat management and monitoring plan, no potential for significant cumulative effects.
ON-018	1	APP/2024/1297	Extension to Building, Erection of Gate House and Formation of Access	"Removal of existing concrete yard area, demolition of existing workshop, loading bay and the construction of new cold store extension, formation of new cold store to include forming new vehicular access, forming loading bays and	ON-018 is located approximately 2km from the Onshore Red Line Boundary and will largely or entirely be within an existing industrial facility, with no identified IEFs. There is therefore no potential for cumulative effects.	M-063 M-135 M-136	Based on the lack of connectivity with any notable species or habitats there is no potential for significant cumulative effects.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				new site enclosure fencing.			
ON-019	1	APP/2021/2467	Installation of Solar Park Including Ground Mounted Solar Array, Battery Electricity Storage Units and Associated Works	Up to 14.2 MW generating capacity across battery and solar combined	ON-19 is over 4 km from the Onshore Red Line Boundary. Given the distance between the development and the Onshore Red Line Boundary, the limited evidence of protected species and the proposed implementation of generic mitigation measures for both developments, there is therefore no potential for cumulative effects.	M-063 M-135 M-136	Based on the lack of connectivity with any notable species there is no potential for significant cumulative effects.
ON-020	1	APP/2021/2392	Construction of Synchronous Condenser and Associated Infrastructure	The proposal for the Construction and Operation of a Synchronous Condenser and associated infrastructure to provide stability services to the grid network, thereby facilitating and supporting the variable operation of the UK's electricity system and providing more opportunities for renewable energy	ON-20 is over 4 km from the Onshore Red Line Boundary. Given the distance between the development and the Onshore Red Line Boundary, the small scale of the development and limited evidence of protected species, as well as the proposed implementation of generic mitigation measures for both developments, there is therefore no potential for cumulative effects.	M-063 M-135 M-136	Based on the lack of connectivity with any notable species there is no potential for significant cumulative effects.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				developments to connect onto the National Grid and generate power			
ON-021	1	APP/2024/2068	Proposed Southern Extension of Savoch Quarry, Aberdeenshire - Savoch Quarrying and Recycling	Extension to Quarry	ON-21 is approximately 3.2 km from the Onshore Red Line Boundary. No IEFs were recorded within the Preliminary Ecological Assessment for this development. Additionally, given the application of good practice protected species measures for both developments, there would be no potential for any significant cumulative effects.	M-063 M-135 M-136	Based on the lack of connectivity with any notable species or habitats and incorporation of best practice measures to safeguard protected species there would be no potential for significant cumulative effects. Not Significant.
ON-022	1	APP/2022/0191	Installation of Underground Cable, Erection of Substation Building and Siting of Transformer Units and Associated Works	Installation of Underground Cable, Erection of Substation Building and Siting of Transformer Units and Associated Works	ON-22 is approximately 2.6 km from the Onshore Red Line Boundary. Given the lack of connectivity and the application of good practice protected species measures for both developments, there would be no potential for any significant cumulative effects.	M-063 M-135 M-136	Based on the lack of connectivity with any notable species or habitats and incorporation of best practice measures to safeguard protected species there would be no potential for significant cumulative effects. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-023	1	APP/2023/1569	Construction Compound, Erection of 3 Modular Buildings and Security Container, Associated Parking, Laydown Area and Associated Works	Temporary Formation of a Construction Compound, Erection of 3 Modular Buildings and Security Container, Associated Parking, Laydown Area and Associated Works	ON-023 is over 4 km from the Onshore Red Line Boundary. Given the lack of connectivity, small scale of the development and lack of recorded IEFs, there would be no potential for any significant cumulative effects.	M-063 M-135 M-136	Based on the lack of connectivity with any notable species or habitats there would be no potential for significant cumulative effects. Not Significant.
ON-026	1	APP/2025/0444	Installation of BESS with an installed capacity of 180MW and associated infrastructure (Salamander project) - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	S.36 consent application for the proposed EBI of the Salamander Project. The proposed Onshore Development comprises the onshore components that are required for the operation of the Salamander Project.	The installation of the BESS forms part of the wider Salamander project (ON-10), shares the same land parcel, the same construction programme and the same assessment as above. It is therefore assumed that good industry practice measures will be successfully implemented on the Salamander site as set out within the Salamander Offshore Wind Farm EIA Report, which based on the lack of temporal overlap of the two projects, alongside the embedded measures of the Project will ensure there are no significant cumulative effects.	M-063 M-134 M-135 M-136 M-135	Based on the successful implementation of the embedded environmental measures from both developments, there would be no potential for significant cumulative effects to arise. Not Significant

33.6.17 Onshore archaeology and cultural heritage cumulative effects assessment

- 33.6.17.1 For onshore archaeology and cultural heritage, a ZOI of 2km from the Onshore Red Line Boundary (onshore) has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. This is in line with the study areas described in Section 24.4.2, **Chapter 24: Onshore Archaeology and Cultural Heritage**, and is the maximum distance at which the Project will appear with sufficient prominence in the settings of heritage assets in this specific historic landscape context to give rise to a significant adverse effect and therefore, the extent to which cumulative indirect effects may arise. The onshore archaeology and cultural heritage ZOI is shown in **Volume 2, Figure 33.22**.
- 33.6.17.2 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3 the following shortlisted 'other developments'** and has been collated through desk study, consultation and engagement.
- 33.6.17.3 Only those 'other developments' in the 'short list' that fall within the onshore archaeology and cultural heritage ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the onshore archaeology and cultural heritage ZOI are excluded from this assessment.
- 33.6.17.4 On the basis of the above, the 'other developments' that are scoped into the onshore archaeology and cultural heritage CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.22**.
- 33.6.17.5 The CEA for onshore archaeology and cultural heritage is set out in **Table 33.22**.

Table 33.22 Cumulative effects assessment for onshore archaeology and cultural heritage

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1							
ON-001	1	APP/2024/1714	SSEN Netherton Hub	National for Erection of a Strategic Electricity Transmission Hub Including 400kV AC Substation, 132kV AC Substation, 2 HVDC Converter Stations, Transmission Hall, Spares Warehouse, Operations Base and Associated Works.	<p>ON-001 overlaps with the Onshore Red Line Boundary comprising the onshore export cable from the onshore substations to the SSEN Netherton Hub. ON-001 falls within 1.65km of the onshore substation site. Construction of ON-001 is expected to overlap with part of the construction of the Project. Operational dates of ON-001 and the Project will overlap.</p> <p>ON-001 will directly impact subsurface deposits with potential archaeological interest, that lie adjacent to, and overlap with the Onshore Red Line Boundary, which may result in a greater magnitude of impact than predicted for the Project only. However, no known heritage assets are identified within this area of the Onshore Red Line Boundary. Unknown remains of high heritage significance (sensitivity) are not anticipated within area. No significant cumulative effect is predicted.</p>	M-087 seeks to limit the magnitude of impact and overall effect on archaeological receptors.	<p>No significant cumulative effect is predicted.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					No predicted cumulative effects arising through change to setting of heritage assets.		
ON-004	1	APP/2023/1454	Green Volt Offshore Wind Farm (onshore infrastructure) - Green Volt Offshore Windfarm Limited	Formation of Onshore Landfall Point, Laying of Underground Cable and Erection of Substation.	<p>ON-004 overlaps with the Onshore Red Line Boundary, comprising the onshore export cable and landfall(s). Construction of ON-004 is expected to be completed by the time the Project's construction begins.</p> <p>ON-004 will directly impact subsurface deposits with potential archaeological interest, which lie adjacent to and overlap with the Onshore Red Line Boundary. This is likely to include known non-designated archaeological receptors identified within the Onshore Red Line Boundary. Unknown remains of high heritage significance (sensitivity) are not anticipated within the area. No significant cumulative effect is predicted.</p> <p>No predicted cumulative effects arising through change to setting of heritage assets.</p>	<p>M-087 seeks to limit the magnitude and overall effect on archaeological receptors.</p> <p>M-207, M-208 and M-209 seek to avoid direct impacts to non-designated built heritage assets within the Onshore Red Line Boundary.</p>	<p>No significant cumulative effect is predicted.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-007	1	APP/2023/1671 APP/2021/1712 ECU00003226	Kirkton Solar Photovoltaic and Energy Storage Facility - Elgin Energy Esco Ltd	Electricity generating station with installed capacity in excess of 50MW consisting of a solar PV farm of approximately 50MW capacity and a battery energy storage facility of approximately 20MW capacity, with ancillary development.	<p>ON-007 overlaps very narrowly with the Onshore Red Line Boundary, comprising the Scotstown landfall and export cable corridor. The construction stage for ON-007 will not overlap with that of the Project. Operational dates for ON-007 are expected to commence in 2027.</p> <p>ON-007 will directly impact subsurface deposits with potential archaeological interest, which lie adjacent to, and overlap with the Onshore Red Line Boundary, which may result in a greater magnitude of impact than predicted for the Project only. However, no known heritage assets are identified with this area of the Onshore Red Line Boundary. Unknown remains of high heritage significance (sensitivity) are not anticipated within area. No significant cumulative effect is predicted.</p> <p>Where the operation of ON-007 overlaps with the construction of the Project, there is a potential for additional changes to the setting of <i>St Fergus's Church, old parish</i></p>	M-087 seeks to limit the magnitude and overall effect on archaeological receptors.	<p>No significant cumulative effect is predicted.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p><i>church</i> (SM5622), which may result in a greater magnitude of impact than predicted for the Project. However, this would not result in a significant cumulative effect due to the temporary nature of the construction activities.</p> <p>There is also potential for changes to the setting of Old <i>Churchyard of St Fergus</i> (LB16536) and <i>Kinloch Farmhouse</i> (LB18976). However, effects arising through change to setting of these assets were scoped out for the Project because the elements of setting which were identified as supporting their heritage value would not be affected. Therefore, this would not result in a significant cumulative effect.</p> <p>No predicted cumulative effects arising through change to setting of heritage assets.</p>		
ON-008	1	APP/2022/0369	Inverugie Meadows Residential Mixed-Use Development - Claymore Homes Ltd	Residential Mixed-Use Development Comprising up to 800	ON-008 lies within 230m of the Onshore Red Line Boundary and 1.42km of the onshore substation site. It is likely that construction of ON-008 will overlap with	-	No significant cumulative effect is predicted.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				Residential Homes (25% affordable), a Local Neighbourhood Centre, Land Reserved for Employment Purposes, a Primary School and a Possible Future Rail Halt, Associated Roads and Drainage Infrastructure, New Landscaping and Open Spaces and a Local Nature Reserve.	<p>construction of the Project. Operational stages will overlap.</p> <p>During the construction stage, there is a potential for additional changes to the setting of <i>Castle Hill, motte SW of Hallmoss Farm</i> (SM3259), though this is not expected to result in a greater magnitude of impact to heritage assets than predicted for the Project, given the relative distance of ON-008 and the Onshore Red Line Boundary and the intervening planting and topography. This would therefore not result in a significant cumulative effect.</p> <p>There is also potential for operational stage changes to the setting of <i>Berryhill house</i> (LB16394). However, effects arising through change to setting of this asset were scoped out for the Project because views in the direction of the onshore substation site are screened by a belt of mature trees which surround the asset. Therefore, this would not result in a significant cumulative effect</p>		Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-010	1	ENQ/2023/0729 APP/2024/1410	Salamander Offshore Wind Farm (onshore infrastructure) - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	Planning Permission in Principle for Onshore Transmission Infrastructure for Salamander Offshore Windfarm including Formation of Landfall Infrastructure, Export Cables, Substation and Associated Works at Land to the East of Lunderton, St Fergus, Peterhead.	<p>ON-010 overlaps with the Onshore Red Line Boundary, comprising the landfall(s) and onshore export cable corridor. Construction of ON-010 is expected to be completed by the time the Project's construction begins.</p> <p>ON-010 will directly impact subsurface deposits with potential archaeological interest, which lie adjacent to, and overlap with the Onshore Red Line Boundary, which may result in a greater magnitude of impact than predicted for the Project only. This is likely to include known non-designated archaeological receptors identified within the Onshore Red Line Boundary. Unknown remains of high heritage significance (sensitivity) are not anticipated within area. No significant cumulative effect is predicted.</p> <p>No predicted cumulative effects arising through change to setting of heritage assets.</p>	<p>M-087 seeks to limit the magnitude and overall effect on archaeological receptors.</p> <p>M-207, M-208 and M-209 seek to avoid direct impacts to non-designated built heritage assets within the Onshore Red Line Boundary.</p>	<p>No significant cumulative effect is predicted.</p> <p>Not Significant.</p>
ON-012	1	APP/2024/2000	Muir Mhòr Offshore Wind Farm (onshore infrastructure) - Fred	Onshore Transmission Infrastructure	ON-012 overlaps with the Onshore Red Line Boundary, comprising the landfall(s) and onshore export	M-087 seeks to limit the magnitude and overall effect on	No significant cumulative

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			Olsen Seawind Limited / Vattenfall Wind Power Limited	for Muir Mhòr Offshore Wind Farm including Formation of Onshore Landfall Point, Laying of Underground Cables, Erection of Substation, and Associated Works to connect to the Transmission Grid.	<p>cable corridor. ON-012 falls within 1.33km of the onshore substation site. Construction of ON-012 may overlap with construction of the Project. Operation of ON-012 is expected to overlap with construction and O&M stages of the Project.</p> <p>ON-012 will directly impact subsurface deposits with potential archaeological interest, which lie adjacent to, and overlap with the Onshore Red Line Boundary, which may result in a greater magnitude of impact than predicted for the Project only. This is likely to include known non-designated archaeological receptors identified within the Onshore Red Line Boundary. Unknown remains of high heritage significance (sensitivity) are not anticipated within area. No significant cumulative effect is predicted.</p> <p><i>Mount Pleasant, enclosure</i> (SM3999) lies approximately 1.6km from the proposed onshore substation location for ON-012. However, no impact was assessed for the Project, therefore no</p>	archaeological receptors.	<p>effect is predicted.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					predicted cumulative effects arising through change to setting of heritage assets.		
ON-024	1	APP/2023/1501	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding- Storage Yard 8 - Independent Oilfield Services	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and Distribution) and Formation of Hardstanding.	The construction access road to ON-024 lies approximately 50m north of the onshore export cable corridor of the Project. The operational elements of ON-024 lie approximately 1.1km from the onshore substation site of the Project. Construction and operation dates for ON-024 are currently unknown. However, due to the nature of the development and the relative distance of heritage assets (listed in section 24.6 in Chapter 24: Onshore Archaeology and Cultural Heritage), no cumulative impacts are anticipated.	-	No significant cumulative effect is predicted. Not Significant.
ON-025	1	APP/2023/0784	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding - Storage Yard 2 - Independent Oilfield Services	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and Distribution) and Formation of Hardstanding.	The construction access road to ON-025 lies approximately 50m north of the onshore export cable corridor of the Project. The operational elements of ON-025 lie approximately 900m from the onshore substation site of the Project. Construction and operation dates for ON-025 are currently unknown. However, due to the nature of the development	-	No significant cumulative effect is predicted. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					and the relative distance of heritage assets (listed in section 24.6 in Chapter 24: Onshore Archaeology and Cultural Heritage), no cumulative impacts are anticipated.		
ON-026	1	APP/2025/0444	Installation of BESS with an installed capacity of 180MW and associated infrastructure (Salamander project) - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	S.36 consent application for the proposed EBI of the Salamander Project. The proposed Onshore Development comprises the onshore components that are required for the operation of the Salamander Project.	<p>ON-026 overlaps with the Onshore Red Line Boundary, comprising the landfall(s) and onshore export cable corridor. Construction of ON-026 is expected to be completed by the time the Project's construction begins.</p> <p>ON-26 will directly impact subsurface deposits with potential archaeological interest, which lie adjacent to, and overlap with the Onshore Red Line Boundary, which may result in a greater magnitude of impact than predicted for the Project only. This is likely to include known non-designated archaeological receptors identified within the Onshore Red Line Boundary. Unknown remains of high heritage significance (sensitivity) are not anticipated within area. No significant cumulative effect is predicted.</p>	<p>M-087 seeks to limit the magnitude and overall effect on archaeological receptors.</p> <p>M-207, M-208 and M-209 seek to avoid direct impacts to non-designated built heritage assets within the Onshore Red Line Boundary.</p>	<p>No significant cumulative effect is predicted.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					No predicted cumulative effects arising through change to setting of heritage assets.		
Tier 2							
ON-002	2	24/00786/NSIP	Eastern Green Link 3 (onshore cable) - National Grid Electricity Transmission	Onshore infrastructure for Eastern Green Link 3 project to include HVDC underground cable from landfall to Peterhead Net Zero 2030 development site near Longside.	<p>ON-002 lies within 80m of the Onshore Red Line Boundary and approximately 500m of the onshore substation site. It is likely that construction of ON-002 will overlap with construction of the Project. Operational stages will overlap.</p> <p>There is unlikely to be a cumulative effect to the setting of heritage assets (listed in Section 24.6 in Chapter 24: Onshore Archaeology and Cultural Heritage) given the relative distance between ON-002 and the Onshore Red Line Boundary and the presence of intervening planting and topography.</p>	-	<p>No significant cumulative effect is predicted.</p> <p>Not Significant.</p>
ON-006	2	ECU00005165	Beauly-Blackhillock-New Deer-Peterhead 400kV OHL (New Deer to Peterhead section) – SSEN	Part of 400kV OHL between Beauly, Blackhillock, New Deer and Peterhead (Section 11 -	ON-006 primary route boundary overlaps with the Onshore Red Line Boundary and falls within 1.60km of the onshore substation site. Construction of ON-006 may overlap with construction of the	M-087 seeks to limit the magnitude and overall effect on archaeological receptors.	No significant cumulative effect is predicted.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				New Deer to Peterhead falls within Marram area of interest). Line to link in to proposed SSEN Netherton Hub (ON-001). Construction of approximately 185km of new OHL.	<p>Project. Operational stages will overlap.</p> <p>ON-006 will directly impact subsurface deposits with potential archaeological interest, that lie adjacent to, and overlap with the Onshore Red Line Boundary, which may result in a greater magnitude of impact than predicted for the Project only. However, the only known heritage assets identified with this area of the Onshore Red Line Boundary relate to former mineral extraction. Unknown remains of high heritage significance (sensitivity) are not anticipated within area. No significant cumulative effect is predicted.</p> <p>No predicted cumulative effects arising through change to setting of heritage assets.</p>		Not Significant.
ON-013	2	ENQ/2024/0943 ENQ/2024/1603	Buchan Offshore Wind Farm (onshore infrastructure)	Buchan Offshore Wind Farm - Onshore Aspects Including the Landfall(s), Onshore Cable	ON-013 overlaps with the Onshore Red Line Boundary, comprising the onshore export cable corridor and onshore substation(s). Construction and operation of ON-013 and the Project are expected to overlap.	M-087 seeks to limit the magnitude and overall effect on archaeological receptors.	No significant cumulative effect is predicted.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				Route Corridor, Onshore Substation(s) and Onshore Cable Circuits.	<p>ON-013 will directly impact subsurface deposits with potential archaeological interest, which lie adjacent to, and overlap with the Onshore Red Line Boundary, which may result in a greater magnitude of impact than predicted for the Project only. This is likely to include known non-designated archaeological receptors identified within the Onshore Red Line Boundary. Unknown remains of high heritage significance (sensitivity) are not anticipated within area. No significant cumulative effect is predicted.</p> <p>Due to the relative distance between the heritage assets (listed in paragraph 24.6.2.6 in Chapter 24: Onshore Archaeology and Cultural Heritage) and ON-013, and the intervening planting, topography and infrastructure, there is unlikely to be a cumulative visual or audible impact to their settings.</p> <p><i>Mount Pleasant, enclosure</i> (SM3999) lies approximately 540m from the Scoping Boundary for ON-013, though it is uncertain</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					what the nature of the development will be at this location. However, no impact was assessed for the Project, therefore there are no predicted cumulative effects arising through change to setting of this heritage asset.		
ON-014	2	N/A	Broadshore Hub Offshore Wind Farms (Broadshore, Sinclair and Scaraben) - onshore infrastructure - Broadshore Offshore Wind Farm Limited	Three offshore windfarms Broadshore, Sinclair and Scaraben) - onshore infrastructure. Landfall at Fraserburgh or Rattray Head, grid connection in the vicinity of Peterhead.	<p>ON-014 Scoping Boundary overlaps with the Onshore Red Line Boundary, comprising the Scotstown landfall, onshore export cable corridor and onshore substation(s). Construction and operation of ON-014 and the Project are expected to overlap.</p> <p>ON-014 has the potential to directly impact subsurface deposits with potential archaeological interest, which lie adjacent to, and overlap with the Onshore Red Line Boundary, which may result in a greater magnitude of impact than predicted for the Project only. This may include known non-designated archaeological receptors identified within the Onshore Red Line Boundary. Unknown remains of high heritage significance (sensitivity) are not anticipated within area, except</p>	M-087 seeks to limit the magnitude and overall effect on archaeological receptors.	<p>No significant cumulative effect is predicted.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>where there is uncertainty around the nature of paleoenvironmental remains near the River Ugie. No significant cumulative effect is predicted.</p> <p>Design information for ON-014 is not available. However, based on the assessment outcomes for the Project in Chapter 24: Onshore Archaeology and Cultural Heritage, it is considered unlikely that construction and operation of ON-014 would results in significant cumulative effect as result of change to setting of heritage assets identified in section 24.6 of Chapter 24: Onshore Archaeology and Cultural Heritage.</p>		
Tier 3							
ON-028	3	ECU00006168	Netherton Hub 400kV OHL Connection to New Deer and Peterhead: Rebuild – SSEN	Installation of a new 400 kV OHL between a point on the existing New Deer to Peterhead OHL, approximately 5km west of	<p>ON-028 lies within 250m of the Onshore Red Line Boundary and approximately 2km of the onshore substation site. The construction and operation of ON-028 and the Project may overlap.</p> <p><i>Cocklaw mains farmhouse</i> (LB16391) lies approximately 2km</p>	M-087 seeks to limit the magnitude and overall effect on archaeological receptors	<p>No significant cumulative effect is predicted.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				Peterhead Substation, and connection into Peterhead Substation. The development also includes removal of the associated length of the existing 400 kV New Deer to Peterhead OHL and installation of temporary OHL circuit to facilitate the transfer of the connection from the existing New Deer to Peterhead 400kV OHL to the diverted lines.	from the proposed alignment for ON-028. However, no impact was assessed for the Project, therefore there are no predicted cumulative effects arising through change to setting of this heritage asset.		

33.6.18 Onshore noise and vibration cumulative effects assessment

- 33.6.18.1 For onshore noise and vibration, a ZOI of 1km from the Onshore Red Line Boundary for construction noise, a ZOI of 100m from the Onshore Red Line Boundary for vibration arising from any piling or compaction activities activity and a ZOI of 2km from the boundary of the onshore substation site for operational noise has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The noise and vibration ZOI is shown in **Volume 2, Figure 33.23**.
- 33.6.18.2 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.18.3 Only those 'other developments' in the 'short list' that fall within the onshore noise and vibration ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the onshore noise and vibration ZOI are excluded from this assessment.
- 33.6.18.4 On the basis of the above, the 'other developments' that are scoped into the onshore noise and vibration CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.23**.
- 33.6.18.5 For 'other developments' where there is not enough information publicly available as set out in **paragraph 33.4.4.1**, the following shortlisted 'other developments' have not been taken forward to Stage 4.
- **ON-002, Eastern Green Link 3** (onshore cable) – there is no relevant information on the construction stage of development readily available at this stage to undertake a cumulative noise and vibration assessment. Operational noise impacts of the underground cable would be **negligible**, and therefore ON-002 and the Project would not result in cumulative significant effects;
 - **ON-006, Beaulieu - Blackhillock-New Deer-Peterhead 400kV OHL** – there is no relevant information on the construction and operational stages of development readily available at this stage to undertake a cumulative noise and vibration assessment;
 - **ON-013, Buchan Offshore Wind Farm** – there is no relevant information on the construction and operational stages of development readily available at this stage to undertake a cumulative noise and vibration assessment;
 - **ON-014, Broadshore Hub Offshore Wind Farms** – there is no relevant information on the construction and operational stages of development readily available at this stage to undertake a cumulative noise and vibration assessment; and
 - **ON-028, Netherton Hub 400kV OHL Connection to New Deer and Peterhead: Rebuild** – there is no relevant information on the construction stage of development readily available at this stage to undertake a cumulative noise and vibration assessment. ON-028 does not overlap with the ZOI for operational stage CEA.
- 33.6.18.6 The CEA for onshore noise and vibration is set out in **Table 33.23**.

Table 33.23 Cumulative effects assessment for onshore noise and vibration

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1							
ON-001	1	APP/2024/1714	SSEN Netherton Hub	National for Erection of a Strategic Electricity Transmission Hub Including 400kV AC Substation, 132kV AC Substation, 2 HVDC Converter Stations, Transmission Hall, Spares Warehouse, Operations Base and Associated Works.	<p><u>Construction stage:</u> It is anticipated that construction activities for SSEN Netherton Hub will overlap with the Project's construction stage activities. Depending on the timing of the construction activities, there is the potential for cumulative effects at the nearest noise sensitive receptors (NSRs) representative of NSR11 Parkhill and NSR28 Parkhill Farm, particularly if construction activities for both projects are to take place during the evening, night-time and weekend periods. The location of the NSRs are shown in Volume 2, Figure 25.2: Construction stage noise sensitive receptors.</p> <p>After detailed design, and before the commencement of the construction stage, a Noise and Vibration Management Plan (NVMP) will be produced and agreed with Aberdeenshire Council. The NVMP will set out the</p>	M-063 M-090 M-183 M-184 M-212	<p>Construction stage: Not Significant.</p> <p>Operational stage: Not Significant.</p> <p>It is therefore not anticipated that the residual cumulative effects of ON-001 and the Project will result in any effects that are significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>requirements for noise and vibration mitigation measures. In preparing the NVMP, the Project will liaise with developer of ON-001 to obtain the latest available information in relation to the proposed construction works (such as programme and the mitigation measures proposed within the ON-001 CEMP) and work collaboratively to avoid significant effects. If construction is simultaneous with the Project and overlaps for greater than one month, the NVMP will consider the need for mitigation measures to avoid significant cumulative effects.</p> <p><u>Operational stage:</u> The operational stage noise assessment for the Project and ON-001 considers the nearest NSRs to each development. Whilst the ZOI overlaps with the ON-001 development, there are no common receptors in the operational stage noise assessments.</p> <p>It is considered that the Noise Rating (NR) 20 and NR25 curves, which ON-001 is conditioned to meet, would continue to be met at the nearest NSRs to the consented</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					development which fall within the ZOI. Therefore ON-001 and the Project would not result in cumulative significant effects.		
ON-004	1	APP/2023/1454	Green Volt Offshore Wind Farm (onshore infrastructure)	Formation of Onshore Landfall Point, Laying of Underground Cable and Erection of Substation.	<p><u>Operational stage:</u> The construction period for ON-004 will not overlap with that of the Project. Cumulative noise effects are therefore unlikely.</p> <p><u>Operational stage:</u> Operational noise impacts of the underground cable, which falls within the ZOI for the operational stage noise CEA, would be negligible. Therefore ON-004 and the Project would not result in cumulative significant effects.</p>	M-063 M-090 M-184	<p>Construction stage: Not Significant.</p> <p>Operational Stage: Not Significant.</p> <p>It is therefore not anticipated that the residual cumulative effects of ON-004 and the Project will not result in any effects that are significant.</p>
ON-007	1	APP/2023/1671 APP/2021/1712 ECU00003226	Kirkton Solar Photovoltaic and Energy Storage Facility	Electricity generating station with installed capacity in excess of 50MW consisting of a solar PV farm of approximately 50MW capacity and a battery energy storage facility of approximately	<p><u>Operational stage:</u> The construction period for ON-007 is not expected to overlap with that of the Project. Cumulative noise effects are therefore unlikely.</p> <p><u>Operational stage:</u> ON-007 falls outside of the ZOI for the operational stage noise CEA.</p>	M-063 M-090 M-184	<p>Construction stage: Not Significant.</p> <p>It is therefore not anticipated that the residual cumulative effects of ON-007 and the Project will not result in any effects that are significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				20MW capacity, with ancillary development.			
ON-008	1	APP/2022/0369	Inverugie Meadows Residential Mixed Use Development	Residential Mixed Use Development Comprising up to 800 Residential Homes (25% affordable), a Local Neighbourhood Centre, Land Reserved for Employment Purposes, a Primary School and a Possible Future Rail Halt, Associated Roads and Drainage Infrastructure, New Landscaping and Open Spaces and a Local Nature Reserve.	<p>ON-008 overlaps with the ZOI for the construction and operational stage noise CEA assessment. If the ON-008 development were to be consented and constructed, the development would introduce new NSRs within the CEA study area, and in turn there is the potential for construction and operational stage noise effects at these future NSRs.</p> <p><u>Construction stage:</u> Construction activities for the Project may potentially overlap with construction of the ON-008 development. Depending on the timing of the daytime construction activities, there is the potential for cumulative effects at the nearest NSRs in close proximity of the landfall and onshore export cable corridor and operational stage noise effects. The effects would be similar to those anticipated at NSR3 Mains of Inverugie and NSR6 Steading Cottage. The location of the NSRs is shown in Volume 2, Figure 25.2.</p>	<p>M-063 M-090 M-183 M-184 M-212</p>	<p>Construction stage: Not Significant.</p> <p>Operational Stage: Not Significant.</p> <p>It is therefore not anticipated that the residual cumulative effects of ON-008 and the Project will result in any effects that are significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>After detailed design, and before the commencement of the construction stage, a NVMP will be produced and agreed with Aberdeenshire Council. The NVMP will set out the requirements for noise and vibration mitigation measures. In preparing the NVMP, the Project will liaise with developer of ON-008 to obtain the latest available information in relation to the proposed construction works (such as programme and the mitigation measures proposed within the ON-008 CEMP) and work collaboratively to avoid significant effects. If construction is simultaneous with Project and overlap greater than one month, the NVMP will consider the need for mitigation measures to avoid significant cumulative effects.</p> <p><u>Operational stage:</u> The operational stage noise assessment for the Project considers the nearest NSRs to the onshore substation site. With the embedded environmental measures in place, the O&M stage noise assessment concluded the Project would not result in</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>significant effects at the nearest NSRs.</p> <p>Taking into consideration the distance between the nearest NSRs to the onshore substation site and the ON-008, for instance, approximately 1400m, it is considered that the operational stage noise effects would be negligible and therefore Not Significant.</p>		
ON-010	1	ENQ/2023/0729 APP/2024/1410	Salamander Offshore Wind Farm (onshore infrastructure)	Planning Permission in Principle for Onshore Transmission Infrastructure for Salamander Offshore Windfarm including Formation of Landfall Infrastructure, Export Cables, Substation and Associated Works at Land to the East of Lunderton, St Fergus, Peterhead.	<p><u>Construction stage:</u> The construction period for ON-010 is not anticipated to overlap with that of the Project. Cumulative noise effects are therefore unlikely.</p> <p><u>Operational stage:</u> ON-010 falls outside of the ZOI for the operational stage noise CEA.</p>	M-063 M-090 M-184	<p>Construction stage: Not Significant.</p> <p>It is not anticipated that the residual cumulative effects of ON-010 and the Project will result in any effects that are significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-012	1	APP/2024/2000	Muir Mhòr Offshore Wind Farm (onshore infrastructure) - Fred Olsen Seawind Limited / Vattenfall Wind Power Limited	Onshore Transmission Infrastructure for Muir Mhòr Offshore Wind Farm including Formation of Onshore Landfall Point, Laying of Underground Cables, Erection of Substation, and Associated Works to connect to the Transmission Grid.	<p><u>Construction stage:</u> It is anticipated that construction activities of Muir Mhòr Offshore Wind Farm (onshore infrastructure) will overlap with the Project's construction stage activities. Depending on the timing of the construction activities, there is the potential for cumulative effects at the nearest NSRs, particularly if construction activities are to take place during the evening, night-time and weekend periods. The nearest NSRs, as shown in Volume 2, Figure 25.2, include:</p> <ul style="list-style-type: none"> • NSR2 Lunderton Cottages; • NSR6 Steading Cottage; • NSR7 Cairnhill House; • NSR8 Easterton of Barnyards; • NSR11 Parkhill; • NSR18 Lunderton (West of A90); • NSR19 Cattlemans Cottage; • NSR28 Parkhill Farm, Richmondhill; • NSR29 Smiddyhill Farm. <p>After detailed design, and before the commencement of the construction stage, a NVMP will be</p>	<p>M-063 M-090 M-183 M-184 M-212</p>	<p>Construction stage: Not Significant.</p> <p>Operational stage: Not Significant.</p> <p>It is therefore not anticipated that the residual cumulative effects of ON-012 and the Project will result in any effects that are significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>produced and agreed with Aberdeenshire Council. The NVMP will set out the requirements for noise and vibration mitigation measures. In preparing the NVMP, the Project will liaise with developer of ON-012 to obtain the latest available information in relation to the proposed construction works (such as programme and the mitigation measures proposed within the ON-012 CEMP) and work collaboratively to avoid significant effects. If construction is simultaneous with Project and overlap greater than one month, the NVMP will consider the need for mitigation measures to avoid significant cumulative effects.</p> <p><u>Operational stage:</u> The operational stage noise assessment for the Project and ON-012 considers the nearest NSRs to each development. Whilst the ZOI overlaps with the ON-012 development, there are no common receptors in the operational stage noise assessments.</p> <p>It is considered that the British Standard 4142 Rating level for the Project's onshore substations, for</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					both the partially enclosed and fully enclosed scenarios and with additional mitigation measures in place, are unlikely to exceed 34 decibels at the nearest NSRs to the consented development which fall within the ZOI, for instance, the criteria which ON-012 is conditioned to meet. In addition, it is considered that the NR20 curve would continue to be met at the nearest NSRs to the consented development which fall within the ZOI with the mitigation measures for the ON-012 development in place. Therefore ON-012 and the Project would not result in cumulative significant effects.		
ON-024	1	APP/2023/1501	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding - Storage Yard 2	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and Distribution) and Formation of Hardstanding.	<p><u>Construction stage:</u> Construction activities may overlap with the Project's construction stage activities. However, taking into consideration the likely scale, nature and duration of the construction works associated with ON-024, cumulative noise effects are considered unlikely.</p> <p><u>Operational stage:</u> This development is not considered to be a source of noise. Cumulative noise effects are therefore unlikely.</p>	M-063 M-090 M-184	<p>Construction stage: Not Significant.</p> <p>Operational stage: Not Significant.</p> <p>It is therefore not anticipated that the residual cumulative effects of ON-024 and the Project will not result in any effects that are significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-025	1	APP/2023/0784	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding - Storage Yard 2	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and Distribution) and Formation of Hardstanding.	<p><u>Construction stage:</u> Construction activities may overlap with the Project's construction stage activities. However, taking into consideration the likely scale, nature and duration of the construction works associated with ON-025, cumulative noise effects are considered unlikely.</p> <p><u>Operational stage:</u> This development is not considered to be a source of noise. Cumulative noise effects are therefore unlikely.</p>	M-063 M-090 M-184	<p>Construction stage: Not Significant.</p> <p>Operational stage: Not Significant.</p> <p>It is therefore not anticipated that the residual cumulative effects of ON-025 and the Project will result in any effects that are significant.</p>
ON-026	1	APP/2025/0444	Installation of BESS with an installed capacity of 180MW and associated infrastructure (Salamander project)	S.36 consent application for the proposed EBI of the Salamander Project. The proposed Onshore Development comprises the onshore components that are required for the operation of the Salamander Project.	<p><u>Construction stage:</u> The construction period for ON-026 is not anticipated to overlap with that of the Project. Cumulative noise effects are therefore unlikely.</p> <p><u>Operational stage:</u> ON-026 falls outside of the ZOI for the operational stage noise CEA.</p>	M-063 M-090 M-184	<p>Construction stage: Not Significant.</p> <p>It is therefore not anticipated that the residual cumulative effects of ON-026 and the Project will result in any effects that are significant.</p>

33.6.19 Traffic and transport cumulative effects assessment

- 33.6.19.1 For traffic and transport, a ZOI adopting a 1000m buffer from the Onshore Red Line Boundary has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. This ZOI is identical to that of the noise and vibration aspects of the cumulative assessment due to the inherent association. The traffic and transport ZOI is shown in **Volume 2, Figure 33.24**.
- 33.6.19.2 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.19.3 Only those 'other developments' in the 'short list' that fall within the traffic and transport ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the traffic and transport ZOI are excluded from this assessment.
- 33.6.19.4 On the basis of the above, the 'other developments' that are scoped into the traffic and transport CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.24**.
- 33.6.19.5 For 'other developments' where there is not enough information publicly available as set out in **paragraph 33.4.4.1**, the following shortlisted 'other developments' have not been taken forward to Stage 4:
- ON-002, Eastern Green Link 3 (onshore cable);
 - ON-006, Beaulieu-Blackhilllock-New Deer-Peterhead 400kV;
 - ON-008, Inverurie Meadows Residential Mixed-Use Development;
 - ON-013, Buchan Offshore Wind Farm;
 - ON-014, Broadshore Hub Offshore Wind Farms;
 - ON-024, Part Change of Use of Airfield to Form Pipe Storage Yard B - development is a proposal for a change of use only. There is no information on construction traffic readily available at this stage;
 - ON-025, Part Change of Use of Airfield to Form Pipe Storage Yard 2 - development is a proposal for a change of use only; and
 - ON-028, Netherton Hub 400kV OHL Connection to New Deer and Peterhead: Rebuild.
- 33.6.19.6 A qualitative assessment considering the Project in combination with other reasonably foreseeable projects on traffic and transport receptors has been undertaken, and noting the current status of those projects at the time of writing, and the likely timing of implementation, additive cumulative effects are considered to be Not Significant, and not greater than that assessed below.
- 33.6.19.7 The CEA for traffic and transport is set out in **Table 33.24**.

Table 33.24 Cumulative effects assessment for traffic and transport

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1							
ON-001	1	APP/2024/1714	SSEN Netherton Hub	National for Erection of a Strategic Electricity Transmission Hub Including 400kV AC Substation, 132kV AC Substation, 2 HVDC Converter Stations, Transmission Hall, Spares Warehouse, Operations Base and Associated Works.	<p>It has been assumed that construction traffic from ON-001 will overlap with the Project's construction traffic along the A950 and the A90 near Peterhead. It is expected that ON-001 will add a maximum of 351 daily two-way vehicle movements along the A950, 216 of which expected to be Heavy Goods Vehicles (SSEN, 2024b). The cumulative effects on the seven key characteristics, as set out in Chapter 26: Traffic and Transport, are as follows:</p> <p>Severance of communities – the addition of 351 vehicles from ON-001 combined with the Project construction traffic along the A950 is expected to lead to a medium magnitude of impact on</p>	<p>M-063 M-094 M-095 M-096 M-099</p>	<p>Severance of Communities: Not Significant.</p> <p>Road vehicle driver and passenger delay: Not Significant.</p> <p>Non-motorised user delay: Not Significant.</p> <p>Non-motorised user amenity: Not Significant.</p> <p>Fear and intimidation: Not Significant.</p> <p>Road user and pedestrian safety: Not Significant.</p> <p>Hazardous / large loads: Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>severance. This equates to a change within the quantitative and qualitative severance assessments from that assessed in Chapter26: Traffic and Transport.</p> <p>Due to the A950 being classified as having low receptor sensitivity, the resulting significance of effects on this link changes from negligible to minor adverse. This effect is considered to be Not Significant.</p> <p>Road vehicle driver and passenger delay – No change in significance of effects arising due to cumulative impact as theoretical capacity on links are not expected to be exceeded.</p> <p>Non-motorised user delay – No change in significance of effect arising due to cumulative impact as there are limited pedestrian facilities on road links</p>		It is therefore anticipated that the residual cumulative effects of ON-001 and the Project will not result in any effects that are significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>where cumulative impact is expected.</p> <p>Non-motorised user amenity – No change in significance of effects arising due to cumulative impact as limited pedestrian activity expected on links where there is potential for cumulative impact.</p> <p>Fear and intimidation – No change in significance of effects arising from cumulative impact as the additional construction traffic does not lead to a step change in impact on links where cumulative impact is expected.</p> <p>Road user and pedestrian safety – No change in significance of effects arising from cumulative impact as additional construction traffic does not lead to higher than national average accident rates along links where cumulative impact is expected.</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					Hazardous / large loads – No change in significance of effects arising from cumulative impact as these are mainly from abnormal loads which are infrequent and the deliveries of which can be coordinated across projects.		
ON-004	1	APP/2023/1454	Green Volt Offshore Wind Farm (onshore infrastructure) - Green Volt Offshore Wind Farm Ltd	Formation of Onshore Landfall Point, Laying of Underground Cable and Erection of Substation.	<p>Information submitted to the Aberdeenshire planning portal identifies that construction traffic from ON-004 will not overlap with the Project's construction traffic. ON-004 construction programme expected to take place between 2025 – 2027 which is outwith the Project's construction stage.</p> <p>It is therefore considered to be no residual cumulative effects of ON-004 and the Project which will result in effects that are Not Significant.</p>	-	<p>The residual cumulative impact of ON-004 and the Project will not result in any effects that are significant.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-007	1	APP/2023/1671 APP/2021/1712 ECU00003226	Kirkton Solar Photovoltaic and Energy Storage Facility – Elgin Energy	Electricity generating station with installed capacity in excess of 50MW consisting of a solar PV farm of approximately 50MW capacity and a battery energy storage facility of approximately 20MW capacity, with ancillary development.	<p>ON-007 construction programme expected to take place over 16 weeks and is required to start within a 5-year period once planning consent is granted, which was in 2022 by the Energy Consent Unit.</p> <p>Therefore, information submitted to the Aberdeenshire planning portal and the Energy Consent Unit consequently requires the development to be constructed prior to the Project's construction stage.</p> <p>It is therefore considered that the residual cumulative effects of ON-007 and the Project will be Not Significant.</p>	-	<p>The residual cumulative impact of ON-007 and the Project will not result in any effects that are significant.</p> <p>Not Significant.</p>
ON-010	1	ENQ/2023/0729 APP/2024/1410	Salamander Offshore Wind Farm (onshore infrastructure) – Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	Planning Permission in Principle for Onshore Transmission Infrastructure for Salamander Offshore Windfarm including	Information submitted to the Aberdeenshire planning portal states that construction traffic from ON-010 will not overlap with the Project's construction traffic.	-	The residual cumulative impact of ON-010 and the Project will not result in any effects that are significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				Formation of Landfall Infrastructure, Export Cables, Substation and Associated Works at Land to the East of Lunderton, St Fergus, Peterhead.	ON-010 construction programme expected to take place between 2026 – 2029, with peak construction traffic expected to take place in 2027 which is outwith the Project's construction stage. It is therefore considered that the residual cumulative effects of ON-010 and the Project will be Not Significant .		Not Significant.
ON-012	1	APP/2024/2000	Muir Mhòr Offshore Wind Farm (onshore infrastructure) - Fred Olsen Seawind Limited / Vattenfall Wind Power Limited	Onshore Transmission Infrastructure for Muir Mhòr Offshore Wind Farm including Formation of Onshore Landfall Point, Laying of Underground Cables, Erection of Substation, and Associated Works to connect to the Transmission Grid.	Information submitted to the Aberdeenshire planning portal states that construction programme from ON-012 may overlap with the Project's however, peak construction for ON-012, according to the Transport Assessment submitted as part of the planning application, is expected to take place in 2028, which is outwith the Project's construction peak in 2031. While there is a potential for the end of ON-012 construction to overlap	-	It is anticipated that the residual cumulative effects of ON-012 and the Project will not result in any effects that are significant. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>start of the Project's construction, it is not considered that the cumulative impact of this will exceed the impact which has already been assessed within Chapter 26: Traffic and Transport.</p> <p>It is therefore considered that the residual cumulative effects of ON-012 and the Project will result in effects that are Not Significant.</p>		
ON-026	1	APP/2025/0444	Installation of BESS with an installed capacity of 180MW and associated infrastructure (Salamander project) – Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	S.36 consent application for the proposed EBI of the Salamander Project. The proposed Onshore Development comprises the onshore components that are required for the operation of the Salamander Project.	<p>Information submitted to the Aberdeenshire planning portal are identical to that of ON-007 construction traffic which will not overlap with the Project's construction traffic.</p> <p>ON-007 construction programme expected to take place between 2026 – 2029, with peak construction traffic expected to take place in 2027 which is outwith the Project's stage.</p>		<p>The residual cumulative impact of ON-012 and the Project will not result in any effects that are significant.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					It is therefore considered that the residual cumulative effects of ON-026 and the Project will be Not Significant .		

33.6.20 Landscape and visual cumulative effects assessment

- 33.6.20.1 For the landscape and visual CEA, a 5km ZOI from the Onshore Red Line Boundary has been applied. This ZOI has been based on the Landscape and Visual Impact Assessment (LVIA) study area, which is defined and explained further in Section 27.4, **Chapter 27: Landscape and Visual**. The LVIA study area is proportionate and based on professional judgement, beyond which it is considered unlikely for significant effects to arise. This judgement is based on a detailed analysis of the Zone of Theoretical Visibility (**Volume 2, Figures 27.2a-c to Figures 27.3a-g**); site surveys to establish an understanding of the local landscape character; the scale of the construction and development proposed; detailed viewpoint analysis (**Volume 3, Appendix 27.2: Viewpoint Assessment**) and knowledge of similar projects including Moray West, Moray East and Beatrice Offshore Wind Farm. The landscape and visual ZOI is shown in **Volume 2, Figure 33.25a-c**.
- 33.6.20.2 The methodology for the landscape and visual cumulative effects accords with GLVIA3 and NatureScot's guidance (2021) *Assessing the Cumulative Impact of Onshore Wind Energy Developments* and is described in Section 7, **Volume 3, Appendix 27.1: Landscape and Visual Assessment Methodology**.
- 33.6.20.3 An onshore 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.2**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement. Only those 'other developments' in the 'short list' that fall within the landscape and visual 5km ZOI have the potential to result in significant cumulative effects with the Project. All 'other developments' falling outside the landscape and visual ZOI are excluded from this assessment.
- 33.6.20.4 On the basis of the above, the 'other developments' that are scoped into the landscape and visual CEA are outlined in **Volume 3, Appendix 33.2**. This includes 19 'other developments' with above-ground infrastructure which are illustrated in **Volume 2, Figure 33.25b and c** (showing other developments awaiting determination status and other developments that have consented status, respectively). These are also illustrated in the annotated viewpoints (see **Volume 2, Figure 33.25d-o**) as requested by Aberdeenshire Council in SIT 981, see **Chapter 27: Landscape and Visual** for further details.
- 33.6.20.5 Of the 19 'other developments' scoped into the landscape and visual CEA, six of these would have a significant cumulative landscape and / or visual effect with the onshore Project infrastructure (during construction and / or O&M) as follows:
- ON-001: SSEN Netherton Hub (during construction and O&M);
 - ON-008: Inverugie Meadows Residential Mixed Use Development (during construction only if construction periods overlap);
 - ON-010: Salamander Offshore Wind Farm (during construction only);
 - ON-012: Muir Mhòr Offshore Wind Farm (onshore infrastructure), (during construction and O&M);
 - ON-017: Erection of three Wind Turbines (construction only); and
 - ON-022: Installation of Underground Cable, Erection of Substation Building and Siting of Transformer Units and Associated Works - Green Energy International (construction only).
- 33.6.20.6 The onshore Project infrastructure (during construction and / or O&M) would have an *additional* cumulative effect in addition to the six 'other developments' listed above, as well

as a *combined* cumulative effect in combination with the six 'other developments'. This approach to cumulative landscape and visual impact assessment accords with best practice including NatureScot's guidance *Assessing the cumulative landscape and visual impact of onshore wind energy developments* (NatureScot, 2021) and the methodology described in **Volume 3, Appendix 27.1 Landscape and Visual Assessment Methodology**.

- 33.6.20.7 Significant cumulative effects resulting from the onshore Project infrastructure, during construction, O&M and decommissioning, in addition to the six 'other developments' are similar to the 'standalone' effects assessed in **Chapter 27 Landscape and Visual**.
- 33.6.20.8 Combined cumulative effects result from the onshore Project infrastructure in combination with the six 'other developments', during construction, O&M and decommissioning. These effects may be greater than the effects of the 'other developments' and the onshore Project infrastructure assessed on a 'standalone' basis. Significant combined cumulative effects would occur during the construction stage of the onshore Project and include effects on landscape character (LCT 3: Deposition Coastline, Open Views / LCT 12: Beaches, Dunes and Links / LCT 17a: Coastal Agricultural Plain / LCT 17b: River Ugie / LCT 17c: A950 / Longside Airfield), the North East Aberdeenshire Coast SLA, and visual receptors including the views from the A90 / North Coast 250, A950, minor roads, residential properties and recreational routes. The nature of these effects would be temporary, cumulative and adverse. During the O&M stage of the onshore Project the magnitude of combined cumulative effects would reduce, due to the completion of the construction stage, associated mitigation and reinstatement works. During this period, significant combined cumulative effects would affect landscape character (LCT 17a: Coastal Agricultural Plain and LCT 17c: A950 / Longside Airfield) and views from the A950, minor roads, recreational routes and residential properties. The nature of these effects would be long-term (reversible) cumulative and ranging between adverse to beneficial, subject to the implementation of the **Volume 4: Outline Landscape and Architectural Strategy**.
- 33.6.20.9 Other developments' at pre-planning, as illustrated in **Volume 2, Figure 33.25a** have been excluded from the assessment in line with NatureScot's guidance (2012) *Assessing the Cumulative Impact of Onshore Wind Energy Developments*. This also includes 'other developments' where there is not enough information publicly available, as set out in **paragraph 33.4.4.1**. The following shortlisted 'other developments' have therefore not been taken forward to Stage 4.
- ON-002: Eastern Green, Link 3 (onshore cable);
 - ON-006: Beaulay-Blackhillock-New Deer-Peterhead 400kV OHL (Primary and Alternative Routes);
 - ON-011: Peterhead - Energy Storage Project;
 - ON-013: Buchan Offshore Wind Farm (onshore infrastructure);
 - ON-014: Broadshore Hub Offshore Wind Farms (Broadshore, Sinclair, Scaraben) - onshore infrastructure);
 - ON016: Wellbank Farm Battery Energy Storage System;
 - ON027: Peterhead Flexpower 500MW BESS; and
 - ON-028: Netherton Hub OHL Connection.
 - ON-015: Extension to Quarry for the Extraction of Minerals (Part Retrospective) is excluded from the cumulative assessment on the basis that this is a temporal extension to the existing quarry and therefore forms part of the baseline.

33.6.20.10 The CEA for landscape and visual is set out in **Table 33.25**.

Table 33.25 Cumulative effects assessment for landscape and visual

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1							
ON-001	1	APP/2024/1714	SSEN Netherton Hub	National for Erection of a Strategic Electricity Transmission Hub Including 400kV AC Substation, 132kV AC Substation, 2 HVDC Converter Stations, Transmission Hall, Spares Warehouse, Operations Base and Associated Works.	<p>ON-001 falls within 1.65km of the onshore substation site and is the connection point for the onshore export cable corridor. Construction of ON-001 is expected to overlap with part of the construction stage of the Project. Operational dates of ON-001 and the Project would also overlap. See Volume 2, Figure 33.25f / Volume 2, Figure 33.25h / Volume 2, Figure 33.25l.</p> <p><u>Landscape</u> Construction: The duration of construction effects would be extended sequentially (increasing the cumulative / combined duration of construction effects to 'long-term' and potentially increasing the intensity of activity within the Onshore Red Line Boundary). This would affect Landscape Character Type (LCT) 17c: A950 / Longside Airfield / LCT 17a: Coastal Agricultural Plain which would be subject to cumulative construction development. O&M: The geographical extent of significant effects on LCT 17c: A950 /</p>	<p>M-001 M-002 M-006 M-011 M-019 M-024 M-026 M-027 M-063 M-070 M-103 M-104 M-108 M-109 M-110 M-111 M-185 M-201</p>	<p><u>Landscape Effects</u> Significant, temporary and adverse cumulative effects are predicted during construction. During O&M the nature of these long term effects would be partly mitigated by the OLAS (Volume 4: Outline Landscape and Architectural Strategy).</p> <p>Significant Effect.</p> <p><u>Visual Effects</u> Significant, temporary cumulative effects are predicted for road users (sequential effects) and some residents during construction. During O&M the</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>Longside Airfield would be increased, and the cumulative effects would have a significant effect on the baseline landscape character with two areas taken up by the combined development footprints.</p> <p><u>Visual</u> Construction: The duration of construction effects would be extended and occur sequentially (increasing the cumulative / combined duration of construction effects to 'long-term' and potentially increasing the intensity of activity within the Onshore Red Line Boundary). This would affect some residents and users of the A950 and the minor roads between the A950 and Toddlehills (routes 12, 13 and 14 indicated in Volume 2, Figure 27.5a: Onshore Substation Visual Receptors).</p> <p>O&M: There would be significant sequential visual impacts viewed from the A950 and some elevated receptors including minor roads and residents.</p>		<p>nature of these long term effects would be partly mitigated by the OLAS.</p> <p>Significant Effect.</p>
ON-003	1	APP/2023/1788	Peterhead Super Grid Transformer	Extension and Upgrade of Existing 275kV	ON-003 is located approximately 4.5km southeast of the nearest onshore element of the Project.	-	<u>Landscape Effects</u>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			Replacement – SSEN	Electricity Substation comprising two new super grid transformer buildings with associated access, drainage and landscaping proposals.	<p>Construction of ON-003 is expected to be completed ahead of construction of the Project. Operational dates of ON-003 and the Project would overlap.</p> <p><u>Landscape</u> Construction: There would be no cumulative effects on landscape receptors. O&M: There would be no cumulative effects on landscape receptors.</p> <p><u>Visual</u> Construction: There would be no cumulative effects on visual receptors. O&M: There would be some limited intervisibility from elevated areas (for example, Reform Tower in Peterhead).</p>		<p>No significant cumulative effect is predicted.</p> <p>Not Significant.</p> <p><u>Visual Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p>
ON-004	1	APP/2023/1454	Green Volt Offshore Wind Farm (onshore infrastructure) - Green Volt Offshore Windfarm Limited	Formation of Onshore Landfall Point, Laying of Underground Cable and Erection of Substation.	ON-004 landfall and onshore export cable corridor overlap with the Lunderton South landfall construction compound search area and the onshore export cable corridor of the Project. Construction of ON-004 is expected to be completed ahead of construction of the Project. Operational dates of ON-004 and the Project would overlap.	M-001 M-002 M-005 M-006 M-019 M-024 M-026 M-027 M-063 M-070 M-103	<p>No significant cumulative effects are predicted during construction and O&M.</p> <p>Not Significant.</p> <p><u>Visual Effects</u></p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p><u>Landscape</u> Construction: There would be no cumulative effects on landscape receptors as the construction periods do not overlap. O&M: There would be no cumulative effects on landscape receptors as all landfall(s) and onshore export cable corridors would be below ground.</p> <p><u>Visual</u> Construction: There would be no cumulative effects on visual receptors as the construction periods do not overlap. O&M: There would be no cumulative effects on visual receptors as all landfall(s) and onshore export cable corridors would be below ground.</p>	<p>M-104 M-108 M-109 M-110</p>	<p>No significant cumulative effects are predicted during construction and O&M.</p> <p>Not Significant.</p>
ON-005	1	<p>APP/2021/2681 (PPiP application)</p> <p>APP/2024/0507 (conditions discharge application related to APP/2021/2681)</p>	Eastern Green Link 2- HVDC Converter Station – SSEN	Onshore elements of the Eastern Green Link 2 project to include: rection of HVDC Electrical Converter Station and Associated Access Tracks, Drainage Works and Landscaping	ON-005 is located approximately 3.5km southeast of the nearest onshore element of the Project. Construction of ON-005 is expected to be completed ahead of construction of the Project. Operational dates of ON-005 and the Project would overlap.	-	<p><u>Landscape Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p> <p><u>Visual Effects</u> No significant cumulative effect is predicted.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				Including Enclosure.	<p><u>Landscape</u> Construction: There would be no cumulative effects on landscape receptors. O&M: There would be no cumulative effects on landscape receptors.</p> <p><u>Visual</u> Construction: There would be no cumulative effects on visual receptors. O&M: There would be some limited intervisibility from elevated areas (for example, Reform Tower in Peterhead).</p>		Not Significant.
ON-007	1	APP/2023/1671 APP/2021/1712 ECU00003226	Kirkton Solar Photovoltaic and Energy Storage Facility - Elgin Energy Esco Ltd	Electricity generating station with installed capacity in excess of 50MW consisting of a solar PV farm of approximately 50MW capacity and a battery energy storage facility of approximately 20MW capacity, with ancillary development.	<p>ON-007 is within close proximity to Scotstown landfall construction compound search area and the onshore export cable corridor (approximately 10m distance) and Lunderton North landfall construction compound search area (approximately 400m). Construction of ON-007 is expected to be completed ahead of construction of the Project. See Volume 2, Figure 33.25j-k / Volume 2, Figure 33.25m-n.</p> <p><u>Landscape</u></p>	<p>M-001 M-002 M-005 M-006 M-019 M-024 M-026 M-027 M-063 M-070 M-103 M-104 M-108 M-109 M-110</p>	<p><u>Landscape Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p> <p><u>Visual Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>Construction: There would be no cumulative effects on landscape receptors.</p> <p>O&M: There would be no cumulative effects on landscape receptors as a result of the Project as all landfall(s) and onshore export cable corridors would be below ground.</p> <p><u>Visual</u></p> <p>Construction: There would be no cumulative effects on visual receptors.</p> <p>O&M: There would be no cumulative effects on visual receptors as all landfall(s) and onshore export cable corridors would be below ground.</p>		
ON-008	1	APP/2022/0369	Inverugie Meadows Residential Mixed-Use Development - Claymore Homes Ltd	Residential Mixed-Use Development Comprising up to 800 Residential Homes (25% affordable), a Local Neighbourhood Centre, Land Reserved for Employment Purposes, a Primary School	<p>ON-008 would be located approximately 300m from the nearest onshore element of the Project. Construction and operational dates for ON-008 are unknown. See Volume 2, Figure 33.25d-e / Volume 2, Figure 33.25i.</p> <p><u>Landscape</u></p> <p>Construction: Should the construction periods overlap or occur sequentially, there would be cumulative effects on landscape receptors including LCT 12: Beaches, Dunes and Links / LCT</p>	<p>M-001 M-002 M-005 M-006 M-019 M-024 M-026 M-027 M-063 M-070 M-103 M-104 M-108 M-109</p>	<p><u>Landscape Effects</u></p> <p>Significant, temporary cumulative effects are predicted should construction periods overlap or occur sequentially.</p> <p>Significant effect (if construction periods overlap or occur sequentially).</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				and a Possible Future Rail Halt, Associated Roads and Drainage Infrastructure, New Landscaping and Open Spaces and a Local Nature Reserve.	<p>17a: Coastal Agricultural Plain / LCT 17b: River Ugie, and North East Aberdeenshire Coast SLA. O&M: There would be no cumulative effects on landscape receptors as a result of the Project as all landfall(s) and onshore export cable corridors would be below ground.</p> <p><u>Visual</u> Construction: Should the construction periods overlap, there would be cumulative effects on visual receptors including the A90 / North East 250 / Coastal Trail / core path 215.02, minor roads near Inverugie, Formartine and Bucan Way / core path 7LD.03MP.05, Inverugie settlement, and Rora Moss Circular cycle route.</p> <p>O&M: There would be no cumulative effects on visual receptors as all landfall(s) and onshore export cable corridors would be below ground.</p>	M-110	<p>No significant cumulative effect is predicted during O&M as a result of the Project.</p> <p>Not Significant.</p> <p><u>Visual Effects</u> Significant, temporary cumulative effects are predicted should construction periods overlap or occur sequentially.</p> <p>Significant effect (if construction periods overlap or occur sequentially).</p> <p>No significant cumulative effect is predicted during O&M as a result of the Project.</p> <p>Not Significant.</p>
ON-009	1	APP/2022/0846 ECU00003433	Peterhead Carbon	Erection of Low Carbon Electricity	ON-009 is located approximately 4km southeast of the nearest	-	<u>Landscape Effects</u>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			Capture Power Station - SSE Thermal Generation (Scotland) Limited	Generating Comprising a High Efficiency Combined Cycle Gas Turbine Unit, Carbon Capture Plant, Works to Existing Cooling Water, Natural Gas and Electrical Grid Connections, Other Ancillary and Associated Works.	<p>onshore element of the Project. Construction of ON-009 is expected to be completed ahead of construction of the Project. Operational dates of ON-009 and the Project would overlap.</p> <p><u>Landscape</u> Construction: There would be no cumulative effects on landscape receptors. O&M: There would be no cumulative effects on landscape receptors.</p> <p><u>Visual</u> Construction: There would be no cumulative effects on visual receptors. O&M: There would be some limited intervisibility from elevated areas (for example, Reform Tower in Peterhead).</p>		<p>No significant cumulative effect is predicted.</p> <p>Not Significant.</p> <p><u>Visual Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p>
ON-010	1	ENQ/2023/0729 APP/2024/1410	Salamander Offshore Wind Farm (onshore infrastructure) - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	Planning Permission in Principle for Onshore Transmission Infrastructure for Salamander Offshore Windfarm including	ON-010 overlaps with Lunderton North landfall associated onshore export cable corridors / trenchless crossing construction compounds. Construction of ON-010 is expected to be completed ahead of construction of the Project. Operational dates of ON-010 and the Project would overlap. See Volume 2, Figure 33.25d / Volume 2, Figure	M-001 M-002 M-005 M-006 M-019 M-024 M-026 M-027 M-063 M-070	<p><u>Landscape Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p> <p><u>Visual Effects</u></p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				Formation of Landfall Infrastructure, Export Cables, Substation and Associated Works at Land to the East of Lunderton, St Fergus, Peterhead.	<p>33.25h / Volume 2, Figure 33.25j-k / Volume 2, Figure 33.25m-n.</p> <p><u>Landscape</u> Construction: There would be no cumulative effects on landscape receptors as the construction periods do not overlap</p> <p>O&M: There would be no cumulative effects on landscape receptors as result of the Project as all landfall(s) and onshore export cable corridors would be below ground.</p> <p><u>Visual</u> Construction: There would be no cumulative effects on landscape receptors as the construction periods do not overlap.</p> <p>O&M: There would be no cumulative effects on visual receptors as result of the Project as all landfall(s) and onshore export cable corridors would be below ground.</p>	M-103 M-104 M-108 M-109 M-110	No significant cumulative effect is predicted. Not Significant.
ON-012	1	APP/2024/2000	Muir Mhòr Offshore Wind Farm (onshore infrastructure) - Fred Olsen Seawind	Onshore Transmission Infrastructure for Muir Mhòr Offshore Wind Farm including	ON-012 overlaps with Lunderton North landfall and associated landfall construction compound search areas / onshore export cable corridor / trenchless crossing construction compounds / secondary construction	M-001 M-002 M-005 M-006 M-019 M-024	<u>Landscape Effects</u> Significant, temporary and adverse cumulative effects are predicted during construction

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			Limited / Vattenfall Wind Power Limited	Formation of Onshore Landfall Point, Laying of Underground Cables, Erection of Substation, and Associated Works to connect to the Transmission Grid.	<p>compounds. Additionally, the ON-012 onshore substation would be located ~450m west of the onshore export cable corridor and ~1.4km north of the onshore substations for the Project. Construction period of ON-012 and the Project may overlap or occur sequentially. Operational dates of ON-012 and the Project would overlap. See Volume 2, Figure 33.25d-g / Volume 2, Figure 33.25h / Volume 2, Figure 33.25i-k / Volume 2, Figure 33.25l / Volume 2, Figure 33.25m.</p> <p><u>Landscape</u> Construction: The duration of construction effects may overlap or be extended sequentially (increasing the cumulative / combined duration of construction effects to 'long-term' and potentially increasing the intensity of activity within the Onshore Red Line Boundary). This would affect landscape receptors, including LCT 3: Deposition Coastline, Open Views / LCT 12: Beaches, Dunes and Links / LCT 17a: Coastal Agricultural Plain / LCT 17b: River Ugie / LCT 17c: A950 / Longside Airfield and North East Aberdeenshire Coast SLA. O&M: There would be cumulative effects on LCT 17c: A950 / Longside</p>	<p>M-026 M-027 M-063 M-070 M-103 M-104 M-108 M-109 M-110 M-011 M-111 M-185 M-201</p>	<p>(due to concurrent construction activity or extended duration and increased intensity).</p> <p>Significant, long term, cumulative effects are predicted during O&M as a result of the onshore substations for the Project and ON-012. During O&M the nature of these effects would be partly mitigated by the OLAS.</p> <p>Significant effect</p> <p><u>Visual Effects</u> Significant, temporary and adverse cumulative effects are predicted for road and recreational route users and some residents during construction (due to concurrent construction activity</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>Airfield as result of the onshore substations for both ON-012 and the Project.</p> <p><u>Visual</u> Construction: The duration of construction effects may overlap or be extended and occur sequentially (increasing the cumulative / combined duration of construction effects to 'long-term' and potentially increasing the intensity of activity within the Onshore Red Line Boundary). This would affect visual receptors, including the A90 / North East 250 / Coastal Trail / core path 215.02, minor roads near Inverugie and Longside Airfield, Formartine and Bucan Way / core path 7LD.03MP.05, Inverugie settlement, and Rora Moss Circular cycle route.</p> <p>O&M: There would be cumulative effects on visual receptors where the onshore substations for the Project and ON-012 would be intervisible or viewed sequentially on roads / recreational routes.</p>		<p>or extended duration and increased intensity).</p> <p>Significant, long term, cumulative effects are predicted during O&M as a result of sequential visibility of the onshore substations of the Project and ON-012. During O&M the nature of these effects would be partly mitigated by the OLAS.</p> <p>Significant effect.</p>
ON-017	1	APP/2024/0229	Erection of 3 Wind Turbines (Height to Hub 60m, Height to	Up to 2.35MW generating capacity.	ON-017 is located approximately 4.5km northwest of the nearest onshore element of the Project. Construction and operational dates	M-001 M-002 M-005 M-006	<u>Landscape Effects</u> Significant, temporary cumulative effects

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			Tip 100m) and Associated Infrastructure - Greenside Wind Energy Ltd		<p>for ON-017 are unknown. See Volume 2, Figure 33.25h / Volume 2, Figure 33.25j-k / Volume 2, Figure 33.25o.</p> <p><u>Landscape</u> Construction: Should the construction periods overlap or occur sequentially, there would be cumulative effects, although dispersed effects on landscape receptors, including Open Views / LCT 12: Beaches, Dunes and Links / LCT 17a: Coastal Agricultural Plain and North East Aberdeenshire Coast SLA.</p> <p>O&M: There would be no cumulative effects on landscape receptors as a result of the Project.</p> <p><u>Visual</u> Construction: Should the construction periods overlap, there would be cumulative effects, although dispersed effects on visual receptors including the A90 / North East 250 / Coastal Trail / core path 215.02, St Fergus settlement, and Rora Moss Circular cycle route. O&M: There would be no cumulative effects on visual receptors as a result of the Project.</p>	<p>M-019 M-024 M-026 M-027 M-063 M-070 M-103 M-104 M-108 M-109 M-110</p>	<p>are predicted should construction periods overlap or occur sequentially.</p> <p>Significant effect (should construction periods overlap or occur sequentially).</p> <p>No significant cumulative effect is predicted during O&M as a result of the Project.</p> <p>Not Significant</p> <p><u>Visual Effects</u> Significant, temporary cumulative effects are predicted should construction periods overlap or occur sequentially.</p> <p>Significant effect (should construction periods overlap or occur sequentially)</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
							No significant cumulative effect is predicted during O&M as a result of the Project. Not Significant.
ON-018	1	APP/2024/1297	Extension to Building, Erection of Gate House and Formation of Access - Northbay Pelagic Ltd	Removal of existing concrete yard area, demolition of existing workshop, loading bay and the construction of new cold store extension, formation of new cold store to include forming new vehicular access, forming loading bays and new site enclosure fencing.	ON-018 is located approximately 2.8km southeast of the nearest onshore element of the Project. Construction and operational dates for ON-018 are unknown. <u>Landscape</u> Construction: There would be no cumulative effects on landscape receptors. O&M: There would be no cumulative effects on landscape receptors. <u>Visual</u> Construction: There would be no cumulative effects on visual receptors. O&M: There would be some limited intervisibility from elevated areas (for example, Reform Tower in Peterhead).	-	<u>Landscape Effects</u> No significant cumulative effect is predicted. Not Significant. <u>Visual Effects</u> No significant cumulative effect is predicted. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-019	1	APP/2021/2467	Installation of Solar Park Including Ground Mounted Solar Array, Battery Electricity Storage Units and Associated Works - Classic Buchan	Up to 14.2MW generating capacity across battery and solar combined.	<p>ON-019 is located approximately 4km southeast of the nearest onshore element of the Project (onshore substations). Construction and operational dates for ON-019 are unknown.</p> <p><u>Landscape</u> Construction: Should the construction periods overlap or occur sequentially, there would be cumulative, although dispersed effects, on LCT 17a: Coastal Agricultural Plain.</p> <p>O&M: There would be cumulative effects on LCT 17a: Coastal Agricultural Plain as a result of the Project's onshore substations and ON-019.</p> <p><u>Visual</u> Construction: There would be some limited intervisibility from elevated areas. O&M: There would be some limited intervisibility from elevated areas.</p>	<p>M-001 M-002 M-005 M-006 M-019 M-024 M-026 M-027 M-063 M-070 M-103 M-104 M-108 M-109 M-110 M-011 M-111 M-185 M-201</p>	<p><u>Landscape Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p> <p><u>Visual Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p>
ON-020	1	APP/2021/2392	Construction of Synchronous Condenser and Associated	The proposal for the Construction and Operation of a Synchronous Condenser and associated	ON-020 is located approximately 4.1km southeast of the nearest onshore element of the Project. Construction and operational dates for ON-020 are unknown.	-	<p><u>Landscape Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			Infrastructure - Conrad Energy	infrastructure to provide stability services to the grid network, thereby facilitating and supporting the variable operation of the UK's electricity system and providing more opportunities for renewable energy developments to connect onto the National Grid and generate power.	<p><u>Landscape</u> Construction: There would be limited cumulative effects on landscape receptors (LCT 17a: Coastal Agricultural Plain).</p> <p>O&M: There would be limited cumulative effects on landscape receptors (LCT 17a: Coastal Agricultural Plain).</p> <p><u>Visual</u> Construction: There would be limited cumulative effects on visual receptors. O&M: There would be some limited intervisibility from elevated areas (for example, Reform Tower in Peterhead). The visual effects would be Not Significant.</p>		<p><u>Visual Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p>
ON-021	1	APP/2024/2068	Proposed Southern Extension of Savoch Quarry, Aberdeenshire	Extension to Quarry.	<p>ON-021 lies approximately 3.5km south of the nearest onshore element of the Project. Construction and operation dates for ON-021 are currently unknown.</p> <p><u>Landscape</u> Construction: Should the construction periods overlap, there would be limited cumulative effects on LCT 17a: Coastal Agricultural Plains</p>	-	<p><u>Landscape Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant</p> <p><u>Visual Effects</u> No significant cumulative effect is predicted.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>occurring primarily as a result of the Project.</p> <p>O&M: There would be limited cumulative effects on LCT 17a: Coastal Agricultural Plains occurring primarily as a result of the Project.</p> <p><u>Visual</u></p> <p>Construction: Should the construction periods overlap, there would be limited intervisibility from the elevated areas / minor roads and some residents southwest of the Project's onshore substations.</p> <p>O&M: There would be limited intervisibility from the elevated areas / minor roads and some residents southwest of the Project's onshore substations.</p>		Not Significant.
ON-022	1	APP/2022/0191	Installation of Underground Cable, Erection of Substation Building and Siting of Transformer Units and Associated Works - Green	Installation of Underground Cable, Erection of Substation Building and Siting of Transformer Units and Associated Works.	<p>ON-022 is located approximately 3km northwest of Scotstown landfall construction compound search area and associated onshore export cable corridor. Construction and operational dates for ON-022 are unknown.</p> <p><u>Landscape</u></p> <p>Construction: Should the construction periods overlap or occur sequentially, there would be two areas of</p>	<p>M-001 M-002 M-005 M-006 M-019 M-024 M-026 M-027 M-063 M-070 M-103 M-104</p>	<p><u>Landscape Effects</u></p> <p>Significant, temporary cumulative effects are predicted should construction periods overlap or occur sequentially.</p> <p>Significant effect (should construction</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			Energy International		<p>cumulative effect on landscape receptors including LCT 12: Beaches, Dunes and Links / LCT 17a: Coastal Agricultural Plain and North East Aberdeenshire Coast SLA.</p> <p>O&M: There would be no cumulative effects on landscape receptors as a result of the Project as all landfall(s) and onshore export cable corridors would be below ground.</p> <p><u>Visual</u> Construction: Should the construction periods overlap, there would be sequential cumulative effects on visual receptors including the A90 / North East 250 / Coastal Trail / core path 215.02, core path 7LD.01.18, and St Fergus settlement.</p> <p>O&M: There would be no cumulative effects on visual receptors as all landfall(s) and onshore export cable corridors would be below ground.</p>	<p>M-108 M-109 M-110</p>	<p>periods overlap or occur sequentially) .</p> <p>No significant cumulative effect is predicted during O&M as a result of the Project.</p> <p>Not Significant.</p> <p><u>Visual Effects</u> Significant, temporary cumulative effects are predicted should construction periods overlap or occur sequentially.</p> <p>Significant effect (should construction periods overlap or occur sequentially) .</p> <p>No significant cumulative effect is predicted during O&M as a result of the Project.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-023	1	APP/2023/1569	Construction Compound, Erection of 3 Modular Buildings and Security Container, Associated Parking, Laydown Area and Associated Works - Scottish Hydro Electric Transmission	Temporary Formation of a Construction Compound, Erection of 3 Modular Buildings and Security Container, Associated Parking, Laydown Area and Associated Works.	<p>ON-023 is located approximately 3.8km southeast of the nearest onshore element of the Project. Construction and operational dates for ON-023 are unknown.</p> <p><u>Landscape</u> Construction: There would be no cumulative effects on landscape receptors.</p> <p>O&M: There would be no cumulative effects on landscape receptors.</p> <p><u>Visual</u> Construction: There would be no cumulative effects on visual receptors.</p> <p>O&M: There would be some limited intervisibility from elevated areas (for example, Reform Tower in Peterhead). The visual effects would be Not Significant.</p>	-	<p><u>Landscape Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p> <p><u>Visual Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p>
ON-024	1	APP/2023/1501	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding-	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and Distribution) and	The construction access road to ON-024 lies approximately 50m north of the onshore export cable corridor of the Project. The operational elements of ON-024 lie approximately 1.1km from the onshore substation site of the Project. Construction and	-	<p><u>Landscape Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p> <p><u>Visual Effects</u></p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			Storage Yard 8 - Independent Oilfield Services	Formation of Hardstanding.	<p>operation dates for ON-024 are currently unknown.</p> <p><u>Landscape</u> Construction: Should the construction periods overlap, there would be limited cumulative effects on LCT 17c: A950 / Longside Airfield occurring primarily as a result of the Project.</p> <p>O&M: There would be limited cumulative effects on LCT 17c: A950 / Longside Airfield occurring primarily as a result of the Project.</p> <p><u>Visual</u> Construction: Should the construction periods overlap, there would be cumulative effects on visual receptors including from the A950 and minor roads around Longside Airfield. O&M: There would be some limited intervisibility from the A950 and minor roads around Longside Airfield.</p>		<p>No significant cumulative effect is predicted.</p> <p>Not Significant.</p>
ON-025	1	APP/2023/0784	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation	Part Change of Use of Airfield to Form Pipe Storage Yard (Use Class 6 - Storage and	The construction access road to ON-025 lies approximately 50m north of the onshore export cable corridor of the Project. The operational elements of ON-025 lie approximately 900m from the onshore substation site of	-	<p><u>Landscape Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			of Hardstanding - Storage Yard 2 - Independent Oilfield Services	Distribution) and Formation of Hardstanding.	<p>the Project. Construction and operation dates for ON-025 are currently unknown.</p> <p><u>Landscape</u> Construction: Should the construction periods overlap, there would be limited cumulative effects on LCT 17c: A950 / Longside Airfield occurring primarily as a result of the Project.</p> <p>O&M: There would be limited cumulative effects on LCT 17c: A950 / Longside Airfield occurring primarily as a result of the Project.</p> <p><u>Visual</u> Construction: Should the construction periods overlap, there would be cumulative effects on visual receptors including from the A950 and minor roads around Longside Airfield.</p> <p>O&M: There would be some limited intervisibility from the A950 and minor roads around Longside Airfield.</p>		<p><u>Visual Effects</u> No significant cumulative effect is predicted.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-026	1	APP/2025/0444	Installation of BESS with an installed capacity of 180MW and associated infrastructure (Salamander project)	S.36 consent application for the proposed EBI of the Salamander Project. The proposed Onshore Development comprises the onshore components that are required for the operation of the Salamander Project.	<p>ON-026 overlaps with Lunderton North landfall and associated onshore export cable corridors / trenchless crossing construction compounds. Construction of ON-026 is expected to be completed approximately two years ahead of construction of the Project. Operational dates of ON-026 and the Project would overlap. See Volume 2, Figure 33.25d / Volume 2, Figure 33.25h / Volume 2, Figure 33.25j-k / Volume 2, Figure 33.25m-n.</p> <p><u>Landscape</u> Construction: There would be no cumulative effects on landscape receptors as the construction periods do not overlap.</p> <p>O&M: There would be no cumulative effects on landscape receptors as result of the Project as all landfall(s) and onshore export cable corridors would be below ground.</p> <p><u>Visual</u> Construction: There would be no cumulative effects on visual receptors as the construction periods do not overlap.</p>	<p>M-001 M-002 M-005 M-006 M-019 M-024 M-026 M-027 M-063 M-070 M-103 M-104 M-108 M-109 M-110</p>	<p><u>Landscape Effects</u> No significant cumulative effect is predicted during construction or O&M as a result of the Project.</p> <p>Not Significant.</p> <p><u>Visual Effects</u> No significant cumulative effect is predicted during construction or O&M as a result of the Project.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					O&M: There would be no cumulative effects on visual receptors as result of the Project as all landfall(s) and onshore export cable corridors would be below ground.		

33.6.21 Socio-economics cumulative effects assessment

- 33.6.21.1 For socio-economics, a ZOI for the CEA has been applied that includes the areas covered by the known developments in the offshore wind sector to ensure cumulative effects can be appropriately identified and assessed.
- 33.6.21.2 The ZOI implicitly reflects the geographical definitions used by developers to represent expenditure plans identified within the Supply Chain Development Statements (SCDS) of their respective developments. These expenditure plans are used in the CEA to assess the corresponding employment effects arising within the same geographic areas.
- 33.6.21.3 The areas identified in the SCDS follow a common format and have “Scotland” as a common definition for the most localised area considered. As such, the ZOI used in this CEA effectively corresponds to Scotland, within which all cumulative effects are expected to occur. The potential for cumulative effects in the other defined regions (e.g. rest of UK, Europe, and rest of World) or related transboundary effects are considered unlikely based on the benefits for developers of concentrating activities in Scotland near the sites used for construction and operation, and on the size of the markets that are serving a global customer base for offshore wind.
- 33.6.21.4 The CEA for socio-economics is set out below beginning with **Table 33.26**, which identifies the ‘short list’ of ‘other developments’ offshore that may interact with the Project’s ZOI during their construction, O&M or decommissioning. This list has been generated by applying criteria that reflect the known and likely foreseeable offshore wind developments around Scotland. This has been aligned with industry references and have been collated through desk study, consultation and engagement.
- 33.6.21.5 On the basis of the above, the ‘other developments’ that are scoped into the socio-economics CEA are outlined in **Volume 3, Appendix 33.1**. The offshore wind projects within the socio-economics ZOI are shown in **Volume 2, Figure 33.26: ‘Other developments’ offshore screened into the CEA for socio-economics**. ‘Other developments’ onshore are understood and assessed as a collective group relevant for the purposes of the socio-economic assessment below. The ZOI for the selection of ‘other developments’ onshore extends 5km around the Onshore Red Line Boundary. These are shown in **Volume 2, Figure 33.7**.

Table 33.26 Cumulative effects assessment for socio-economics - offshore 'other developments'

Short list ID	Tier	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1a / 1b			These developments are all included within the offshore wind sector, which has an overall significant effect together with the Project on the trajectory for socio-economic conditions in areas of Scotland likely to be affected by construction and operational activities undertaken in the sector.	M-224 M226 M-228	Significant beneficial effect from combined development of offshore wind as an economic sector contributing to offsetting the decline in oil and gas activity. Embedded measures contribute to enhanced effectiveness in achieving socio-economic change and meeting government objectives for a just transition.
OWF-001	1a	2B Energy Methil Demonstration			
OWF-050	1a / 1b	Moray West Offshore Wind Farm			
OWF-053	1a / 1b	Nearr na Gaoithe (NNG) Offshore Wind Farm			
Tier 1c					
OWF-009	1c	Berwick Bank Offshore Wind Farm			
OWF-032	1c	Green Volt Offshore Wind Farm (INTOG 6)			
OWF-041	1c	Inch Cape Offshore Wind Farm			
OWF-059	1c	Salamander Offshore Wind Farm (INTOG 3)			
OWF-068	1c	Culzean Offshore Wind Farm (INTOG 12)			
OWF-073	1c	Pentland Floating Offshore Wind Farm			
OWF-083	1c	Pentland Floating Offshore Wind Demonstration			
OWF-134	1c	Seagreen 1A Offshore Wind Farm			
Tier 1d					
OWF-015	1d	Caledonia Offshore Wind Farm (PO NE4)			
OWF-017	1d	Cenos Floating Offshore Wind Farm (INTOG 11)			
OWF-052	1d	Muir Mhòr Floating Wind Farm (PO E2)			
OWF-056	1d	Ossian Floating Offshore Wind Farm (PO E1)			
OWF-072	1d	West of Orkney Offshore Wind Farm (PO N1)			
Tier 2					
OWF-003	2	Aspen Offshore Wind Farm (INTOG 7)			
OWF-008	2	Bellrock Offshore Wind Farm (PO E1)			
OWF-013	2	Broadshore Offshore Wind Farm (PO NE6)			
OWF-014	2	Buchan Offshore Wind Farm (PO NE8)			
OWF-016	2	CampionWind (PO E2)			
OWF-018	2	Bowdun Offshore Wind Farm (PO E3)			

Short list ID	Tier	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
OWF-019	2	Ayre Offshore Wind Farm (PO NE2)			
OWF-043	2	Talisk Offshore Wind Farm (PO N3)			
OWF-051	2	Morven Offshore Wind Farm (PO E1)			
OWF-060	2	Scaraben Offshore Wind Farm (INTOG 2)			
OWF-064	2	Sinclair Offshore Wind Farm (INTOG 1)			
OWF-066	2	Stromar Offshore Wind Farm (PO NE3)			
OWF-074	2	Arven Offshore Wind Farm (PO NE1)			
OWF-082	2	Spiorad na Mara Offshore Wind Farm (PO N4)			
Tier 3					
OWF-006	3a	Beech Offshore Wind Farm (INTOG 9)			
OWF-007	3a	Cedar Offshore Wind Farm (INTOG 10)			
OWF-012	3a	Flora Offshore Wind Farm (INTOG 4)			
OWF-024	3a	Dolphyn Project - full scale			
OWF-034	3a	Judy, Harbour Energy South (INTOG 13) Offshore Wind Farm			
OWF-042	3a	Havbredey Offshore Wind Farm (PO N2)			
OWF-071	3a	Whirlwind Offshore Wind Farm			
OWF-075	3a	Stoura Offshore Wind Farm (PO NE1)			

- 33.6.21.6 The assessment of cumulative effects is based on an expected scheduling of the offshore wind projects identified in **Table 33.26**. In aggregate, the profile of development shows significant overall growth in the offshore wind sector and is aligned with recent industry review (Scottish Renewables, 2025). Within this overall profile, the assessment distinguishes individual offshore wind developments to the extent that there is published SCDS data that can be used as the basis of employment forecasts.
- 33.6.21.7 During construction, each offshore wind farm development is likely to seek to use a limited number of ports to reduce supply chain complexity. This incentive together with the existence of constraints at individual ports is likely to lead to offshore wind sector activities being distributed spatially across ports and temporally over a development period. The existence of marine transport networks between already well-established Scottish ports also allows flexibility in supply chain configuration, with preferences between ports due to their facilities or locations likely to reflect difference in financial costs for developers rather than intrinsic issues of feasibility.
- 33.6.21.8 In theory, offshore wind developers should seek to find an equitable way to share in options with the lowest overall costs for the sector, as this gives them opportunity for the greatest profit collectively. In practice however, developers typically operate more independently, which may lead to lower overall efficiency and higher costs for the sector as well as causing potential additional socio-economic constraints. If a coordinating mechanism for achieving and sharing lowest overall costs is not feasible, employment costs are likely to be higher, and as such, an assumption of coordination leads to a conservative (lower) assessment of employment increases.
- 33.6.21.9 The comparison of employment below uses offshore wind farm SCDS data to derive an estimate of the employment at ports. The interpretation uses the SCDS data in the same way as used to assess the Project in the socio-economics chapter (**Chapter 30: Socio-Economics**) and so provides a consistent estimate of overall employment.
- 33.6.21.10 In summary, the SCDS expenditure in Scotland for the 'Commitment' scenario (identified in the SCDS for the Project) for Installation, Development and Consenting, and 70% of the Manufacturing and Fabrication (collectively referred to as "IDM") are used to derive the level of employment in areas around ports in Scotland, with the remaining 30% of the Manufacturing and Fabrication expected to be elsewhere⁴. This is considered an upper limit for employment on a single development because:
- All offshore wind farms have Development and Consenting activities that are based in offices that are typically away from ports, or delivered from technical specialists working remotely.
 - All offshore wind farms have very different levels of expenditure on Manufacturing and Fabrication, with 70% considered to be a high figure but chosen for consistency with the estimate used for the Project
 - The estimate is for both direct and indirect employment, while not all indirect (supply chain) employment may occur at a port as it is more likely to be related to more easily transportable components that can be manufactured elsewhere.
- 33.6.21.11 Using the schedule of estimated growth, the greatest combined employment from IDM activities is approximately 10,000 direct and indirect employees with a maximum expected in the early 2030s when construction activities for the sector in Scotland are at a peak. The same schedule indicates an ultimate level of operational employment, which reaches approximately 17,000 direct and indirect employees when all turbines are installed and

⁴ The capitalisation of "Development and Consenting", "Installation", "Manufacturing and Fabrication", and "O&M" reflects their standard use in SCDS statements.

operational. The increase in operational jobs follows the main period of construction such that the total of operational and IDM jobs does not exceed the 17,000 operational level.

- 33.6.21.12 Overall, the greatest total impact from developments in the offshore wind sector is from the approximate 17,000 people directly and indirectly employed with an early increase to 10,000 for IDM activities followed by a steady increase to 17,000 to maintain the operational requirement. To maintain the structure of comparison used in **Chapter 30: Socio-Economics**, this level of jobs is compared with employment levels for the same local authority areas, though this includes both areas likely to experience effects and those shown only as comparators (see **Table 33.27**).
- 33.6.21.13 At a national level, the employment of 17,000 jobs would make up 0.59% of total employee jobs in Scotland. This is equivalent to 11% of the 154,000 jobs in the construction sector in Scotland or 9% of the 195,000 jobs in the manufacturing sector. It makes up 4.6% of the combined “BCF” sector (i.e. the combination of the individual sectors of ‘B: Mining and Quarrying’, ‘C: Manufacturing’, and ‘F: Construction’, as identified by the Offshore Wind Industry Council (2023)), which includes occupations most likely to be relevant to offshore wind and is used as a reference in **Chapter 30: Socio-Economics**.
- 33.6.21.14 Using the Indicative Assessment Thresholds (IAT) defined in **Chapter 30 Socio-Economics** as comparators, the magnitude of the effect at the level of the economy of Scotland (interpreted as the 'local economy') would be Negligible or Low, as the overall change in baseline employment levels is less than 1%. The magnitude of the effect on employment structure as represented by the BCF sector would also be Low as the level is below 5%.
- 33.6.21.15 At the regional level, where employment markets are represented by local authority areas individually and in groups, the average overall Project employment of 17,000 jobs for the regional epi-centre of Aberdeen City and Aberdeenshire (identified as Group 2 in **Table 33.27**) would make up 6.56% of the overall total employee jobs and 29.8% of the combined total of employee jobs in the “BCF” sector. For the regional epi-centre of Aberdeen City and Aberdeenshire, an additional 17,000 employees is a magnitude of change that is rated High using the quantitative IAT criteria and, while lower, the level of 10,000 employees for IDM activities is also an appreciable increase (17.5% of BCF sector employment) and will occur earlier while the offshore wind farms are being constructed.

Table 33.27 Total average annual cumulative employment from offshore wind developments compared to national and sub-national levels of employment (ONS, 2025)⁵

Geographical area/Sector	Aberdeenshire	Aberdeen City	Renfrewshire	East Renfrewshire	Glasgow City	North Lanarkshire	Falkirk	City of Edinburgh	Fife	Highland	Perth and Kinross	South Lanarkshire	Midlothian	East Lothian	Angus	Dundee City	Orkney Islands	Group 1: (as identified)	2: North East	3: Central Belt 1 (West to Falkirk)	4: Central Belt 2 (including Cities of Edinburgh and Glasgow)	Scotland (March 2025)
Geographical Groups: Group 1	1	1	1	1	1	1	1	1	1	1	1	1						1				
Group 2: North East	2	2																	2			
Group 3: Central Belt 1 (West to Falkirk)			3	3	3	3	3													3		
Group 4: Central Belt 2 (including Cities of Edinburgh and Glasgow)			4	4	4	4	4	4	4		4	4									4	
Total - Employee jobs (2023)	100,000	159,000	84,000	21,000	441,000	131,000	72,000	367,000	132,000	113,000	63,000	117,000	33,000	32,000	34,000	79,000	11,000	1,800,000	259,000	749,000	1,428,000	2,863,000
Selected sectors ...																						
B : Mining and quarrying	3,000	20,000	0	10	15	100	40	50	200	400	30	100	30	20	75	0	75	23,945	23,000	165	545	21,000
C : Manufacturing	13,000	8,000	9,000	600	20,000	12,000	8,000	10,000	13,000	6,000	5,000	10,000	2,500	2,000	4,500	3,500	500	114,600	21,000	49,600	87,600	195,000
F : Construction	7,000	6,000	4,500	1,500	17,000	15,000	4,000	9,000	6,000	7,000	4,000	9,000	3,000	2,000	2,000	3,500	700	90,000	13,000	42,000	70,000	154,000
G : Wholesale and retail trade; repair of vehicles	15,000	17,000	14,000	3,000	48,000	19,000	9,000	35,000	21,000	16,000	9,000	19,000	6,000	4,500	6,000	11,000	1,500	225,000	32,000	93,000	177,000	355,000
H : Transportation and storage	4,500	8,000	7,000	450	13,000	13,000	4,500	12,000	7,000	6,000	2,250	6,000	800	900	1,250	2,250	1,000	83,700	12,500	37,950	65,200	129,000
M : Professional, scientific and technical activities	11,000	20,000	6,000	1,250	44,000	7,000	2,250	33,000	6,000	6,000	3,500	6,000	3,000	3,000	1,750	3,500	600	146,000	31,000	60,500	109,000	221,000
N : Administrative and support service activities	5,000	12,000	9,000	1,250	49,000	9,000	7,000	23,000	5,000	6,000	2,500	8,000	1,750	1,750	1,500	2,500	300	136,750	17,000	75,250	113,750	188,000
Sum of selected sectors	58,500	91,000	49,500	8,060	191,015	75,100	34,790	122,050	58,200	47,400	26,280	58,100	17,080	14,170	17,075	26,250	4,675	819,995	149,500	358,465	623,095	1,263,000
Sum of selected sectors, excluding G	43,500	74,000	35,500	5,060	143,015	56,100	25,790	87,050	37,200	31,400	17,280	39,100	11,080	9,670	11,075	15,250	3,175	594,995	117,500	265,465	446,095	908,000
B+C+F	23,000	34,000	13,500	2,110	37,015	27,100	12,040	19,050	19,200	13,400	9,030	19,100	5,530	4,020	6,575	7,000	1,275	228,545	57,000	91,765	158,145	370,000
C+F	20,000	14,000	13,500	2,100	37,000	27,000	12,000	19,000	19,000	13,000	9,000	19,000	5,500	4,000	6,500	7,000	1,200	204,600	34,000	91,600	157,600	349,000
Project employment as a percentage, for 17,000 additional jobs																						
Percentage of Total - Employee jobs (2023)	17.0%	10.7%	20.2%	81.0%	3.9%	13.0%	23.6%	4.6%	12.9%	15.0%	27.0%	14.5%	51.5%	53.1%	50.0%	21.5%	154.5%	0.94%	6.56%	2.27%	1.19%	0.59%

⁵ The figures for Scotland are from 2025 , while local authority and Group data is from 2023. This is not considered to introduce material discrepancies.

Geographical area/Sector	Aberdeenshire	Aberdeen City	Renfrewshire	East Renfrewshire	Glasgow City	North Lanarkshire	Falkirk	City of Edinburgh	Fife	Highland	Perth and Kinross	South Lanarkshire	Midlothian	East Lothian	Angus	Dundee City	Orkney Islands	Group 1: (as identified)	2: North East	3: Central Belt 1 (West to Falkirk)	4: Central Belt 2 (including Cities of Edinburgh and Glasgow)	Scotland (March 2025)
Selected sectors ...																						
B : Mining and quarrying	567%	85%	>1000 %	>1000 %	>1000 %	>1000 %	>1000 %	>1000 %	>1000 %	>1000 %	>1000 %	>1000 %	>1000 %	>1000 %	>1000 %	>1000 %	>1000 %	71%	74%	>100%	>100%	5.71%
C : Manufacturing	131%	213%	189%	>1000 %	85%	142%	213%	170%	131%	283%	340%	170%	680%	850%	378%	486%	>1000 %	15%	81%	34%	19%	9%
F : Construction	243%	283%	378%	>1000 %	100%	113%	425%	189%	283%	243%	425%	189%	567%	850%	850%	486%	>1000 %	19%	131%	40%	24%	11%
G : Wholesale and retail trade; repair of vehicles	113%	100%	121%	567%	35%	89%	189%	49%	81%	106%	189%	89%	283%	378%	283%	155%	>1000 %	8%	53%	18%	10%	5%
H : Transportation and storage	378%	213%	243%	>1000 %	131%	131%	378%	142%	243%	283%	756%	283%	>1000 %	>1000 %	>1000 %	756%	>1000 %	20%	136%	45%	26%	13%
M : Professional, scientific and technical activities	155%	85%	283%	>1000 %	39%	243%	756%	52%	283%	283%	486%	283%	567%	567%	971%	486%	>1000 %	12%	55%	28%	16%	8%
N : Administrative and support service activities	340%	142%	189%	>1000 %	35%	189%	243%	74%	340%	283%	680%	213%	971%	971%	>1000 %	680%	>1000 %	12%	100%	23%	15%	9%
Sum of selected sectors	29%	19%	34%	211%	9%	23%	49%	14%	29%	36%	65%	29%	100%	120%	100%	65%	364%	2.1%	11.4%	4.7%	2.7%	1.3%
Sum of selected sectors, excluding G	39%	23%	48%	336%	12%	30%	66%	20%	46%	54%	98%	43%	153%	176%	153%	111%	535%	2.9%	14.5%	6.4%	3.8%	1.9%
B+C+F	74%	50%	126%	806%	46%	63%	141%	89%	89%	127%	188%	89%	307%	423%	259%	243%	>1000 %	7.4%	29.8%	18.5%	10.7%	4.6%
C+F	85%	121%	126%	810%	46%	63%	142%	89%	89%	131%	189%	89%	309%	425%	262%	243%	>1000 %	8.3%	50.0%	18.6%	10.8%	4.9%

- 33.6.21.16 At the level of individual ports, even a single project may lead to effects assessed as high should activities be concentrated at a single small port. At larger ports however, the same project may lead to effects that are low. This assessment is made for the Project in Table 30.22 of **Chapter 30: Socio-Economics**.
- 33.6.21.17 The port settlements with over 40,000 people working in the BCF sector within 20km of the docks (a distance used for the assessment in **Chapter 30: Socio-Economics**) are Aberdeen and the ports in the Firth of Forth, with Aberdeen appreciably nearer to many of the planned offshore wind farms considered in this assessment. Peterhead and Fraserburgh, which are even nearer to many offshore wind farms have 3,410 and 2,973 people respectively working in the BCF sector (see **Table 33.28**). Note that the 20km areas of more than one port may overlap particularly in the Forth and for Ardersier near Inverness.

Table 33.28 Employment levels at ports and Indicative Assessment Thresholds

	Total Employment			BCF Sector Employment		
Port	Total employment within 20km	Change in Total employment meeting IAT threshold for Medium (1%)	Change in Total employment level meeting IAT threshold for High (2%)	BCF sector employment within 20km	Change in BCF sector employment meeting IAT threshold for employment structure of Medium (5%)	Change in BCF sector employment meeting IAT threshold for employment structure of High (10%)
Aberdeen	200,511	2,005	4,010	42,877	2,144	4,288
Peterhead	14,826	148	297	3,410	170	341
Fraserburgh	12,925	129	258	2,973	149	297
Ardersier	52,222	522	1,044	6,193	310	619
Inverness	50,305	503	1,006	5,965	298	597
Invergordon	19,643	196	393	2,329	116	233
Nigg	22,038	220	441	2,613	131	261
Leith	626,300	6,263	12,526	32,510	1,625	3,251
Rosyth	296,749	2,967	5,935	43,164	2,158	4,316
Grangemouth	251,511	2,515	5,030	42,058	2,103	4,206
Burntisland	306,000	3,060	6,120	44,509	2,225	4,451
Methil	70,451	705	1,409	10,247	512	1,025
Dundee	133,880	1,339	2,678	11,863	593	1,186
Montrose	20,703	207	414	4,004	200	400

	Total Employment			BCF Sector Employment		
Port	Total employment within 20km	Change in Total employment meeting IAT threshold for Medium (1%)	Change in Total employment level meeting IAT threshold for High (2%)	BCF sector employment within 20km	Change in BCF sector employment meeting IAT threshold for employment structure of Medium (5%)	Change in BCF sector employment meeting IAT threshold for employment structure of High (10%)
Scapa (Orkney)	8,996	90	180	1,043	52	104
Kishorn	1,916	19	38	227	11	23

- 33.6.21.18 The effects of the cumulative development of the offshore wind sector depend on the degree to which new employment requirements substitute for the decline in the oil and gas sector. Recent quantitative evidence supports an understanding of an appreciable fall in oil and gas activity. The Chief Executive of the Port of Aberdeen recently stated that “Oil and gas activity is down 10% year to date, and a staggering 25% over the summer months, with this trend forecast to continue next year” (Scottish Daily Express, 2025). These are significant falls, which would be assessed as high (10% or more) using the same IAT criteria and have occurred in a single year.
- 33.6.21.19 The observed changes in the oil and gas sector are set within a context of an expectation of such change and of the potential for offsetting demand from the offshore wind sector. Through a spokesperson from DESNZ, the UK Government stated that “We are not willing to accept the status quo we inherited of the North Sea being in decline” while making reference to the sector in seeking “to deliver the next generation of good jobs for North Sea workers in a fair and orderly transition, including by making the biggest investment yet in offshore wind and carbon capture” and further stated that “Our landmark clean energy jobs plan will deliver the next generation of skilled jobs across the country, where Scotland could see over 40,000 new jobs by 2030 (Scottish Daily Express, 2025).
- 33.6.21.20 It is notable that the Project would contribute further to this trajectory of employment opportunity into the 2040s given that construction is anticipated to commence in 2030, with a construction period of 12 years (see **Chapter 4: Project Description**).
- 33.6.21.21 The levels of employment are the main influence on other effects, as identified in **Chapter 30: Socio-Economics**. As the main cumulative effect of the offshore wind sector is the substitution of employment in the oil and gas sector activity, communities are expected to benefit from the additional employment. This mitigates the effects of likely rising unemployment in the oil and gas sector. Potential disruption is also avoided as communities are already established and there would be limited demographic change as residents mainly experience a change in employer.
- 33.6.21.22 The oil and gas sector serves an international fuels market, while the offshore wind sector serves a single dominant domestic electricity market. These are largely subject to different market influences despite sharing some common features such as increased demand in periods of economic growth. For this reason, growth in one sector may not align temporally or linearly with decline in another. Currently, evidence is that the oil and gas decline is preceding the growth in offshore wind, with the Chief Executive of the Port of Aberdeen stating that “We face challenges as this rate of decline is outpacing the growth and diversification of activity at South Harbour” (BBC, 2025).
- 33.6.21.23 The timing of transition may affect the relative level of benefits. The risk of adverse inflationary pressure from demand from the offshore wind sector is reduced when the decline in the oil and gas sector occurs first, as it appears to be happening. However, a period of time between decline and growth may cause disruption after which the benefits of offshore wind may have greater actual and perceived benefits than under a more orderly transition, even if the long term result after transition is the same.
- 33.6.21.24 With few exceptions, the cumulative effects of the Project with developments that are not identified as offshore wind developments are considered to be negligible or minor according to general criteria, which are:
- While itemised separately for CEA, the individual developments: (a) fall within the ‘business as usual’ level of ongoing development that contributes to maintaining established communities that are not in decline; or (b) are identified as needing planning approval but otherwise effectively fall within the ongoing activities of an established sector, such as the oil and gas or aggregates sectors.

- Onshore developments affect only the area near the landfall and communities near Peterhead.
- The National Electricity System Operator (NESO) provides central coordination for connection of offshore wind developments to the electricity grid and is in a position to work with developers to address practical constraints and avoid potential adverse cumulative issues before making connection agreements.
- The levels of employment and related effects for other developments are small compared to those envisaged for the offshore wind sector and / or fall within the scope of ongoing activities (as identified in first bullet).
- The road network onshore has available capacity.
- Few cumulative significant effects are identified for other aspects that would lead to indirect socio-economic effects, and these are covered below.

33.6.21.25 Exceptions that may fall outside the general criteria identified above are:

- The significant cumulative effects reported in this **Section 33.6.8** in relation to commercial fishing may lead to a related reduction in economic activity despite displacement of fishing activity to other fishing grounds. Cumulative socio-economic effects would occur if fishing activities could not substitute for the catches not made in the array areas of offshore wind developments. Appreciable mitigation is proposed by the Applicant through the embedded measures and the wider socio-economic consequences are expected to be Not Significant.
- The reduction in area of agricultural land is considered not significant when assessed as a change in ground conditions (see **Section 33.6.12**). The socio-economic effects are related to the change in potential agricultural production, which is proportional to the area farmed and on an equivalent basis is considered Not Significant.
- The significant cumulative effects reported in **Section 33.6.20** in relation to landscape and visual impacts (LVIA) result from combined effects of the Project and developments ON-001, ON-008 and ON-012. The significant temporary LVIA effects are not considered to be significant for residents, who will be aware of the alternative locations that are available and can temporarily adapt their behaviour, or for visitors, as the experience is likely to form a short period within a visit and will be understood as temporary. The longer term significant LVIA effects will influence socio-economic conditions for residential amenity but for visitors are unlikely to be noticed as intrusive despite the development to agricultural land. Overall, they are considered Not Significant.

33.6.21.26 Overall, developments in the offshore wind sector offer opportunities for Scotland, particularly in areas affected by the changes in the oil and gas sector. The Project alone (as discussed in **Chapter 30: Socio-Economics**), and cumulatively with the wider offshore wind industry is likely to deliver significant beneficial socio-economic effects. These are accompanied by adverse cumulative effects that are not significant for socio-economics and arise from potential changes in economic returns from commercial fishing, loss of agricultural production, residential amenity, and changes to visitor experience. The magnitude of beneficial effects may be affected the timing of growth in the offshore wind sector and trends in the decline in oil and gas activity.

33.6.22 Civil and military aviation cumulative effects assessment

- 33.6.22.1 For civil and military aviation, a ZOI of 100km from the OAA for offshore 'other developments' and a ZOI of 3km from the Onshore Red Line Boundary for onshore 'other developments' has been applied for the CEA to ensure cumulative effects can be appropriately identified and assessed. The civil and military aviation ZOI is shown in **Volume 2, Figure 33.27: 'Other developments' offshore screened into the CEA for civil and military aviation** and **Figure 33.28 'Other developments' onshore screened into the CEA for civil and military aviation**.
- 33.6.22.2 A 'short list' of 'other developments' that may interact with the Project's ZOIs during their construction, O&M or decommissioning is presented in **Volume 3, Appendix 33.1**. This list has been generated by applying criteria set out in **paragraph 33.4.3.3** and has been collated through desk study, consultation and engagement.
- 33.6.22.3 Only those 'other developments' in the 'short list' that fall within the civil and military aviation ZOI have the potential to result in cumulative effects with the Project. All 'other developments' falling outside the civil and military aviation ZOI are excluded from this assessment.
- 33.6.22.4 On the basis of the above, the 'other developments' that are scoped into the civil and military aviation CEA are outlined in **Volume 3, Appendix 33.1** and are illustrated in **Volume 2, Figure 33.28** and **Volume 2, Figure 33.29**.
- 33.6.22.5 For 'other developments' where there is not enough information publicly available as set out in **paragraph 33.4.4.1**, the shortlisted 'other developments' have not been taken forward to Stage 4. For example:
- OWF-012 Flora (INTOG 4): no information on temporal overlap and no environmental information provided; and
 - ON-014 Broadshore Hub Offshore Wind Farms (Broadshore, Sinclair and Scaraben) – onshore infrastructure: onshore search area is too broad for an onshore assessment to be undertaken.
- 33.6.22.6 The CEA for civil and military aviation is set out in **Table 33.29** and **Table 33.30**.

Table 33.29 Cumulative effects assessment for civil and military aviation - offshore 'other developments'

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1a				
OWF-040	Hywind Scotland Pilot Park	<p>The Hywind Scotland Pilot Park site is 66.8km south-west of the OAA and would be operational and decommissioned during the Project's construction stage.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles The spatial separation between the OAA and the Hywind site is such that there is no potential for cumulative impacts to occur.</p>	N/A	No potential for cumulative impacts to occur.
Tier 1c				
OWF-032	Green Volt Offshore Wind Farm (INTOG 6)	<p>The Green Volt Offshore Windfarm site is 9.2km south of the OAA and would be operational during the Project's construction and O&M stages.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles Construction of the Project would involve tall crane vessels and the installation of infrastructure above sea level. Together with the Green Volt WTGs this would pose a physical obstruction to low flying aircraft utilising the airspace in the vicinity, potentially increasing the risk of obstacle collision or requiring aircraft to fly extended routes to avoid obstacles. Helicopter access to the Golden Eagle offshore platform could be restricted by the cumulative presence of obstacles / infrastructure to the east of the platform when helicopters are required to fly Airborne Radar Approaches under certain wind conditions. Potential impacts would be mitigated through the development of an Outline Lighting and Marking Plan (M-100), and through the provision of the positions and heights of structures to the Civil Aviation Authority (CAA), Ministry of Defence (MOD) and Defence Geographic Centre (DGC) to enable marking and updating of aeronautical charts (M-047 and M-116). Temporary obstacles during construction would also be notified to aviation aircrews (M-101) and a Search and Rescue (SAR) checklist would be completed (M-045). Green Volt Offshore Windfarm would already have suitable aviation lighting and would be marked on relevant aeronautical charts to make pilots aware of its presence. Receptors such as offshore helicopters, SAR operations and low flying military aircraft are deemed to be of high value, low vulnerability and high recoverability, and therefore of medium sensitivity. The cumulative impact is predicted to be of short to medium-term duration, intermittent and low reversibility. The magnitude of the impact is therefore considered to be low. The sensitivity of the receptors is medium, and the magnitude of the cumulative impact is deemed to be low. The cumulative effect is therefore of minor significance, which is Not Significant in EIA terms.</p> <p>Impact O1: Impacts on civil and military aviation from the creation of offshore aviation obstacles such as WTGs during operation Project infrastructure in the OAA together with the Green Volt WTGs would pose a physical obstruction to low flying aircraft utilising the airspace in the vicinity, potentially increasing the risk of obstacle collision or requiring aircraft to fly extended routes to avoid obstacles. Helicopter access to the Golden Eagle offshore platform could be restricted by the cumulative presence of WTGs to the east of the platform when helicopters are required to fly Airborne Radar Approaches under certain wind conditions. The embedded environmental measures proposed for impact C1 would also be applicable for impact O1. Green Volt Offshore Windfarm would already have suitable aviation lighting and would be marked on relevant aeronautical charts to make pilots aware of its presence. Receptors such as offshore helicopters, SAR operations and low flying military aircraft are deemed to be of high value, low vulnerability and high recoverability, and therefore of medium sensitivity. The cumulative impact is predicted to be of short to medium-term duration, intermittent and low reversibility. The magnitude of the impact is therefore considered to be low. The sensitivity of the receptors is medium, and the magnitude of the cumulative impact is deemed to be low. The cumulative effect is therefore of minor significance, which is Not Significant in EIA terms.</p> <p>Impact O3: Impacts from WTGs on civil and military radar WTGs would be highly likely to be detected by Allanshill Primary Surveillance Radar (PSR) within 61.2% of the OAA, by Perwinnes PSR within 0.5% of the OAA and by Buchan Air Defence (AD) PSR within 98.2% of the OAA. WTGs within the Green Volt array area would be theoretically detectable by Allanshill PSR, Perwinnes PSR and Buchan AD PSR.</p>	M-045 (C1, O1) M-047 (C1, O1, D1) M-100 (C1, O1, D1) M-101 (C1, O1, D1) M-106 (D1) M-116 (C1, O1, D1)	<p>Impact C1, O1, D1: Minor (Not Significant).</p> <p>Impact O3: Minor (Not Significant) with suitable secondary mitigations in place.</p>

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>WTGs have the potential to generate 'clutter' upon radar displays which has an adverse effect on an air traffic controller's ability to provide a safe and effective radar control service and may compromise the MOD's AD capability.</p> <p>PSR receptors are deemed to be of high value, vulnerable and with high recoverability. The overall sensitivity is high.</p> <p>The cumulative impact is predicted to be of regional spatial extent, medium-term duration, medium to continuous frequency of repetition and not reversible. The magnitude of the impact is therefore considered to be medium.</p> <p>The sensitivity of the receptors is high, and the magnitude of the cumulative impact is deemed to be medium. The cumulative effect is therefore of major significance, which is Significant in EIA terms.</p> <p>Secondary technical mitigation for PSR impacts is available and would need to be agreed with National Air Traffic Services (NATS) and MOD and implemented before the Project's O&M stage. This mitigation requirement would also apply to Green Volt Offshore Windfarm.</p> <p>With suitable secondary mitigations in place the cumulative impact on PSRs is considered to be very low. A high sensitivity combined with a very low magnitude results in an effect of minor significance which is Not Significant in EIA terms</p> <p>Impact D1: Impacts on civil and military aviation from offshore aviation obstacles</p> <p>During the decommissioning stage all the above sea level infrastructure would be gradually removed. This would reduce the physical obstructions to low flying aircraft utilising the airspace in the vicinity of the Project and Green Volt Offshore Windfarm.</p> <p>The embedded environmental measures proposed for impact C1 would also be applicable for impact D1. A Decommissioning Programme (M-106) would be developed and adhered to that would ensure that the process of decommissioning the Project would minimise any impacts on civil and military aviation. Similar embedded measures would also be applicable to Green Volt.</p> <p>Receptors such as offshore helicopters, SAR operations and low flying military aircraft are deemed to be of high value, low vulnerability and high recoverability, and therefore of medium sensitivity.</p> <p>The cumulative impact is predicted to be of short to medium-term duration, intermittent and low reversibility. The magnitude of the impact is therefore considered to be low.</p> <p>The sensitivity of the receptors is medium, and the magnitude of the cumulative impact is deemed to be low. The cumulative effect is therefore of minor significance, which is Not Significant in EIA terms.</p>		
OWF-059	Salamander Offshore Wind Farm (INTOG 3)	<p>The Salamander Offshore Wind Farm site is 47.8km south-west of the OAA and would be constructed and operational during the Project's construction and O&M stages.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles</p> <p>The spatial separation between the OAA and the Salamander site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O1: Impacts on civil and military aviation from the creation of offshore aviation obstacles such as WTGs during operation</p> <p>The spatial separation between the OAA and the Salamander site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O3: Impacts from WTGs on civil and military radar</p> <p>WTGs would be highly likely to be detected by Allanshill PSR within 61.2% of the OAA, by Perwinnes PSR within 0.5% of the OAA and by Buchan AD PSR within 98.2% of the OAA.</p> <p>WTGs within the Salamander array area would be theoretically detectable by Allanshill PSR, Perwinnes PSR and Buchan AD PSR.</p> <p>WTGs have the potential to generate 'clutter' upon radar displays which has an adverse effect on an air traffic controller's ability to provide a safe and effective radar control service and may compromise the MOD's AD capability.</p> <p>PSR receptors are deemed to be of high value, vulnerable and with high recoverability. The overall sensitivity is high.</p> <p>The cumulative impact is predicted to be of regional spatial extent, medium-term duration, medium to continuous frequency of repetition and not reversible. The magnitude of the impact is therefore considered to be medium.</p> <p>The sensitivity of the receptors is high, and the magnitude of the cumulative impact is deemed to be medium. The cumulative effect is therefore of major significance, which is Significant in EIA terms.</p> <p>Secondary technical mitigation for PSR impacts is available and would need to be agreed with NATS and MOD and implemented before the Project's O&M stage. This mitigation requirement would also apply to Salamander Offshore Wind Farm. With suitable secondary mitigations in place the cumulative impact on PSRs is considered to be very low. A high sensitivity combined with a very low magnitude results in an effect of minor significance which is Not Significant in EIA terms.</p> <p>Impact D1: Impacts on civil and military aviation from offshore aviation obstacles</p> <p>The spatial separation between the OAA and the Salamander site is such that there is no potential for cumulative impacts to occur.</p>	N/A	Impact O3: Minor (Not Significant) with suitable secondary mitigations in place.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1d				
OWF-004	Avalon Offshore Wind Farm	<p>The Avalon Field Development site is 39.9km south of the OAA and would be operational during the Project's construction and O&M stages. The development would comprise two production wells, subsea infrastructure and a Floating Production Storage and Offloading vessel. A potential floating WTG could also be installed.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles The spatial separation between the OAA and the Avalon site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O1: Impacts on civil and military aviation from the creation of offshore aviation obstacles such as WTGs during operation The spatial separation between the OAA and the Avalon site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O3: Impacts from WTGs on civil and military radar WTGs would be highly likely to be detected by Allanshill PSR within 61.2% of the OAA, by Perwinnes PSR within 0.5% of the OAA and by Buchan AD PSR within 98.2% of the OAA. The Avalon WTG would be theoretically detectable by Allanshill PSR, Perwinnes PSR and Buchan AD PSR. WTGs have the potential to generate 'clutter' upon radar displays which has an adverse effect on an air traffic controller's ability to provide a safe and effective radar control service and may compromise the MOD's AD capability. PSR receptors are deemed to be of high value, vulnerable and with high recoverability. The overall sensitivity is high. The cumulative impact is predicted to be of regional spatial extent, medium-term duration, medium to continuous frequency of repetition and not reversible. The magnitude of the impact is therefore considered to be medium. The sensitivity of the receptors is high, and the magnitude of the cumulative impact is deemed to be medium. The cumulative effect is therefore of major significance, which is Significant in EIA terms. Secondary technical mitigation for PSR impacts is available and would need to be agreed with NATS and MOD and implemented before the Project's O&M stage. This mitigation requirement would also likely apply to the Avalon WTG. With suitable secondary mitigations in place the cumulative impact on PSRs is considered to be very low. A high sensitivity combined with a very low magnitude results in an effect of minor significance which is Not Significant in EIA terms.</p> <p>Impact D1: Impacts on civil and military aviation from offshore aviation obstacles The spatial separation between the OAA and the Avalon site is such that there is no potential for cumulative impacts to occur.</p>	N/A	Impact O3: Minor (Not Significant) with suitable secondary mitigations in place.
OWF-014	Buchan Offshore Wind Farm (PO NE8)	<p>The Buchan Offshore Wind site is 22.1km west of the OAA and would be constructed and operational during the Project's construction and O&M stages.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles Construction of the Project would involve tall crane vessels and the installation of infrastructure above sea level. Together with the Buchan construction vessels and WTGs this would pose a physical obstruction to low flying aircraft utilising the airspace in the vicinity, potentially increasing the risk of obstacle collision or requiring aircraft to fly extended routes to avoid obstacles. Potential impacts would be mitigated through the development of an Outline Lighting and Marking Plan (M-100), and through the provision of the positions and heights of structures to the CAA, MOD and DGC to enable marking and updating of aeronautical charts (M-047 and M-116). Temporary obstacles during construction would also be notified to aviation aircrews (M-101) and a SAR checklist would be completed (M-045). Buchan Offshore Wind would have similar embedded measures in place prior to construction. Receptors such as offshore helicopters, SAR operations and low flying military aircraft are deemed to be of high value, low vulnerability and high recoverability, and therefore of medium sensitivity. The cumulative impact is predicted to be of short to medium-term duration, intermittent and low reversibility. The magnitude of the impact is therefore considered to be low. The sensitivity of the receptors is medium, and the magnitude of the cumulative impact is deemed to be low. The cumulative effect is therefore of minor significance, which is Not Significant in EIA terms.</p> <p>Impact O1: Impacts on civil and military aviation from the creation of offshore aviation obstacles such as WTGs during operation Project infrastructure in the OAA together with the Buchan WTGs would pose a physical obstruction to low flying aircraft utilising the airspace in the vicinity, potentially increasing the risk of obstacle collision or requiring aircraft to fly extended routes to avoid obstacles. The embedded environmental measures proposed for impact C1 would also be applicable for impact O1.</p>	M-045 (C1, O1) M-047 (C1, O1, D1) M-100 (C1, O1, D1) M-101 (C1, O1, D1) M-106 (D1) M-116 (C1, O1, D1)	Impact C1, O1, D1: Minor (Not Significant) . Impact O3: Minor (Not Significant) with suitable secondary mitigations in place.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>Buchan Offshore Wind would already have suitable aviation lighting and would be marked on relevant aeronautical charts to make pilots aware of its presence.</p> <p>Receptors such as offshore helicopters, SAR operations and low flying military aircraft are deemed to be of high value, low vulnerability and high recoverability, and therefore of medium sensitivity.</p> <p>The cumulative impact is predicted to be of short to medium-term duration, intermittent and low reversibility. The magnitude of the impact is therefore considered to be low.</p> <p>The sensitivity of the receptors is medium, and the magnitude of the cumulative impact is deemed to be low. The cumulative effect is therefore of minor significance, which is Not Significant in EIA terms.</p> <p>Impact O3: Impacts from WTGs on civil and military radar</p> <p>WTGs would be highly likely to be detected by Allanshill PSR within 61.2% of the OAA, by Perwinnes PSR within 0.5% of the OAA and by Buchan AD PSR within 98.2% of the OAA.</p> <p>WTGs within the Buchan array area would be theoretically detectable by Allanshill PSR and Buchan AD PSR.</p> <p>WTGs have the potential to generate 'clutter' upon radar displays which has an adverse effect on an air traffic controller's ability to provide a safe and effective radar control service and may compromise the MOD's AD capability.</p> <p>PSR receptors are deemed to be of high value, vulnerable and with high recoverability. The overall sensitivity is high.</p> <p>The cumulative impact is predicted to be of regional spatial extent, medium-term duration, medium to continuous frequency of repetition and not reversible. The magnitude of the impact is therefore considered to be medium.</p> <p>The sensitivity of the receptors is high, and the magnitude of the cumulative impact is deemed to be medium. The cumulative effect is therefore of major significance, which is Significant in EIA terms.</p> <p>Secondary technical mitigation for PSR impacts is available and would need to be agreed with NATS and MOD and implemented before the Project's O&M stage. This mitigation requirement would also apply to Buchan Offshore Wind. With suitable secondary mitigations in place the cumulative impact on PSRs is considered to be very low. A high sensitivity combined with a very low magnitude results in an effect of minor significance which is Not Significant in EIA terms</p> <p>Impact D1: Impacts on civil and military aviation from offshore aviation obstacles</p> <p>During the decommissioning stage all the above sea level infrastructure would be gradually removed. This would reduce the physical obstructions to low flying aircraft utilising the airspace in the vicinity of the Project and Buchan Offshore Wind.</p> <p>The embedded environmental measures proposed for impact C1 would also be applicable for impact D1. A Decommissioning Programme (M-106) would be developed and adhered to that would ensure that the process of decommissioning the Project would minimise any impacts on civil and military aviation. Similar embedded measures would also be applicable to Buchan.</p> <p>Receptors such as offshore helicopters, SAR operations and low flying military aircraft are deemed to be of high value, low vulnerability and high recoverability, and therefore of medium sensitivity.</p> <p>The cumulative impact is predicted to be of short to medium-term duration, intermittent and low reversibility. The magnitude of the impact is therefore considered to be low.</p> <p>The sensitivity of the receptors is medium, and the magnitude of the cumulative impact is deemed to be low. The cumulative effect is therefore of minor significance, which is Not Significant in EIA terms.</p>		
OWF-015	Caledonia Offshore Wind Farm (PO NE4)	<p>The Caledonia Offshore Wind Farm site is 83.4km west of the OAA and would be constructed and operational during the Project's construction and O&M stages.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles</p> <p>The spatial separation between the OAA and the Caledonia site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O1: Impacts on civil and military aviation from the creation of offshore aviation obstacles such as WTGs during operation</p> <p>The spatial separation between the OAA and the Caledonia site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O3: Impacts from WTGs on civil and military radar</p> <p>WTGs would be highly likely to be detected by Allanshill PSR within 61.2% of the OAA, by Perwinnes PSR within 0.5% of the OAA and by Buchan AD PSR within 98.2% of the OAA.</p> <p>WTGs within the Caledonia array area would be theoretically detectable by Allanshill PSR and Buchan AD PSR.</p> <p>WTGs have the potential to generate 'clutter' upon radar displays which has an adverse effect on an air traffic controller's ability to provide a safe and effective radar control service and may compromise the MOD's AD capability.</p> <p>PSR receptors are deemed to be of high value, vulnerable and with high recoverability. The overall sensitivity is high.</p>	N/A	Impact O3: Minor (Not Significant) with suitable secondary mitigations in place.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>The cumulative impact is predicted to be of regional spatial extent, medium-term duration, medium to continuous frequency of repetition and not reversible. The magnitude of the impact is therefore considered to be medium. The sensitivity of the receptors is high, and the magnitude of the cumulative impact is deemed to be medium. The cumulative effect is therefore of major significance, which is Significant in EIA terms. Secondary technical mitigation for PSR impacts is available and would need to be agreed with NATS and MOD and implemented before the Project's O&M stage. This mitigation requirement would also apply to Caledonia Offshore Wind Farm. With suitable secondary mitigations in place the cumulative impact on PSRs is considered to be very low. A high sensitivity combined with a very low magnitude results in an effect of minor significance which is Not Significant in EIA terms</p> <p>Impact D1: Impacts on civil and military aviation from offshore aviation obstacles The spatial separation between the OAA and the Caledonia site is such that there is no potential for cumulative impacts to occur.</p>		
OWF-052	Muir Mhòr Offshore Wind Farm (PO E2)	<p>The Muir Mhòr Offshore Wind Farm site is 59km south of the OAA and would be operational during the Project's construction and O&M stages.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles The spatial separation between the OAA and the Muir Mhòr site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O1: Impacts on civil and military aviation from the creation of offshore aviation obstacles such as WTGs during operation The spatial separation between the OAA and the Muir Mhòr site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O3: Impacts from WTGs on civil and military radar WTGs would be highly likely to be detected by Allanshill PSR within 61.2% of the OAA, by Perwinnes PSR within 0.5% of the OAA and by Buchan AD PSR within 98.2% of the OAA. WTGs within the Muir Mhòr array area would be theoretically detectable by Allanshill PSR, Perwinnes PSR and Buchan AD PSR. WTGs have the potential to generate 'clutter' upon radar displays which has an adverse effect on an air traffic controller's ability to provide a safe and effective radar control service and may compromise the MOD's AD capability. PSR receptors are deemed to be of high value, vulnerable and with high recoverability. The overall sensitivity is high. The cumulative impact is predicted to be of regional spatial extent, medium-term duration, medium to continuous frequency of repetition and not reversible. The magnitude of the impact is therefore considered to be medium. The sensitivity of the receptors is high, and the magnitude of the cumulative impact is deemed to be medium. The cumulative effect is therefore of major significance, which is Significant in EIA terms. Secondary technical mitigation for PSR impacts is available and would need to be agreed with NATS and MOD and implemented before the Project's O&M stage. This mitigation requirement would also apply to Muir Mhòr Offshore Wind Farm. With suitable secondary mitigations in place the cumulative impact on PSRs is considered to be very low. A high sensitivity combined with a very low magnitude results in an effect of minor significance which is Not Significant in EIA terms.</p> <p>Impact D1: Impacts on civil and military aviation from offshore aviation obstacles The spatial separation between the OAA and the Muir Mhòr site is such that there is no potential for cumulative impacts to occur.</p>	N/A	Impact O3: Minor (Not Significant) with suitable secondary mitigations in place.
Tier 2				
OWF-013	Broadshore (PO NE6)	<p>The Broadshore Offshore Wind Farm site is 46.6km west of the OAA and would be constructed and operational during the Project's construction and O&M stages.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles The spatial separation between the OAA and the Broadshore site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O1: Impacts on civil and military aviation from the creation of offshore aviation obstacles such as WTGs during operation The spatial separation between the OAA and the Broadshore site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O3: Impacts from WTGs on civil and military radar WTGs would be highly likely to be detected by Allanshill PSR within 61.2% of the OAA, by Perwinnes PSR within 0.5% of the OAA and by Buchan AD PSR within 98.2% of the OAA.</p>	N/A	Impact O3: Minor (Not Significant) with suitable secondary mitigations in place.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>WTGs within the Broadshore array area would be theoretically detectable by Allanshill PSR and Buchan AD PSR. WTGs have the potential to generate 'clutter' upon radar displays which has an adverse effect on an air traffic controller's ability to provide a safe and effective radar control service and may compromise the MOD's AD capability. PSR receptors are deemed to be of high value, vulnerable and with high recoverability. The overall sensitivity is high. The cumulative impact is predicted to be of regional spatial extent, medium-term duration, medium to continuous frequency of repetition and not reversible. The magnitude of the impact is therefore considered to be medium. The sensitivity of the receptors is high, and the magnitude of the cumulative impact is deemed to be medium. The cumulative effect is therefore of major significance, which is Significant in EIA terms. Secondary technical mitigation for PSR impacts is available and would need to be agreed with NATS and MOD and implemented before the Project's O&M stage. This mitigation requirement would also apply to Broadshore Offshore Wind Farm. With suitable secondary mitigations in place the cumulative impact on PSRs is considered to be very low. A high sensitivity combined with a very low magnitude results in an effect of minor significance which is Not Significant in EIA terms</p> <p>Impact D1: Impacts on civil and military aviation from offshore aviation obstacles The spatial separation between the OAA and the Broadshore site is such that there is no potential for cumulative impacts to occur.</p>		
OWF-019	Ayre Offshore Wind Farm (PO NE2 Cluaran Ear-Thuath)	<p>The Ayre Offshore Wind Farm site is 92.8km north-west of the OAA and would be constructed and operational during the Project's construction and O&M stages.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles The spatial separation between the OAA and the Ayre site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O1: Impacts on civil and military aviation from the creation of offshore aviation obstacles such as WTGs during operation The spatial separation between the OAA and the Ayre site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O3: Impacts from WTGs on civil and military radar WTGs would be highly likely to be detected by Allanshill PSR within 61.2% of the OAA, by Perwinnes PSR within 0.5% of the OAA and by Buchan AD PSR within 98.2% of the OAA. WTGs within the Ayre array area would not be detectable by Allanshill PSR, Perwinnes PSR or Buchan AD PSR, therefore there is no potential for cumulative impacts to occur.</p> <p>Impact D1: Impacts on civil and military aviation from offshore aviation obstacles The spatial separation between the OAA and the Ayre site is such that there is no potential for cumulative impacts to occur.</p>	N/A	No potential for cumulative effects to occur.
OWF-060	Scaraben (INTOG 2)	<p>The Scaraben Offshore Wind Farm site is 42.6km west of the OAA and would be constructed and operational during the Project's construction and O&M stages.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles The spatial separation between the OAA and the Scaraben site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O1: Impacts on civil and military aviation from the creation of offshore aviation obstacles such as WTGs during operation The spatial separation between the OAA and the Scaraben site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O3: Impacts from WTGs on civil and military radar WTGs would be highly likely to be detected by Allanshill PSR within 61.2% of the OAA, by Perwinnes PSR within 0.5% of the OAA and by Buchan AD PSR within 98.2% of the OAA. WTGs within the Scaraben array area would be theoretically detectable by Allanshill PSR and Buchan AD PSR. WTGs have the potential to generate 'clutter' upon radar displays which has an adverse effect on an air traffic controller's ability to provide a safe and effective radar control service and may compromise the MOD's AD capability. PSR receptors are deemed to be of high value, vulnerable and with high recoverability. The overall sensitivity is high. The cumulative impact is predicted to be of regional spatial extent, medium-term duration, medium to continuous frequency of repetition and not reversible. The magnitude of the impact is therefore considered to be medium. The sensitivity of the receptors is high, and the magnitude of the cumulative impact is deemed to be medium. The cumulative effect is therefore of major significance, which is Significant in EIA terms.</p>	N/A	Impact O3: Minor (Not Significant) with suitable secondary mitigations in place.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>Secondary technical mitigation for PSR impacts is available and would need to be agreed with NATS and MOD and implemented before the Project's O&M stage. This mitigation requirement would also apply to Scaraben Offshore Wind Farm. With suitable secondary mitigations in place the cumulative impact on PSRs is considered to be very low. A high sensitivity combined with a very low magnitude results in an effect of minor significance which is Not Significant in EIA terms</p> <p>Impact D1: Impacts on civil and military aviation from offshore aviation obstacles The spatial separation between the OAA and the Scaraben site is such that there is no potential for cumulative impacts to occur.</p>		
OWF-064	Sinclair (INTOG 1)	<p>The Sinclair Offshore Wind Farm site is 50.7km west of the OAA and would be constructed and operational during the Project's construction and O&M stages.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles The spatial separation between the OAA and the Sinclair site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O1: Impacts on civil and military aviation from the creation of offshore aviation obstacles such as WTGs during operation The spatial separation between the OAA and the Sinclair site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O3: Impacts from WTGs on civil and military radar WTGs would be highly likely to be detected by Allanshill PSR within 61.2% of the OAA, by Perwinnes PSR within 0.5% of the OAA and by Buchan AD PSR within 98.2% of the OAA. WTGs within the Sinclair array area would be theoretically detectable by Allanshill PSR and Buchan AD PSR. WTGs have the potential to generate 'clutter' upon radar displays which has an adverse effect on an air traffic controller's ability to provide a safe and effective radar control service and may compromise the MOD's AD capability. PSR receptors are deemed to be of high value, vulnerable and with high recoverability. The overall sensitivity is high. The cumulative impact is predicted to be of regional spatial extent, medium-term duration, medium to continuous frequency of repetition and not reversible. The magnitude of the impact is therefore considered to be medium. The sensitivity of the receptors is high, and the magnitude of the cumulative impact is deemed to be medium. The cumulative effect is therefore of major significance, which is Significant in EIA terms. Secondary technical mitigation for PSR impacts is available and would need to be agreed with NATS and MOD and implemented before the Project's O&M stage. This mitigation requirement would also apply to Sinclair Offshore Wind Farm. With suitable secondary mitigations in place the cumulative impact on PSRs is considered to be very low. A high sensitivity combined with a very low magnitude results in an effect of minor significance which is Not Significant in EIA terms.</p> <p>Impact D1: Impacts on civil and military aviation from offshore aviation obstacles The spatial separation between the OAA and the Sinclair site is such that there is no potential for cumulative impacts to occur.</p>	N/A	Impact O3: Minor (Not Significant) with suitable secondary mitigations in place.
OWF-066	Stromar (PO NE3)	<p>The Stromar Offshore Wind Farm site is 73.4km west of the OAA and would be operational during the Project's construction and O&M stages.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles The spatial separation between the OAA and the Stromar site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O1: Impacts on civil and military aviation from the creation of offshore aviation obstacles such as WTGs during operation The spatial separation between the OAA and the Stromar site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O3: Impacts from WTGs on civil and military radar WTGs would be highly likely to be detected by Allanshill PSR within 61.2% of the OAA, by Perwinnes PSR within 0.5% of the OAA and by Buchan AD PSR within 98.2% of the OAA. WTGs within the Stromar array area would be theoretically detectable by Allanshill PSR and Buchan AD PSR. WTGs have the potential to generate 'clutter' upon radar displays which has an adverse effect on an air traffic controller's ability to provide a safe and effective radar control service and may compromise the MOD's AD capability. PSR receptors are deemed to be of high value, vulnerable and with high recoverability. The overall sensitivity is high. The cumulative impact is predicted to be of regional spatial extent, medium-term duration, medium to continuous frequency of repetition and not reversible. The magnitude of the impact is therefore considered to be medium.</p>	N/A	Impact O3: Minor (Not Significant) with suitable secondary mitigations in place.

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>The sensitivity of the receptors is high, and the magnitude of the cumulative impact is deemed to be medium. The cumulative effect is therefore of major significance, which is Significant in EIA terms.</p> <p>Secondary technical mitigation for PSR impacts is available and would need to be agreed with NATS and MOD and implemented before the Project's O&M stage. This mitigation requirement would also apply to Stromar Offshore Wind Farm. With suitable secondary mitigations in place the cumulative impact on PSRs is considered to be very low. A high sensitivity combined with a very low magnitude results in an effect of minor significance which is Not Significant in EIA terms.</p> <p>Impact D1: Impacts on civil and military aviation from offshore aviation obstacles</p> <p>The spatial separation between the OAA and the Stromar site is such that there is no potential for cumulative impacts to occur.</p>		
Tier 3a				
OWF-003	Aspen (INTOG 7)	<p>The Aspen Offshore Wind Farm site is 25km south-east of the OAA and would be operational during the Project's construction and O&M stages.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles</p> <p>Construction of the Project would involve tall crane vessels and the installation of infrastructure above sea level. Together with the Aspen WTGs this would pose a physical obstruction to low flying aircraft utilising the airspace in the vicinity, potentially increasing the risk of obstacle collision or requiring aircraft to fly extended routes to avoid obstacles.</p> <p>Potential impacts would be mitigated through the development of an Outline Lighting and Marking Plan (M-100), and through the provision of the positions and heights of structures to the CAA, MOD and DGC to enable marking and updating of aeronautical charts (M-047 and M-116). Temporary obstacles during construction would also be notified to aviation aircrews (M-101) and a SAR checklist would be completed (M-045).</p> <p>Aspen Offshore Wind Farm would already have suitable aviation lighting and would be marked on relevant aeronautical charts to make pilots aware of its presence.</p> <p>Receptors such as offshore helicopters, SAR operations and low flying military aircraft are deemed to be of high value, low vulnerability and high recoverability, and therefore of medium sensitivity.</p> <p>The cumulative impact is predicted to be of short to medium-term duration, intermittent and low reversibility. The magnitude of the impact is therefore considered to be low.</p> <p>The sensitivity of the receptors is medium, and the magnitude of the cumulative impact is deemed to be low. The cumulative effect is therefore of minor significance, which is Not Significant in EIA terms.</p> <p>Impact O1: Impacts on civil and military aviation from the creation of offshore aviation obstacles such as WTGs during operation</p> <p>Project infrastructure in the OAA together with the Aspen WTGs would pose a physical obstruction to low flying aircraft utilising the airspace in the vicinity, potentially increasing the risk of obstacle collision or requiring aircraft to fly extended routes to avoid obstacles. The embedded environmental measures proposed for impact C1 would also be applicable for impact O1.</p> <p>Aspen Offshore Wind Farm would already have suitable aviation lighting and would be marked on relevant aeronautical charts to make pilots aware of its presence.</p> <p>Receptors such as offshore helicopters, SAR operations and low flying military aircraft are deemed to be of high value, low vulnerability and high recoverability, and therefore of medium sensitivity.</p> <p>The cumulative impact is predicted to be of short to medium-term duration, intermittent and low reversibility. The magnitude of the impact is therefore considered to be low.</p> <p>The sensitivity of the receptors is medium, and the magnitude of the cumulative impact is deemed to be low. The cumulative effect is therefore of minor significance, which is Not Significant in EIA terms.</p> <p>Impact O3: Impacts from WTGs on civil and military radar</p> <p>WTGs would be highly likely to be detected by Allanshill PSR within 61.2% of the OAA, by Perwinnes PSR within 0.5% of the OAA and by Buchan AD PSR within 98.2% of the OAA.</p> <p>WTGs within the Aspen array area would be theoretically detectable by Allanshill PSR and Buchan AD PSR.</p> <p>WTGs have the potential to generate 'clutter' upon radar displays which has an adverse effect on an air traffic controller's ability to provide a safe and effective radar control service and may compromise the MOD's AD capability.</p> <p>PSR receptors are deemed to be of high value, vulnerable and with high recoverability. The overall sensitivity is high.</p> <p>The cumulative impact is predicted to be of regional spatial extent, medium-term duration, medium to continuous frequency of repetition and not reversible. The magnitude of the impact is therefore considered to be medium.</p>	M-045 (C1, O1) M-047 (C1, O1, D1) M-100 (C1, O1, D1) M-101 (C1, O1, D1) M-106 (D1) M-116 (C1, O1, D1)	<p>Impact C1, O1, D1: Minor (Not Significant).</p> <p>Impact O3: Minor (Not Significant) with suitable secondary mitigations in place.</p>

Short list ID	Name of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
		<p>The sensitivity of the receptors is high, and the magnitude of the cumulative impact is deemed to be medium. The cumulative effect is therefore of major significance, which is Significant in EIA terms.</p> <p>Secondary technical mitigation for PSR impacts is available and would need to be agreed with National Air Traffic Services (NATS) and MOD and implemented before the Project's O&M stage. This mitigation requirement would also apply to Aspen Offshore Wind Farm. With suitable secondary mitigations in place the cumulative impact on PSRs is considered to be very low. A high sensitivity combined with a very low magnitude results in an effect of minor significance which is Not Significant in EIA terms</p> <p>Impact D1: Impacts on civil and military aviation from offshore aviation obstacles</p> <p>During the decommissioning stage all the above sea level infrastructure would be gradually removed. This would reduce the physical obstructions to low flying aircraft utilising the airspace in the vicinity of the Project and Aspen Offshore Wind Farm.</p> <p>The embedded environmental measures proposed for impact C1 would also be applicable for impact D1. A Decommissioning Programme (M-106) would be developed and adhered to that would ensure that the process of decommissioning the Project would minimise any impacts on civil and military aviation. Similar embedded measures would also be applicable to Aspen.</p> <p>Receptors such as offshore helicopters, SAR operations and low flying military aircraft are deemed to be of high value, low vulnerability and high recoverability, and therefore of medium sensitivity.</p> <p>The cumulative impact is predicted to be of short to medium-term duration, intermittent and low reversibility. The magnitude of the impact is therefore considered to be low.</p> <p>The sensitivity of the receptors is medium, and the magnitude of the cumulative impact is deemed to be low. The cumulative effect is therefore of minor significance, which is Not Significant in EIA terms.</p>		
OWF-016	CampionWind (PO E2)	<p>The CampionWind Offshore Wind Farm site is 62.3km south of the OAA and could be constructed and operational during the Project's construction and O&M stages.</p> <p>Impact C1: Impacts on civil and military aviation from the creation of offshore aviation obstacles</p> <p>The spatial separation between the OAA and the CampionWind site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O1: Impacts on civil and military aviation from the creation of offshore aviation obstacles such as WTGs during operation</p> <p>The spatial separation between the OAA and the CampionWind site is such that there is no potential for cumulative impacts to occur.</p> <p>Impact O3: Impacts from WTGs on civil and military radar</p> <p>WTGs would be highly likely to be detected by Allanshill PSR within 61.2% of the OAA, by Perwinnes PSR within 0.5% of the OAA and by Buchan AD PSR within 98.2% of the OAA.</p> <p>WTGs within the CampionWind array area would be theoretically detectable by Perwinnes PSR and Buchan AD PSR.</p> <p>WTGs have the potential to generate 'clutter' upon radar displays which has an adverse effect on an air traffic controller's ability to provide a safe and effective radar control service and may compromise the MOD's AD capability.</p> <p>PSR receptors are deemed to be of high value, vulnerable and with high recoverability. The overall sensitivity is high.</p> <p>The cumulative impact is predicted to be of regional spatial extent, medium-term duration, medium to continuous frequency of repetition and not reversible. The magnitude of the impact is therefore considered to be medium.</p> <p>The sensitivity of the receptors is high, and the magnitude of the cumulative impact is deemed to be medium. The cumulative effect is therefore of major significance, which is Significant in EIA terms.</p> <p>Secondary technical mitigation for PSR impacts is available and would need to be agreed with NATS and MOD and implemented before the Project's O&M stage. This mitigation requirement would also apply to CampionWind Offshore Wind Farm. With suitable secondary mitigations in place the cumulative impact on PSRs is considered to be very low. A high sensitivity combined with a very low magnitude results in an effect of minor significance which is Not Significant in EIA terms.</p> <p>Impact D1: Impacts on civil and military aviation from offshore aviation obstacles</p> <p>The spatial separation between the OAA and the CampionWind site is such that there is no potential for cumulative impacts to occur.</p>	N/A	Impact O3: Minor (Not Significant) with suitable secondary mitigations in place.

Table 33.30 Cumulative effects assessment for civil and military aviation – onshore ‘other developments’

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
Tier 1							
ON-001	1	APP/2024/1714	SSEN Netherton Hub	National for erection of a strategic electricity transmission hub including 400kv AC substation, 132kv AC substation, 2 HVDC converter stations, transmission hall, spares warehouse, operations base and associated works.	<p>The SSEN Netherton Hub site is within and extends outside the Onshore Red Line Boundary and would be constructed and operational during the Project's construction stage.</p> <p>Longside Airfield is the only receptor under consideration for onshore impacts. The SSEN Netherton Hub site is more than 2.5km south-west of Longside Airfield and considered beyond the range at which potential cumulative impacts could occur.</p>	N/A	<p>No potential for cumulative impacts to occur.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-004	1	APP/2023/1454	Green Volt Offshore Wind Farm (onshore infrastructure) - Green Volt Offshore Windfarm Limited	Formation of onshore landfall point, laying of underground cable and erection of substation.	<p>The Green Volt onshore infrastructure is within and extends outside the Onshore Red Line Boundary and would be operational during the Project's construction stage.</p> <p>Longside Airfield is the only receptor under consideration for onshore impacts. Green Volt onshore infrastructure would be more than 800m north-west of Longside Airfield and considered beyond the range at which potential cumulative impacts could occur.</p>	N/A	<p>No potential for cumulative impacts to occur.</p> <p>Not Significant.</p>
ON-007	1	APP/2023/1671 APP/2021/1712 ECU00003226	Kirkton Solar Photovoltaic and Energy	Electricity generating station with installed	The Kirkton development site is within and extends outside the	N/A	<p>No potential for cumulative impacts to occur.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			Storage - Facility Elgin Energy Esco Ltd	capacity in excess of 50MW consisting of a solar PV farm of approximately 50MW capacity and a battery energy storage facility of approximately 20MW capacity, with ancillary development.	Onshore Red Line Boundary and could be operational during the Project's construction stage. Longside Airfield is the only receptor under consideration for onshore impacts. The Kirkton development would be more than 3.5km north-east of Longside Airfield and considered beyond the range at which potential cumulative impacts could occur.		
ON-008	1	APP/2022/0369	Inverugie Meadows Residential Mixed Use Development - Claymore Homes Ltd	Residential mixed use development comprising up to 800 residential homes (25% affordable), a local	The Inverugie Meadows development is 230m from the Onshore Red Line Boundary and could be constructed during	N/A	No potential for cumulative impacts to occur. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				neighbourhood centre, land reserved for employment purposes, a primary school and a possible future rail halt, associated roads and drainage infrastructure, new landscaping and open spaces and a local nature reserve.	the Project's construction stage. Longside Airfield is the only receptor under consideration for onshore impacts. The Inverugie Meadows development would be more than 1.5km east of Longside Airfield and considered beyond the range at which potential cumulative impacts could occur.		
ON-010	1	ENQ/2023/0729 APP/2024/1410	Salamander Offshore Wind Farm (onshore infrastructure) - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	Planning permission in principle for onshore transmission infrastructure for Salamander Offshore Windfarm including formation of landfall	The Salamander onshore infrastructure is within and extends outside the Onshore Red Line Boundary and would be operational during the Project's construction stage.	N/A	No potential for cumulative impacts to occur. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				infrastructure, export cables, substation and associated works at land to the east of Lunderton, St Fergus, Peterhead.	Longside Airfield is the only receptor under consideration for onshore impacts. Salamander onshore infrastructure would be more than 3.2km north-east of Longside Airfield and considered beyond the range at which potential cumulative impacts could occur.		
ON-12	1	APP/2024/2000	Muir Mhòr Offshore Wind Farm (onshore infrastructure) - Fred Olsen Seawind Limited / Vattenfall Wind Power Limited	Onshore transmission infrastructure for Muir Mhòr Offshore Wind Farm including formation of onshore landfall point, laying of underground cables, erection of substation, and	The Muir Mhòr onshore infrastructure is within and extends outside the Onshore Red Line Boundary and would be constructed and operational during the Project's construction stage. Longside Airfield is the only receptor	N/A	No potential for cumulative impacts to occur. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				associated works to connect to the transmission grid.	under consideration for onshore impacts. Muir Mhòr onshore infrastructure would be 500m north and more than 1km west of Longside Airfield and considered beyond the range at which potential cumulative impacts could occur.		
ON-15	1	APP/2021/2265	Extension to Quarry for the Extraction of Minerals - Savoch Quarry and Recycling Ltd	Extension to permission (for 20 years) to facilitate the extraction of available mineral resources.	<p>The quarry is 3km from the Onshore Red Line Boundary and would be operational during the Project's construction stage.</p> <p>Longside Airfield is the only receptor under consideration for onshore impacts. The quarry is more than 5km south of Longside Airfield and considered</p>	N/A	<p>No potential for cumulative impacts to occur.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					beyond the range at which potential cumulative impacts could occur.		
ON-021	1	APP/2024/2068	Proposed Southern Extension of Savoch Quarry, Aberdeenshire	Extension to Quarry.	<p>The quarry is 3km from the Onshore Red Line Boundary and would be operational during the Project's construction stage.</p> <p>Longside Airfield is the only receptor under consideration for onshore impacts. The quarry is more than 5km south of Longside Airfield and considered beyond the range at which potential cumulative impacts could occur.</p>	N/A	<p>No potential for cumulative impacts to occur.</p> <p>Not Significant.</p>
ON-22	1	APP/2022/0191	Installation of Underground Cable, Erection of Substation	Installation of underground cable, erection of substation building and	The development site is 2.7km from the Onshore Red Line Boundary and could be	N/A	<p>No potential for cumulative impacts to occur.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			Building and Siting of Transformer Units and Associated Works - Green Energy International	siting of transformer units and associated works.	constructed and operational during the Project's construction stage. Longside Airfield is the only receptor under consideration for onshore impacts. The development site is 6.9km north of Longside Airfield and considered beyond the range at which potential cumulative impacts could occur.		
ON-24	1	APP/2023/1501	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding-Storage Yard 8 - Independent Oilfield Services	Part change of use of airfield to form pipe storage yard (use class 6 - storage and distribution) and formation of hardstanding.	The development site is approximately 50m from the Onshore Red Line Boundary and could be constructed and operational during the Project's construction stage. Longside Airfield is the only receptor	N/A	No potential for cumulative impacts to occur. Not Significant.

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					under consideration for onshore impacts. The pipe storage yard site is 400m south-west of Longside Airfield's east west runway and considered beyond the range at which potential cumulative impacts could occur.		
ON-25	1	APP/2023/0784	Part Change of Use of Airfield to Form Pipe Storage Yard and Formation of Hardstanding - Storage Yard 2 - Independent Oilfield Services	Part change of use of airfield to form pipe storage yard (use class 6 - storage and distribution) and formation of hardstanding.	<p>The development site is approximately 50m from the Onshore Red Line Boundary and could be constructed and operational during the Project's construction stage.</p> <p>Longside Airfield is the only receptor under consideration for onshore impacts. The pipe storage yard site is 450m south-west of Longside Airfield's</p>	N/A	<p>No potential for cumulative impacts to occur.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					east west runway and considered beyond the range at which potential cumulative impacts could occur.		
ON-26	1	APP/2025/0444	Installation of BESS with an installed capacity of 180MW and associated infrastructure (Salamander project) - Simply Blue Energy Ltd., Subsea 7, Orsted (UK) Limited	S.36 consent application for the proposed EBI of the Salamander Project. The proposed Onshore Development comprises the onshore components that are required for the operation of the Salamander Project.	<p>The Salamander onshore infrastructure is within and extends outside the Onshore Red Line Boundary and would be operational during the Project's construction stage.</p> <p>Longside Airfield is the only receptor under consideration for onshore impacts. Salamander onshore infrastructure would be more than 3.2km north-east of Longside Airfield and considered beyond the range</p>	N/A	<p>No potential for cumulative impacts to occur.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					at which potential cumulative impacts could occur.		
Tier 2							
ON-002	2	24/00786/NSIP	Eastern Green Link 3 (onshore cable) - National Grid Electricity Transmission	Onshore infrastructure for Eastern Green Link 3 project to include HVDC underground cable from landfall to Peterhead Net Zero 2030 development site near Longside.	<p>The Eastern Green Link 3 route passes within 78m of the Onshore Red Line Boundary. Construction dates would likely overlap the Project's construction stage.</p> <p>Longside Airfield is the only receptor under consideration for onshore impacts. Eastern Green Link 3 would be more than 2km south of Longside Airfield and considered beyond the range at which potential cumulative impacts could occur.</p>	N/A	<p>No potential for cumulative impacts to occur.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-006	2	ECU00005165	Beaully-Blackhillock-New Deer-Peterhead 400kV OHL (New Deer to Peterhead section) - SSEN	400kV OHL connection between Blackhillock and Peterhead via New Deer.	<p>The proposed OHL section is within and extends outside the Onshore Red Line Boundary and would be constructed and operational during the Project's construction stage.</p> <p>Longside Airfield is the only receptor under consideration for onshore impacts. The OHL section would be more than 2.5km south-west of Longside Airfield and considered beyond the range at which potential cumulative impacts could occur.</p>	N/A	<p>No potential for cumulative impacts to occur.</p> <p>Not Significant.</p>
ON-13	2	ENQ/2024/0943; ENQ/2024/1603	Buchan Offshore Wind Farm (onshore)	Buchan Offshore Wind Farm - onshore aspects	The Buchan onshore infrastructure is within and extends outside the	N/A	<p>Impact C2, O2: Minor.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
			infrastructure) - Buchan Offshore Wind Limited	including the landfall(s), onshore cable route corridor, onshore substations and onshore cable circuits.	<p>Onshore Red Line Boundary and would be constructed and operational during the Project's construction stage.</p> <p>Longside Airfield is the only receptor under consideration for onshore impacts. The Buchan onshore infrastructure boundary crosses the Longside Airfield runway and therefore potential cumulative impacts could occur.</p> <p>Impact C2: Impacts of onshore infrastructure on civil and military aviation Plant equipment and construction activities associated with the</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>Project and with Buchan onshore infrastructure to the east of the Longside Airfield runway could impede flying activities and exposure of topsoil could attract birds which are a hazard to aircraft.</p> <p>Cumulative impacts could extend potential periods of airfield disruption.</p> <p>Engagement with the owner of Longside Airfield and with Buchan Offshore Wind Farm would be necessary to coordinate activities in the airfield vicinity to minimise impacts and if necessary to manage soil to control bird hazards.</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>Longside Airfield is deemed to be of moderate value, low vulnerability and high recoverability, and therefore of medium sensitivity. The cumulative impact is predicted to be of local spatial extent, short to medium-term duration, intermittent and reversible. The magnitude of the impact is therefore considered to be low.</p> <p>The sensitivity of Longside Airfield is medium, and the magnitude of the cumulative impact is low. The cumulative effect is therefore of minor significance, which is Not Significant in EIA terms.</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>Impact O2: Impacts of onshore infrastructure on civil and military aviation</p> <p>Onshore infrastructure in the vicinity of Longside Airfield would be buried below the surface, however repair activities in the vicinity of the airfield runway extended centreline could impede flying activities and attract bird hazards.</p> <p>Cumulative impacts could extend potential periods of airfield disruption. Longside Airfield is deemed to be of moderate value, low vulnerability and high recoverability, and therefore of medium sensitivity.</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					<p>The cumulative impact is predicted to be of short-term duration, intermittent and reversible. The magnitude of the impact is therefore considered to be low.</p> <p>The sensitivity of Longside Airfield is medium, and the magnitude of the cumulative impact is low. The cumulative effect is therefore of minor significance, which is Not Significant in EIA terms.</p> <p>Impact D2: Impacts of onshore infrastructure on civil and military aviation</p> <p>It is currently assumed that onshore export cables associated</p>		

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					with the Project would be left in-situ to minimise environmental effects associated with their removal. As such, there is no potential for cumulative impacts to occur.		
Tier 3							
ON-11	3	ECU00003460	Peterhead - Energy Storage Project Alcemi Storage Developments Ltd	1GW BESS.	<p>The development site is 2.5km from the Onshore Red Line Boundary and would be operational during the Project's construction stage.</p> <p>Longside Airfield is the only receptor under consideration for onshore impacts. Peterhead Energy Storage Facility would be more than 3.9km south-east of</p>	N/A	<p>No potential for cumulative impacts to occur.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
					Longside Airfield and considered beyond the range at which potential cumulative impacts could occur.		
ON-27	3	ECU00006204 ENQ/2025/0847	Peterhead Flexpower 500MW BESS - Scott Hobbs Planning	Installation of 500MW BESS including associated, infrastructure and landscaping.	<p>The development site is 2.9km from the Onshore Red Line Boundary and would be constructed and operational during the Project's construction stage.</p> <p>Longside Airfield is the only receptor under consideration for onshore impacts. The proposed site is 4.8km south-east of Longside Airfield and considered beyond the range at which potential cumulative impacts could occur.</p>	N/A	<p>No potential for cumulative impacts to occur.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
ON-28	3	ECU00006168	Netherton Hub 400kV OHL Connection to New Deer and Peterhead: Rebuild - SSEN	Installation of a new 400 kV OHL between a point on the existing New Deer to Peterhead OHL, approximately 5km west of Peterhead Substation, and connection into Peterhead Substation. The development also includes removal of the associated length of the existing 400 kV New Deer to Peterhead OHL and installation of temporary OHL circuit to facilitate the transfer of the connection	<p>The proposed OHL connection is 300m from the Onshore Red Line Boundary and would be constructed and operational during the Project's construction stage.</p> <p>Longside Airfield is the only receptor under consideration for onshore impacts. The proposed OHL connection is more than 2.6km south of Longside Airfield and considered beyond the range at which potential cumulative impacts could occur.</p>	N/A	<p>No potential for cumulative impacts to occur.</p> <p>Not Significant.</p>

Short List ID	Tier	Application reference	Name of 'other development' and Applicant	Brief description of 'other development'	Assessment of cumulative effect with the Project	Proposed embedded environmental measures	Residual cumulative effect
				from the existing New Deer to Peterhead 400kV OHL to the diverted lines.			

33.7 Cumulative effects assessment summary

- 33.7.1.1 This Section presents a summary of the likely significant residual cumulative effects for each technical aspect within this EIA Report.
- 33.7.1.2 The following technical aspects have identified **Significant** residual cumulative effects:
- offshore and intertidal ornithology (see **Section 33.6.6**);
 - commercial fisheries (see **Section 33.6.8**); and
 - landscape and visual (see **Section 33.6.20**).

33.8 References

- Aberdeenshire Council, (2023a). *Aberdeenshire Council's Scoping Opinion for Offshore Wind Farm Project at MarramWind Offshore Wind Farm*. [online] Available at: <https://upa.aberdeenshire.gov.uk/online-applications/applicationDetails.do?activeTab=documents&keyVal=RPB0TVCA04U00> [Accessed: 7 October 2025].
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33.9 Glossary and abbreviations

33.9.1 Abbreviations

Acronym	Definition
AC	Alternating Current
AD	Air Defence
AEZ	Archaeological Exclusion Zone
AfL	Agreement for Lease
BDMPS	Biologically Defined Minimum Population Scales
BESS	Battery Energy Storage System
CAA	Civil Aviation Authority
CCS	Capture and Storage Site
CEA	Cumulative Environmental Assessment
CEF	Cumulative Effects Framework
CEMP	Construction Environmental Management Plan
CES	Crown Estate Scotland
DGC	Defence Geographic Centre
EBI	Energy Balancing Infrastructure
EIA	Environmental Impact Assessment
EMF	Electromagnetic Field
EOWDC	European Offshore Wind Deployment Centre
GHG	Greenhouse Gas
GNS	Greater North Sea
GW	gigawatts
ha	hectares
HDD	Horizontal Directional Drilling
HRA	Habitats Regulations Appraisal
HVDC	High Voltage Direct Current
IAQM	Institute of Air Quality Management
IEF	Important Ecological Features

Acronym	Definition
IEMA	Institute of Environmental Management and Assessment
INNS	Invasive Non-Native Species
INTOG	Innovation and Targeted Oil and Gas
iPCoD	interim Population Consequences of Disturbance
JV	Joint Venture
KIS-ORCA	Kingfisher Information Service - Offshore Renewable and Cable Awareness
km	kilometres
kV	kilovolt
LCA	Land Capability for Agriculture
LCRM	Land Contamination Risk Management
LCT	Landscape Character Type
LVIA	Landscape and Visual Impact Assessment
m	Metres
MCA	Maritime and Coastguard Agency
MCR	Major Component Replacement
MD-LOT	Marine Directorate – Licencing Operations Team
MMFR	Mean Maximum Foraging Ranges
MOD	Ministry of Defence
MPA	Marine Protected Area
MSS	Marine Scotland Science
MU	Management Unit
MW	Megawatts
NATS	National Air Traffic Services
NCMPA	Nature Conservation Marine Protected Area
NE7	Northeast 7
NEEOG	North East and East Offshore Wind Developers Group
NGESO	National Grid Electricity System Operator
NERC	Natural Environment Research Council
nm	nautical miles

Acronym	Definition
NR	Noise Rating
NRA	Navigational Risk Assessment
NSIP	Nationally Significant Infrastructure Projects
NSR	Noise Sensitive Receptors
NVMP	Noise and Vibration Management Plan
O&M	Operation and Maintenance
OA	Option Agreement
OAA	Option Agreement Area
OHL	Overhead Line
OLAS	Outline Landscape and Architectural Strategy
PAN	Planning Advice Note
PO	ScotWind Plan Option Area
PrePARED	Predators and Prey Around Renewable Energy Developments
PSR	Primary Surveillance Radar
PV	Photovoltaic
PWS	Private Water Supply
RCP	Reactive Compensation Platform
RSPB	Royal Society for the Protection of Birds
ROV	Remotely Operated Vehicles
s.36	Section 36
SAR	Search and rescue
SCANS	Small Cetacean Abundance in the North Sea
SD	Standard Deviation
SFF	Scottish Fishermen's Federation
SHE Transmission	Scottish Hydro Electric Transmission Plc
SLVIA	Seascape, Landscape and Visual Impact Assessment
SMA	Seal Management Areas
SMP	Sectoral Marine Plan
SPA	Special Protection Area

Acronym	Definition
SPR	ScottishPower Renewables
SSC	Suspended sediment concentration
SSEN	Scottish and Southern Electricity Networks
SuDs	Sustainable Drainage Systems
TAC	Total Allowable Catches
TEZ	Temporary Exclusion Zone
TTS	Temporary Threshold Shift
UK CoS	UK Chamber of Shipping
UXO	Unexploded Ordnance
WTG	Wind Turbine Generator
ZOI	Zone of Influence

33.9.2 Glossary of terms

Term	Definition
Cumulative effects	Additional changes caused by the Project in conjunction with other similar developments or as a combined effect of a set of developments, taken together.
Cumulative Effects Assessment	Assessment of effects as a result of the incremental changes caused by other past, present and reasonably foreseeable human activities and natural processes together with the Project.
Environmental Impact Assessment	The process of evaluating the likely significant environmental effects of a proposed project or development over and above the existing circumstances (or 'baseline').
EIA Regulations	Terminology used in this document to refer to four sets of regulations: <ul style="list-style-type: none"> • The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017; • The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017; • The Marine Works (Environmental Impact Assessment) Regulations 2007; and • The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.
Intensified cumulative effect	An environmental impact from the Project affecting a particular receptor could be intensified through its accumulation with impact(s) from another development occurring at the same time. For example, noise or air quality

Term	Definition
	impacts resulting from construction traffic, along with increased traffic volumes on local roads generated from 'other developments'.
Spatially cumulative impacts	Spatially cumulative impacts: Habitat loss impacts from the Project could be exacerbated with habitat loss from another development.
Temporally cumulative impacts	An impact whose effect is experienced over a given period can be exacerbated where it precedes or follows another similar impact. For example, prolonged noise impacts from construction of consecutive projects affecting the same community.

MarramWind

