Aberdeen Airport

From: #ABZ Safeguarding <abzsafeguard@aiairport.com>
Sent: 10 March 2025 10:32
To: MD Marine Renewables
Subject: RE: Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation – Response Required by 4 April 2025

Objective: -1

This proposal is located outwith the consultation area for Aberdeen Airport. As such we have no comment to make and need not be consulted further.

Kind regards
Kirsteen

Aberdeen International Airport EST. 1934

#ABZ Safeguarding
abzsafeguard@aiairport.com
www.aberdeenairport.com
Aberdeen International Airport Limited, Dyce, Aberdeen, AB21 7DU

2023 UK NTA NATIONAL TRANSPORT AWARDS 2023
WINNER: TRANSPORT HUB OF THE YEAR 2023

Aberdeenshire Council

Aberdeenshire COUNCIL

Our Ref: ENQ/2025/0193
Your Ref:

Ask for: Victoria Moore
Tel: 01467 533406
Email: [Redacted]

Scottish Government
Marine Licensing Casework Officer, Licensing Operations Team
Marine Directorate
Marine Laboratory
Aberdeen
AB11 9DB

26 March 2025

Dear Sir/Madam

Marine Licence Consultation for Consultation under Section 36 of the Electricity Act 1989, the Marine (Scotland) Act 2010 and Marine and Coastal Access Act 2009 for the Erection of Offshore Wind Farm and Associated Infrastructure at Cenos Offshore Wind Farm , Central North Sea, Approximately 200 Km East Of Aberdeen

I refer to the above consultation and can provide the following comments.

This is a Marine Licence Consultation for the erection of an offshore windfarm 200km east of Aberdeen, with the landfall utilising the cable landfall that was consented for the NorthConnect development. As this consultation relates solely to offshore development the Natural Environment Team has no comments on this proposal

Our Archaeology team have reviewed the submitted information and agree with the approach and archaeological mitigation outlined in EIAR chapter 16 Marine Archaeology and in Appendix 27 Written Scheme of Investigations & PAD.

Yours faithfully

[Redacted]

Paul Macari
Head of Planning and Economy

BT Radio Protection

From: radionetworkprotection@bt.com
Sent: 21 February 2025 09:02
To: MD Marine Renewables
Subject: Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation – Response Required by 4 April 2025 WID13415

Objective: -1

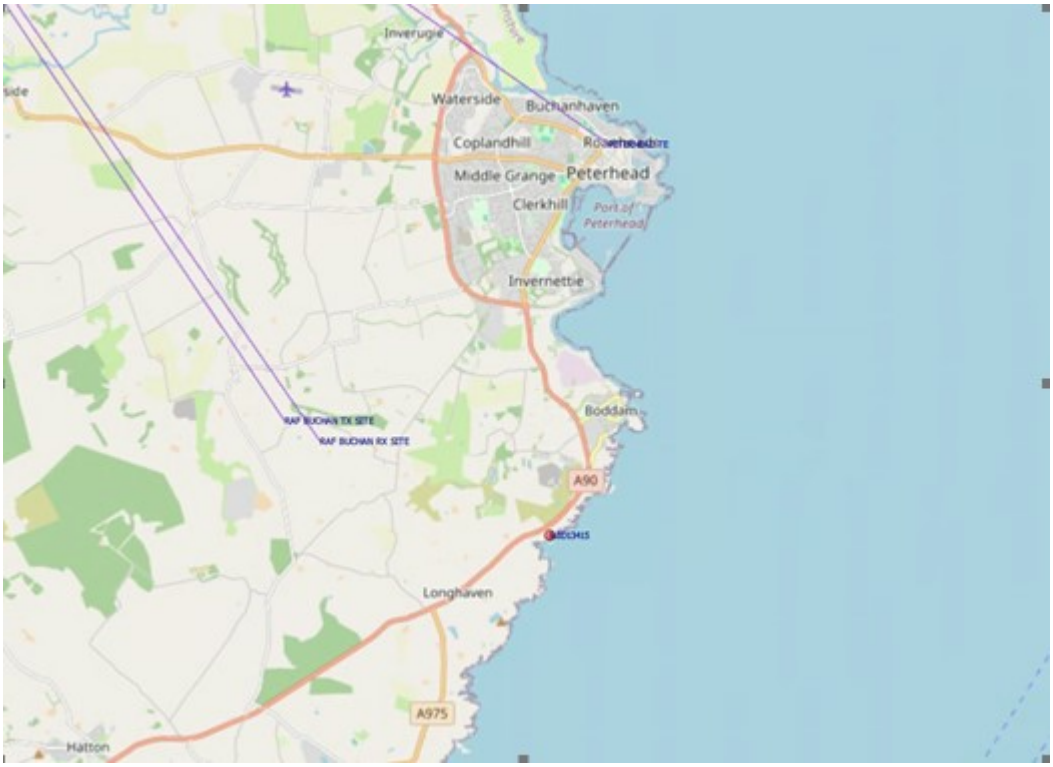
OUR REF:- WID13415

Good morning

Thank you for your email dated 13/02/2025

We have studied the proposed off-shore windfarm development with respect to EMC and related problems to BT point-to-point microwave radio links.
The conclusion is that the Project indicated should not cause interference to BT's current and presently planned radio network.

Kind Regards
Chris

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Campion Wind Limited

From: SMART, DUNCAN [Redacted]
Sent: 04 April 2025 11:24
To: MD Marine Renewables
Cc: Eakin, Richard; Moses, Aled J SI-DRN/E/EE
Subject: Cenos Offshore Wind Farm Consenting Applications - Representation by CampionWind Limited
Attachments: CENOS Offshore Wind Farm ECC_CampionWind Representation_FINAL SIGNED.pdf

Objective: -1

Hello,

I am writing on behalf of CampionWind Limited to submit the attached letter of representation in respect of relevant consenting applications for the proposed Cenos Offshore Floating Wind Farm. The representation specifically relates to the marine licence application for the construction and operation of proposed electricity transmission works within Cenos' proposed offshore export cable corridor.

I trust that the terms of the representation are clear, however should you have any queries or require further information please contact my colleagues Richard Eakin (CampionWind Project Director) and Aled Moses (CampionWind Development Manager) who are CC'd to this email. In the first instance, could you please acknowledge receipt of this representation.

Kind regards,
Duncan

ScottishPower Renewables

Duncan Smart MRTPI | Senior Planning & Environmental Policy Manager

320 St Vincent Street, GLASGOW, G2 5AD
[Redacted]

Internal Use

CampionWind

CampionWind Ltd
Registered office
50 Lothian Road, Festival Square,
Edinburgh, Scotland, EH3 9WJ
Internet: https://www.campionwind.co.uk

Marine Directorate - Licensing Operations Team
Scottish Government
375 Victoria Road
Aberdeen AB11 9DB

For the attention of:
Lauren Cowan – MD-LOT Cenos Case Manager

04 April 2025

Dear Sir/Madam,

Reference: **Cenos Floating Offshore Wind Farm – Representation by CampionWind Limited**

I am writing on behalf of CampionWind Limited (Ltd) to submit this representation in respect of relevant consenting applications for the proposed Cenos Offshore Floating Wind Farm ('the Cenos project'). The representation specifically relates to the marine licence application for the construction and operation of proposed electricity transmission works within Cenos' proposed offshore export cable corridor (ECC), a section of which lies in close proximity to CampionWind Limited's development interests.

CampionWind Limited (Ltd) is a 50/50 Joint Venture company between Shell New Energies Holding Limited (Shell) and ScottishPower Renewables (SPR) United Kingdom (UK) Limited. In January 2022, Crown Estate Scotland (CES) awarded Shell and SPR an exclusivity agreement to jointly develop the project (CampionWind) within the East (E) 2B Plan Option Area, as defined in the Scottish Government's Sectoral Marine Plan for Offshore Wind Energy (2020). An Option Agreement for the CampionWind Project was subsequently signed in April 2022.

CampionWind is a proposed floating offshore wind farm with a grid connection capacity of up to 3 gigawatts (GW) and the potential to incorporate some fixed structures into the project design. On 4 April 2025, CampionWind Ltd submitted an Environmental Impact Assessment (EIA) Scoping Report for proposed wind turbine generators and associated infrastructure within a proposed offshore array area corresponding with Plan Option E2B. The Habitats Regulations Appraisal (HRA) Screening Report is due for submission by 30 April 2025.

CampionWind Ltd has reviewed the consenting applications submitted for the proposed Cenos project and notes the immediate proximity of a proposed 1-km wide ECC to the north eastern corner of Plan Option E2B and the CampionWind offshore array area therein. We acknowledge that CampionWind is referenced within a small number of chapters of the impact assessments which accompany the consenting applications for the proposed Cenos project. However, given the immediate proximity of the proposed Cenos ECC to the CampionWind offshore array area, it is important that full consideration is given by Cenos to potential project interactions and cumulative impacts. No previous bilateral engagement has taken place to date between the Cenos and CampionWind project teams in relation to project interactions at the north eastern corner of Plan Option E2B.

CampionWind

We are thus writing to highlight the need for further engagement regarding the safe and effective management of such interactions and impacts, especially with regard to the operational phase of the Cenos project at a time when CampionWind is likely to be under construction and subsequent operation (owing to later grid connection arrangements). CampionWind Ltd would welcome an opportunity to meet with the Cenos project development team to discuss these issues at the earliest convenience but also wishes to note this matter with the Marine Directorate – Licensing Operations Team to ensure that project interactions and cumulative impacts are appropriately considered in the determination of relevant consenting applications.

I trust that this representation provides sufficient details, however should you require any further information please do not hesitate to contact me.

Yours faithfully,

[Redacted]

Richard Eakin
Project Director

Edinburgh Airport

From: Safe Guarding <safeguarding@edinburghairport.com>
Sent: 04 March 2025 07:50
To: MD Marine Renewables
Cc: Safe Guarding
Subject: RE: Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation – Response Required by 4 April 2025

Good morning,

In respect of the above, I can confirm the location of this development falls out with our Aerodrome Safeguarding zone for Edinburgh Airport therefore we have no objection/comment.

With best regards,
Claire

Claire Brown
Aerodrome Safeguarding & Compliance Officer

Edinburgh Airport
Where Scotland meets the world

Our values

t: +44 (0)131 344 3845 m: [Redacted]
My working hours are Monday-Friday
www.edinburghairport.com

Edinburgh Airport Limited
Room 3/54, 2nd Floor Terminal Building
EH12 9DN, Scotland

Fisheries Management Scotland

From: Alan Wells [Redacted]
Sent: 01 May 2025 14:31
To: MD Marine Renewables; Claire Speedie; Caroline Cowan
Cc: Lauren Cowan; Kirsten Watson
Subject: RE: Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation- Response chase-up

Objective: -1

Dear Judith,

Thank you for getting in touch. Unfortunately, we did not have the capacity to respond to this development. As you may be aware, we managed to respond to three or the four or five proposed developments for which we received extensions. This is an ongoing issue for our sector, and should not, by any means, be taken as a lack of interest, or implied satisfaction with the proposal in question.

I would like to set up a discussion with MD-LOT and relevant policy officials to explore how we can better ensure that the interests of wild migratory fish are fully captured in the planning process for offshore renewables. Can you advise who should be in attendance at this suggested please?

Kind regards,

Alan

Dr Alan Wells | CEO
Fisheries Management Scotland
11 Rutland Square, Edinburgh, EH1 2AS
Tel: 0131 221 6567 | [Redacted]
www.fms.scot

Fishery Office, Peterhead

From: William Harris on behalf of FO Peterhead
Sent: 08 April 2025 10:00
To: Judith Horrill
Subject: RE: Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation – Nil Response Assumed

Objective: -1

Hi Jude,
Apologies for no response.
If the scallop associations and inshore associations have been contacted by yourselves, that should suffice.
We don't really have much activity there from local vessels, so a nil response from us, as anticipated.
Regards,
Billy

William A. Harris

Senior Operations Officer

Operations - Marine Directorate

Scottish Government, Area Office, Caley Buildings, 28-32 Harbour Street Peterhead. AB42 1DN

Tel: 0044 (0)300 244 9200 (Office)

Tel: 0044 (0)300 244 9186 (Direct)

Fax: 0044 (0)300 244 9201

E-mail:[Redacted] W:www.scotland.gov.uk/marinescotland

Historic Environment Scotland

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

By email:
MD.MarineRenewables@gov.scot

Marine Directorate (Marine Renewables)
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

Enquiry Line: 0131 668 8716
HMConsultations@hes.scot

Our case ID: 300064573
Your ref: 00011090/00011091
11 March 2025

Dear Marine Directorate

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017
Cenos Offshore Wind Farm, Central North Sea
Section 36 Consent Application and Marine Licence Application

Thank you for consulting us on the Environmental Impact Assessment (EIA) Report and associated planning applications. We received the consultation on 14 February 2025.

We have reviewed the report and considered the proposed development in terms of our historic environment interests. This covers World Heritage Sites, scheduled monuments and their settings, category A-listed buildings and their settings, inventory gardens and designed landscapes, inventory battlefields and Historic Marine Protected Areas.

The relevant cultural heritage advisors will also be able to offer advice on impacts on the historic environment. This may include topics covered by our advice-giving role, and also other topics such as unscheduled archaeology, category B and C listed buildings, and conservation areas. In this instance you should contact the Aberdeenshire Council Archaeology Service (archaeology@aberdeenshire.gov.uk).

From 1 January 2025 we no longer provide advice on undesignated underwater cultural heritage. This includes the preparation of documents for post-consent activities including Written Schemes of Investigation or Protocols for Archaeological Discoveries. For EIA projects, the relevant competent authority must ensure that they have access to sufficient expertise to examine the EIA Report in accordance with the relevant regulations.

Our advice

We have considered the information received and do not have any comments to make on the proposals. Our decision not to provide comments should not be taken as our support for the proposals. This application should be determined in accordance with national and

local policy on development affecting the historic environment, together with related policy guidance.

Further information

Decisions that affect the historic environment should take the Historic Environment Policy for Scotland (HEPS) into account as a material consideration. HEPS is supported by our Managing Change guidance series.

We hope this is helpful. If you would like to submit more information about this or any other proposed development to us for comment, please send it to our consultations mailbox, hmconsultations@hes.scot. If you have questions about this response, please contact Sam Fox at [Redacted]

Yours sincerely

Historic Environment Scotland

Highlands and Islands Airports Limited

From: Safeguarding <Safeguarding@hial.co.uk>
Sent: 27 March 2025 11:27
To: MD Marine Renewables
Cc: Safeguarding
Subject: RE: Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation – Response Required by 4 April 2025

Objective: -1

OFFICIAL

OFFICIAL

Our Ref: 2025-063-INV

Dear Sir/Madam,

Proposal: Flotation Energy Limited – Cenos Offshore Wind Farm – Central North Sea, approximately 200 km east of Aberdeen.

With reference to the above proposal, this development falls outwith the safeguarding criteria for all 11 Highlands and Islands Airports Limited (HIAL) Airports. Therefore, HIAL have no comment to make and need not be consulted further.

Best regards,
Safeguarding Team

Safeguarding
Highlands and Islands Airports Ltd
Inverness Airport Dalcross IV2 7JB
www.hial.co.uk

Hywind Scotland

From: Reinier Zoutenbier [Redacted]
Sent: 02 April 2025 13:32
To: MD Marine Renewables
Cc: Andy Edgar; Polly Haslam; William Munn; John Wawer; Mark Boon
Subject: RE: Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation – Response Required by 4 April 2025

Categories:
Objective:

Good afternoon

Apologies for the incorrect wording. I can confirm that our response remains the same.

For completion I have updated the below.

On behalf of the Hywind Scotland project, please see our response below.

Thank you for consulting Hywind Scotland, we would request we continue to be considered as a potentially impacted party and are consulted as such. At this time, we have no further comments on the Section 36 consent and marine licence applications.

Thanks
Reinier

[Redacted]

Joint Nature Conservation Committee

NatureScot
Scotland's Nature Agency
Buidheann Nàdair na h-Alba

Marine Directorate
Scottish Government
Marine Laboratory
Aberdeen
AB11 9DB

16 April 2025

Our ref: CNS REN OSWF INTOG - Cenos

Sent by email only

Dear Judith,

CENOS OFFSHORE WIND FARM

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND MARINE LICENCES UNDER PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 TO CONSTRUCT AND OPERATE THE CENOS OFFSHORE WIND FARM

Advice on the East of Gannet and Montrose Fields Nature Conservation Marine Protected Area

Thank you for allowing further time to enable the provision of advice on the above Application in respect of the East of Gannet and Montrose Fields Nature Conservation Marine Protected Area (NCMPA). Advice on all other aspects of this proposal are provided in our letter of 07 April 2025.

This response provides advice from JNCC, who are responsible for the management of this protected site. This advice focusses solely on impacts on the Nature Conservation Marine Protected Area – East of Gannet and Montrose Fields MPA assessment including the Measures of Equivalent Environmental Benefit (MEEB) and Implementation Strategy submitted without prejudice to accompany the Application.

Identification and Planning of INTOG sites

The Scottish Government (SG) promote a plan led system for offshore wind through sectoral marine planning to facilitate the sustainable development of offshore renewable energy in Scottish waters with the publication of the Sectoral Marine Plan for Offshore Wind Energy

(SMP-OWE) in October 2020. The award of Option Area agreements from the associated ScotWind leasing round, managed by Crown Estate Scotland (CES), were announced in January 2022.

The SMP-OWE (2020) identified a need to consider a planning process to enable targeted projects specifically to electrify oil and gas infrastructure. In response, the SG published an Initial Plan Framework (IPF) for a Sectoral Marine Plan for Offshore Wind for Innovation and Targeted Oil and Gas Decarbonisation (SMP-INTOG) in February 2022, to enable projects to progress through the planning and seabed leasing process under the 'Targeted Oil and Gas Decarbonisation' (TOG) category, providing they met a number of criteria.

The IPF also set out next steps in the planning process including the opportunity to provide further advice through the consultation on the Draft Plan (SMP-INTOG) and its associated assessments. In March 2024, the SG indicated that the iterative plan review update to the SMP-OWE (2020) would provide the planning framework for both the ScotWind and INTOG leasing rounds. It will include a plan-level NMPA assessment which may conclude that the Plan will hinder the Conservation Objectives for this NCMPA. The Plan is expected to be finalised and adopted in autumn 2025.

The Cenos floating offshore windfarm array is the only proposed development (ScotWind or INTOG) within a draft Option Area (E-a) sited wholly within a NCMPA.

Proposal

The proposed development is located approximately 200km east of Aberdeen in the central North Sea within the East of Gannet and Montrose Fields NCMPA and includes an Array Area (covering an area of 333 km^2) and an Export/Import Cable Corridor (EICC). The proposal, which follows a project design envelope (PDE) approach, comprises:

- Up to 95 Floating Turbine Units (FTUs) each with a Wind Turbine Generator (WTG) and either tension leg platform (TLP) or semi-submersible floating substructures that will be anchored to the seabed.
- A maximum rotor blade tip height of 320m; a maximum rotor blade diameter of 280m and a minimum rotor blade tip to mean sea level of 22m with 15-, 18- and 21-Megawatt (MW) WTG options being considered.
- Up to nine mooring line tendons per TLP substructure with a tension mooring design, and up to six mooring line tendons per semi-submersible with either a semi-taut or taut mooring design.
- Up to 6 anchors per substructure comprising suction or driven anchor piles. Suction embedded plat anchors and other novel piling methods are considered. Scour protection may be required around anchors.
- Up to 2 Offshore Substation Converter Platforms (OSCPs) to be located within the Array Area on fixed bottom jackets foundations linked via a bridge-link with a 50m space between each jacket. Mud mats, cable and scour protection may be required for OSCPs.
- 350km of Inter Array cables (AICs) including 280km of buried static cable and 70km of dynamic cabling to connect the WTGS to the OSCPs. Dynamic cabling will be secured

to the seabed via gravity or novel anchoring and will require touch down protection. Depending on IAC layout up to 19 subsea hubs may be required.

- An Export / Import cable bundle comprising two High Voltage Direct Current (HVDC) cables and fibre optic cable in a single trench spanning 230km from the OSCP to landfall at Longhaven.
- A minimum of 70, 000m^2 rock protection is required.
- An anticipated operational life of 35 years and up to 6 years of construction with 24 hours working and potential for seasonal campaigns to account for poor winter weather. Decommissioning is expected to be similar in duration to construction.

East of Gannet and Montrose Fields NCMPA

The East of Gannet and Montrose Fields Nature Conservation Marine Protected Area is designated and managed by JNCC for its rare offshore deep sea muds feature and ocean quahog aggregations including sands and gravels as their supporting habitat.

This NCMPA is one of only two sites designated for offshore deep sea muds feature, the other being the North-east Faroe Shetland Channel NCMPA. As such East of Gannet and Montrose Fields NCMPA is a critical representation of the offshore deep sea muds feature and the biological communities it supports across the MPA network.

Almost all of the feature attributes of this NCMPA have a *Recover* objective by virtue of historic and ongoing pressures associated with oil and gas infrastructure, cabling and fishing activity. The *Recover* objective highlights the limited tolerance of the site's features / attributes to continued and ongoing pressure and activities. The nature and extent of this proposal is in direct conflict with the *Recover* objectives prescribed to the majority of the East of Gannet and Montrose Fields feature attributes.

JNCC advice summary

JNCC have reviewed the MPA assessment that accompanies the EIA Report and disagree with the conclusions and justification provided. Noting that the assessment provided is not of the quality or standard expected and that potential impacts are likely to have been underestimated.

JNCC advice is that this proposal is capable of affecting, other than insignificantly, the offshore deep sea muds and ocean quahog features of East of Gannet and Montrose Fields NCMPA. Consequently, Marine Directorate is required to carry out an assessment to determine if there is a significant risk of hindering the achievement of the conservation objectives.

JNCC consider the proposal will result in a significant risk of hindering the achievement of the conservation objectives of the NCMPA and has the potential to compromise the coherence of the Network with respect to the offshore deep sea muds feature, noting its rarity as outlined above.

As such, JNCC object to the impacts arising from the siting of an offshore windfarm within this NCMPA.

Additionally, JNCC provide consideration of alternatives, providing analysis on alternative potential locations to avoid impacts to this NCMPA.

Detailed advice is provided in Appendix A.

NatureScot have considered the advice from JNCC and support the rationale and conclusions reached in their advice.

Further information and advice

If Marine Directorate are minded to consent this Application, we request joint involvement in further discussions around the siting and design of the windfarm including linkages with any onwards connection(s) and associated future Applications, the package of MEEB measures and any potential consent conditions.

We also consider Offshore Wind Directorate should be involved in these discussions, not least to help inform the conclusions of the draft Plan assessments, but also any recommendations that may arise as part of the Plan process.

We hope this advice is helpful.

For any aspect to do with the NCMPA and this letter please contact Richard Shelmerdine [Redacted] or Karen Millichip [Redacted] copying in NatureScot. For NatureScot, please contact Joe Nisbet [Redacted] or Karen Taylor [Redacted] for any further advice, copying in our marine energy mailbox – marineenergy@nature.scot.

Yours sincerely,

Erica Knott

Head of Marine Energy, Sustainable Coasts and Seas

[Redacted] / 01738 458674

Inverdee House, Baxter Street,
Aberdeen, AB11 9QA, United Kingdom

Email: OIA@jncc.gov.uk
Tel: +44 (0) 1224 266550
jncc.gov.uk

Appendix A

1 JNCC Advice on Cenos Offshore Wind Farm – Marine Protected Area Assessment – (JNCC Ref OIA-10685)

JNCC's role in relation to offshore renewables has been delegated to NatureScot. NatureScot is now authorised to exercise JNCC's functions as a statutory consultee in respect of certain applications for offshore renewable energy installations in inshore and offshore waters (0-200nm) adjacent to Scotland.

JNCC however, maintains responsibility for offshore Marine Protected Areas (MPAs). Cenos is a Targeted Oil and Gas (TOG) proposed project within the Innovation and Targeted Oil and Gas (INTOG) Area E-a. The Cenos Offshore Wind Farm Array Area and part of the Export/Import Cable Corridor (EICC) are located within the East of Gannet and Montrose Fields Nature Conservation Marine Protected Area (NCMPA) and Turbot Bank NCMPA is located 6km from the EICC and 122km from the Array Area. As such, JNCC have provided the following advice in relation to the Cenos Offshore Wind Farm Environmental Impact Assessment (EIA) Report to provide a view on nature conservation matters related to the East of Gannet and Montrose Fields NCMPA and Turbot Bank NCMPA. JNCC have not reviewed other parts of this application and will not be providing comment on parts other than those relevant to the NCMPA assessments. For all other advice, we defer to NatureScot.

2 Headline advice

JNCC **objects** to this application on marine nature conservation grounds.

JNCC considers that the proposed operations are likely to affect, other than insignificantly, the protected features of the East of Gannet and Montrose Fields NCMPA and therefore we **object** on marine nature conservation grounds. The NCMPA is currently considered to be in '*unfavourable*' condition and any additional impact on the NCMPA will bring it further away from achieving its conservation objective, which states that:

- so far as not already in favourable condition, be brought into such condition, and remain in such condition.

3 Rational for Objecting to the proposed operations

Our objection is based on a number of elements which we highlight here and provide detailed information on in the following sections. The objection is based on information provided by the Applicant, which JNCC does not consider to be complete. We have highlighted where we consider information to be missing, insufficient, lacking, or incorrect.

However, we believe that further information from the Applicant to address these issues will only strengthen our objection to the proposed project in the current location, given we consider the current assessment is likely an underestimate of impacts. JNCC consider that each of the following project elements (summarised below) would, individually, be sufficient to justify an **objection** to this proposed application within East of Gannet and Montrose Fields NCMPA.

- East of Gannet and Montrose Fields NCMPA is considered to be in unfavourable condition with 'Recover' objectives for both of the designated features of 'offshore deep sea muds' and 'ocean quahog aggregations (including sands and gravels as their supporting habitat)'. As such any further impact to the site moves it further away from its conservation objective of being brought into favourable condition and could impact the resulting long-term status to the 'offshore deep sea muds' and may compromise the adequacy of the Scottish MPA network within the OSPAR Region II (see Section 5.1.1, East of Gannet and Montrose Fields NCMPA).
- JNCC consider that all impacts (permanent and temporary) from the proposed operations to the East of Gannet and Montrose Fields NCMPA are sufficient enough to hinder achieving the site's conservation objectives and therefore are sufficient enough to justify an **objection** (see Section 5.2, Site specific impacts).
- JNCC consider the permanent impacts from the proposed operations to the East of Gannet and Montrose Fields NCMPA, alone, to be sufficient enough to hinder achieving the site's conservation objectives and therefore are sufficient enough to justify an **objection** (see Section 5.2, Site specific impacts).
- JNCC consider that the MPA Assessment was insufficient to allow for a clear assessment of the impacts to the East of Gannet and Montrose Fields NCMPA, its designated features, and their associated attributes (see Section 6.2, MPA Assessment). As such, we do not agree with the Applicant's conclusions that the proposed project "*would not have the potential to hinder achievement (other than insignificantly) of the conservation objectives*" and **object** to this application.
- JNCC consider that the onward cable connections, which are a critical, and essential, component of this TOG project, may pose a significant risk of hindering the achievement of the conservation objectives for East of Gannet and Montrose Fields NCMPA when considered in-combination with this and other projects (see Section 6.3, In-combination effects – onward connections) and therefore JNCC **objects** to the proposed project.
- JNCC also consider there to be a feasible alternative location outside of East of Gannet and Montrose Fields NCMPA which the Applicant has not adequately considered (see Section 5.3, Availability of suitable alternative location) as part of the first of three mitigation hierarchy tests required under the Marine and Coastal Access Act 2009. Given the project seeks to go ahead within East of Gannet and Montrose Fields NCMPA, rather than the preferrable alternative location, which would not compromise the adequacy of the Scottish MPA network, alongside the outstanding Scottish Offshore Wind Sectoral Plan to guide development locations, JNCC **objects** to this application.

JNCC consider that each of the following project elements (summarised below) on their own would not be sufficient enough to justify an objection to this proposed application within East of Gannet and Montrose Fields NCMPA. However, there is insufficient information for each of the elements listed below to allow for a complete and comprehensive analysis of impacts to the NCMPA and when considered alongside any of the elements listed above, these further strengthen the justification for our **objection**.

- Decommissioning has not been fully considered in relation to environmental impacts. Nor has sufficient regard been given to assessing the feasibility of infrastructure removal using current technology (see Section 6.2.9, Decommissioning).
- JNCC believe that the Applicant has not fully considered all impacts to the marine environment within East of Gannet and Montrose Fields NCMPA, this includes insufficient regard to potential mitigation (see Section 5.2, Site specific impacts and Section 6.1.2, Discrepancies and omissions of impacts).

Given all of the above, JNCC consider that this new proposal within the East of Gannet and Montrose Fields NCMPA would likely hinder the achievement of the conservation objectives of the site and as such require consideration of Measures of Equivalent Environmental Benefit (MEEB), if all other appropriate tests for NCMPAs have been met under the Marine and Coastal Access Act 2009. Please refer to our detailed comments on MEEB in Section 5.4, Measures of Equivalent Environmental Benefit (MEEB) and Implementation Strategy.

4 Our understanding of the proposal

The proposed project is located in the Central North Sea, approximately 200km east of Aberdeen, within INTOG Area E-a. The proposed project is a TOG floating offshore wind farm aiming to electrify nearby offshore oil and gas platforms to help decarbonise the oil and gas industry. The Array Area and part of the EICC are located within East of Gannet and Montrose Fields NCMPA. The onward cable connections to decarbonise the oil and gas fields are not part of this application but have been addressed by the Applicant in Chapter 22, 'Statement of combined effects'. These onward cable connections will add to the overall impact on East of Gannet and Montrose Fields NCMPA.

The proposal uses a project design envelope approach and comprises up to 95 floating wind turbine generators (WTGs) with a generating capacity of up to 1.35GW, associated floating foundations, mooring systems, anchors, up to two offshore substation convertor platforms (OSCPs), inter-array cables (IACs), and the EICC. The proposed operational lifetime for the development is 35 years with construction estimated to take up to six years.

5 Key considerations

5.1 Nature Conservation Marine Protected Areas (NCMPA)

5.1.1 East of Gannet and Montrose Fields NCMPA

The East of Gannet and Montrose Fields NCMPA was designated in 2014 for the features '*offshore deep sea muds*' and '*ocean quahog aggregations (including sands and gravels as their supporting habitat)*'. The site comprises one of only two representative examples of

‘offshore deep sea muds’ in the Scottish MPA network (the other site being North-east Faroe-Shetland Channel NCMPA) within the OSPAR Region II Greater North Sea which intersects with Scottish waters. The site also supports ocean quahog, a feature considered under threat/subject to decline across the Northeast Atlantic (OSPAR Agreement 2008-06), as well as being a Priority Marine Feature (PMF) in Scotland’s seas.

In August 2024, the conservation advice package was updated for East of Gannet and Montrose Fields NCMPA following further site surveys and an assessment of activity levels within the site. Based on the survey results JNCC’s understanding of the distribution of ‘offshore deep sea muds’ changed from a stretch of ‘offshore deep sea muds’ to 49% of the southeastern portion of the site now representing this feature (see JNCC MPA Mapper). We also assessed the increasing activity levels and corresponding pressures within the site since designation (as noted in our Supplementary Advice on Conservation Objectives) and updated our conservation objectives for the attributes of the features accordingly (Table 1).

Table 1. Updated conservation objectives for the attributes of the features in East of Gannet and Montrose Fields Nature Conservation Marine Protected Area.

Feature	Condition	Attribute	Objective
Offshore deep sea muds	Unfavourable	Extent and distribution	Recover
		Structure and function	Recover
		Supporting processes	Conserve
Ocean quahog aggregations (including sands and gravels as their supporting habitat)	Unfavourable	Extent and distribution	Recover
		Structure and function	Recover
		Supporting processes	Recover

From this analysis, JNCC’s conclusion was that, due to the increasing impacts from oil and gas and cabling activities (most notably introducing hard substrata to the seabed via protective materials such as rock dump and mattresses), this will continue to affect the ‘offshore deep sea muds’, specifically the attributes extent and distribution as well as structure and function, and move the feature further away from achieving its conservation objectives of being in favourable condition. Additionally, the structure and function of the feature has seen continued pressure from fishing activities in the site that cause abrasion/ disturbance of the substrate on the surface of the seabed and penetration/disturbance of the substrate below the surface of the seabed.

With regard to ocean quahog, the site is known as a sink for the feature (as noted in our Supplementary Advice on Conservation Objectives). Noting the conservation status of this PMF, as laid out above, and ongoing pressures from both fishing activities and other industry activities that may result in changes in substrata and as such the natural extent of the ocean quahog’s supporting habitat, as well as in mortality of settled individuals, it was considered

that a ‘Recover’ objective was justified, as activity levels were moving the feature further away from achieving its conservation objectives of being in favourable condition. This PMF feature is also provided protection under policy GEN 9 Natural Heritage of Scotland’s National Marine Plan, which states that “*Development and use of the marine environment must…..not result in significant impact on the national status of Priority Marine Features.*”

In addition, the site also provides wider ecosystem services in relation to carbon cycling and nutrient regulation. Please refer to Section 6.4.2, Organic carbon storage, for further advice in relation to this aspect.

Given all of the above, JNCC consider that any new infrastructure within the East of Gannet and Montrose Fields NCMPA would likely hinder the achievement of the conservation objectives of the site and as such require consideration of Measures of Equivalent Environmental Benefit (MEEB), if all other appropriate tests for NCMPAs have been met under the Marine and Coastal Access Act 2009. Furthermore, the resulting long-term impact to the ‘offshore deep sea muds’ may compromise the adequacy of the Scottish MPA network within the OSPAR Region II, noting our above comment on the representativeness of this feature within the Scottish MPA network as a whole.

JNCC has been consistent in our application of this principle across industry sectors, noting our recent advice on the 33rd Oil and Gas licensing round (advice available on request to Marine Directorate) where JNCC and Natural England advised that;

> “*no new Oil and Gas infrastructure within benthic MPAs with a restore/recover objective…should be permitted.*”

and

> “*as per the mitigation hierarchy, we advise that site avoidance be considered for all other benthic MPAs in UK waters.*”

This is also in-line with ongoing advice from JNCC on sector applications within this NCMPA where we have objected to smaller permanent impacts from oil and gas infrastructure that result in habitat loss, than those proposed by the Applicant here. It also reflects our ongoing understanding that industry operations within the site, in relation to cable burial and associated scour protection, typically require substantially more protection than initially anticipated. In addition, it is also consistent with JNCC advice on fisheries impacts to the site and proposed management measures in order to help the site meet its conservation objectives.

As such the current status of the NCMPA, along with the following sections of our advice in relation to impacts from the proposed development (see Sections 5.2, Site specific impacts and 6.1, Scale of impacts), and the uncertainties surrounding the delayed Iterative Plan Review for the Sectoral Marine Plan for Offshore Wind Energy (SMP-OWE) (2020), and potential for an alternative location for this development (see Section 5.3, Availability of suitable alternative location), lead us to the conclusion that this development will significantly hinder the achievement of the conservation objectives of East of Gannet and Montrose Fields NCMPA.

5.1.2 Turbot Bank NCMPA

Turbot Bank NCMPA is designated for 'sandeels'. The protected feature of the site ('sandeels') is considered to be in '*favourable*' condition. The conservation objectives for the Turbot Bank NCMPA is that the protected feature is:

- so far as already in favourable condition, remain in such condition; and
- so far as not already in favourable condition, be brought into such condition, and remain in such condition.

With respect to the 'sandeels', this means that the quality and quantity of its habitat and the composition of its population are such that they ensure that the population is maintained in numbers which enable it to thrive.

Turbot Bank NCMPA is located 6km from the EICC and 122km from the Array Area and the only impact pathway considered in the MPA Assessment for Turbot Bank NCMPA is underwater noise arising from UXO clearance which NatureScot addressed in their advice (dated 7 April 2025) and we agree with that advice.

5.2 Site specific impacts

JNCC do not agree with the Applicant's conclusion that potential effects from the proposed project will "*not have the potential to hinder achievement (other than insignificantly) of the conservation objectives*" for the designated features 'offshore deep sea muds' or 'ocean quahog aggregations (including sands and gravels as their supporting habitat)'. The Applicant has not considered the magnitude of effects in relation to the 'Recover' objectives of all but one of the features' attributes (see Section 5.1, Nature Conservation Marine Protected Areas (NCMPA)). The magnitude of the impacts within the NCMPA is greater than any impacts on the site to date from all other industries that we have advised on.

All impacts (permanent and temporary) from the proposed operations to the East of Gannet and Montrose Fields NCMPA cover a total area of **22,680,000m^2**, including the estimate for 'smothering and siltation rate changes (light)'. The East of Gannet and Montrose Fields NCMPA: Advice on Operations spreadsheet, downloadable from the Site Information Centre, lists both the 'offshore deep sea muds' and the 'ocean quahog supporting habitat' as being sensitive to 'smothering and siltation rate changes (light)' for the construction, operation and maintenance, and decommissioning phases for offshore wind and power cable activities. JNCC consider that 22,680,000m^2 would be a significant impact to the NCMPA and its designated features, particularly the 'offshore deep sea muds'.

A minimum estimate of the total project footprint for the worst-case scenario within East of Gannet and Montrose Fields NCMPA was **8,280,954m^2** of permanent and temporary impacts. Long-term impacts to the seabed and benthic habitats accounted for 1,550,048m^2 which includes an estimated **70,000m^2** of permanent rock dump. We note, however, that not all impacts have been accounted for and the impacts listed here do not consider decommissioning. Therefore, it is expected that the actual permanent and temporary impact value will be higher. Based on JNCC's recent experience with oil and gas decommissioning in the area, we note that a significant quantity of rock dump was required as remediation to fill anchor mooring depressions. The depressions would be analogous to the 3m deep holes left after cutting anchor piles and pin piles during decommissioning from this proposed

project. If rock remediation were subsequently required, the additional permanent impact would be 28,390m^2, increasing the impact from permanent rock dump from 70,000m^2 to 98,390m^2. The inconsistencies between chapters of impact estimates (see Section 6.1.2, Discrepancies and omissions of impacts, and Section 6.6, Quality of submission) also adds to uncertainties in impact values and subsequent conclusions.

Additionally, for the onward cable connections, required to electrify surrounding oil and gas platforms, an estimated worst-case scenario of 200km of High Voltage AC (HVAC) cabling could be installed within the Array Area, which falls within East of Gannet and Montrose Fields NCMPA. This estimate does not account for cabling outside the Array Area but still within the NCMPA. In comparison, within the array area, there will be the buried inter-array cables from the proposed project which are estimated to be 280km in length (total cable length of 350km) plus 35km of the export/import cable. Based on this worst-case scenario, an estimated **585km of cabling** could be installed within the East of Gannet and Montrose Fields NCMPA, for this proposed project and the onward cable connections, (this does not include the onward cable connections outside the Array Area but still within the NCMPA). The Applicant has estimated that the onward development may comprise up to a maximum of ten HVAC cables that will be laid in up to three pre-determined, but unofficial[1], corridors for oil and gas operators to bundle their cables together. JNCC commend the Applicant for efforts to try and reduce impact to the NCMPA, however, in our experience with oil and gas operators and marine renewables developers such an approach is quite complex as there will be a requirement for similar timescales between operators and the operators will have to consider legal aspects around liability before being able to bundle cables together. We have found that there is a reluctance to pursue such approaches. If onward connection cable corridors are not secured within the mitigation measures and Marine Licence there is a high likelihood of multiple, independent cable routes connecting to the OSCPs. This will add to the overall impact to the East of Gannet and Montrose Fields NCMPA through cable burial and additional rock dump at cable and pipeline crossings, as well as at OSCPs. Although rock dump has been mentioned in relation to the three pre-determined cable corridors, no values have been provided.

The Applicant has provided limited primary mitigation measures in relation to East of Gannet and Montrose Fields NCMPA and its designated features. JNCC considers that micro-siting (MM-004 from Chapter 2) within the NCMPA is an inappropriate and unfeasible measure for this location given the extent of the features in question. As the majority of the Array Area is within East of Gannet and Montrose Fields NCMPA and is within both the designated habitat 'offshore deep sea muds' but also the supporting habitat for ocean quahog, micro-siting would not be possible. These two habitats cover 100% of the NCMPA making it impossible to micro-site around them. Whilst we would welcome micro-siting around ocean quahog aggregations, we consider that there is currently no single method that effectively surveys or monitors the population status of *Arctica islandica* (ocean quahog) *in situ* making it hard to know where the aggregations are to micro-site around. Additionally, given the spatially sparse (low-resolution) evidence on seabed sediment thickness there doesn't appear to be

[1] JNCC have termed the onward cable connection corridors as 'unofficial, as the Applicant cannot guarantee these will be the routes used by oil and gas within their windfarm consent.

confidence that micro-siting to minimise scour, based on sediment thickness, could be achieved (see Section 6.4.1, Physical processes and scour).

JNCC welcomes the 'design of scour protection to minimise introduction of hard substrate' (MM-003, Chapter 2). The Applicant proposes the use of scour reduction strakes and tubular sleeves as an alternative to the traditional rock dump for scour remediation. We are unfamiliar with this technology and would require further information on their potential effectiveness and impacts on the marine environment, noting the use of novel and potentially untested methods within a NCMPA in itself carries further environmental risk. However, as already advised, any additional information on these techniques is unlikely to alter our overall conclusion on the proposal.

5.3 Availability of suitable alternative location

JNCC do not consider that the Cenos location within the East of Gannet and Montrose Fields NCMPA is fully justified nor that alternative locations have been sufficiently explored. This is further confounded by the outstanding Iterative Plan Review for the Sectoral Marine Plan for Offshore Wind Energy (SMP-OWE) (2020) which has not yet concluded on the potential location of offshore wind development overall and within NCMPAs. JNCC advised at early stages in the initial Sectoral Plan for INTOG alone that sufficient weight was not being given to MPAs outside of ornithological interest, with only Special Protected Areas (SPAs) noted as 'high' constraint (October 2021). We (JNCC and NatureScot) continue to raise concerns relating to this proposed development within a NCMPA as part of the Iterative Plan Review.

We query the justification provided that this proposed project has to be in the central location within the NCMPA given the potential oil and gas connections it is considering connecting to. JNCC believes that there is an alternate location with a centre point around 57°32'51"N 1°45'53"E which is located outside of a MPA, which is sufficiently large enough to accommodate the current proposal, does not overlap with any 6nm helicopter safety zones, is within 100km of the oil and gas locations (detailed in Chapter 4, 'Site selection and consideration of alternatives'), appears to have less fishing pressure than reported for the current proposed location (although this will need to be clarified), and is within the INTOG plan area, INTOG Area E-a. As an alternative is available and if it were to be taken forward for this Project, Measures of Equivalent Environmental Benefit (MEEB) would not need to be considered, though we have commented on the MEEB assessment provided by the Applicant (see Section 5.4, Measures of Equivalent Environmental Benefit (MEEB) and Implementation Strategy).

JNCC raised this proposed alternative location as part of our response with NatureScot (dated 23 May 2024) to the Environmental Impact Assessment (EIA) Scoping Report. The Applicant has not provided any justification as to why this location should not be used. In order to demonstrate the suitability of the proposed alternative location, JNCC carried out some over-precautionary analysis in GIS to visually demonstrate our reasoning (see Figure 1). Six nautical mile helicopter safety zones were buffered around all surface infrastructure (including infrastructure that don't require helicopter safety zones) and the current proposed location of the project (red line fill) was 're-located' to the proposed alternative location (green hashed fill). A 50km and 100km buffer was then created around the proposed alternative location centre point to demonstrate that the proposed alternative

location would still capture all of the proposed onward connection locations. The proposed alternative location would also be located on ‘deep circalittoral sand’ (EUNIS code A5.27, based on EUSeaMap 2023 data), rather than the designated ‘offshore deep sea muds’ (see Figure 2). Commercial fisheries figures within Chapter 14 indicate the average Vessel Monitoring System (VMS) effort for UK vessels at the proposed alternative location to be lower than those for the current proposed location. However, this would need more in-depth, specialist, analysis.

As detailed in the Department for Environment, Food and Rural Affairs (Defra) best practice guidance for developing compensatory measures in relation to Marine Protected Areas, “*alternative solutions or other means of proceeding should be limited to those which would deliver the same overall outcome for the activity whilst creating a substantially lower risk of impact to the MPA.*” (Defra, 2021). The proposed alternative location outlined here would eliminate the risk of impact to the NCMPA from the project (as long as onward oil and gas connections also avoided the NCMPA), whilst still contributing to Government offshore wind targets.

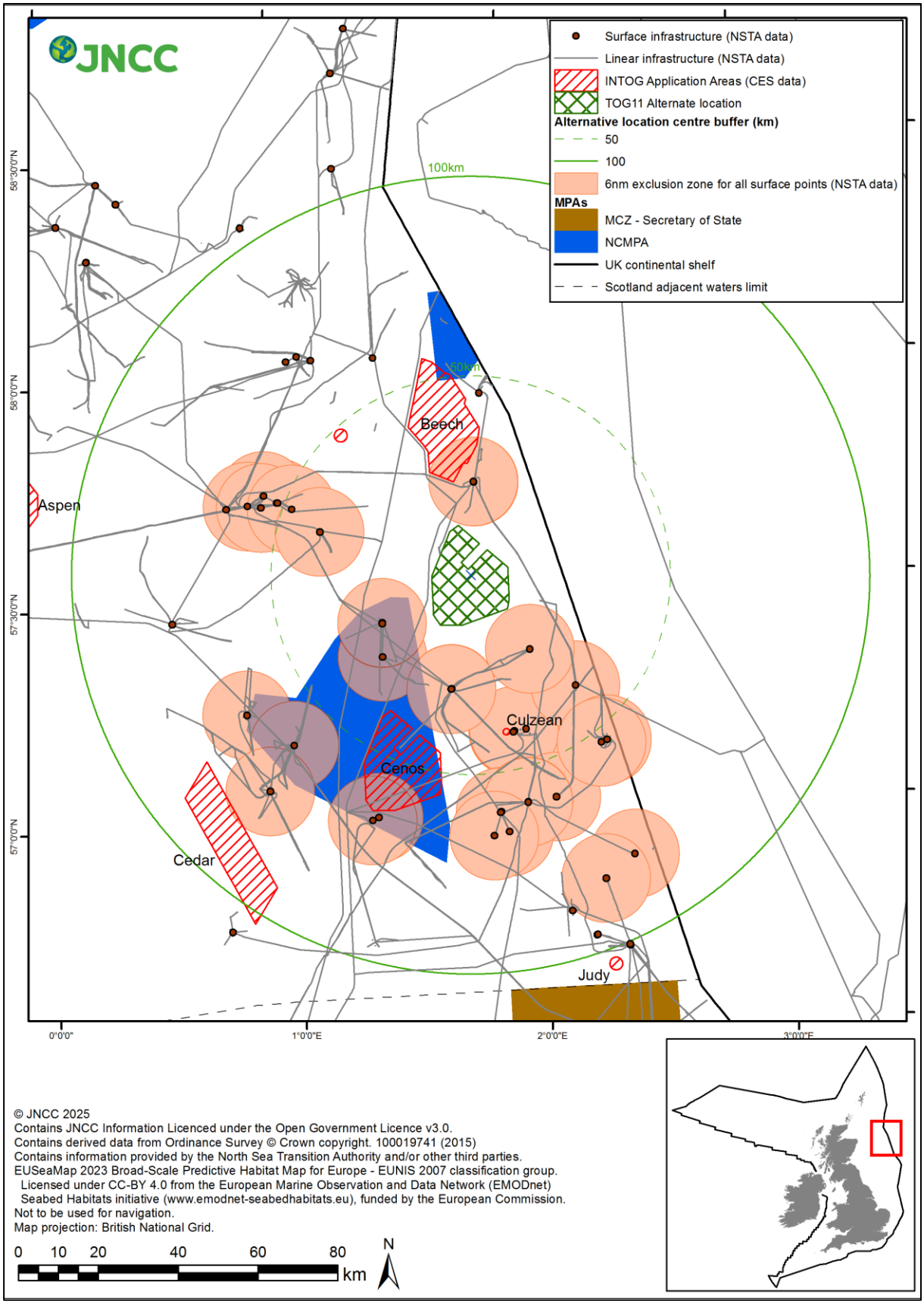

Figure 1. Proposed alternative location within INTOG Area E-a.

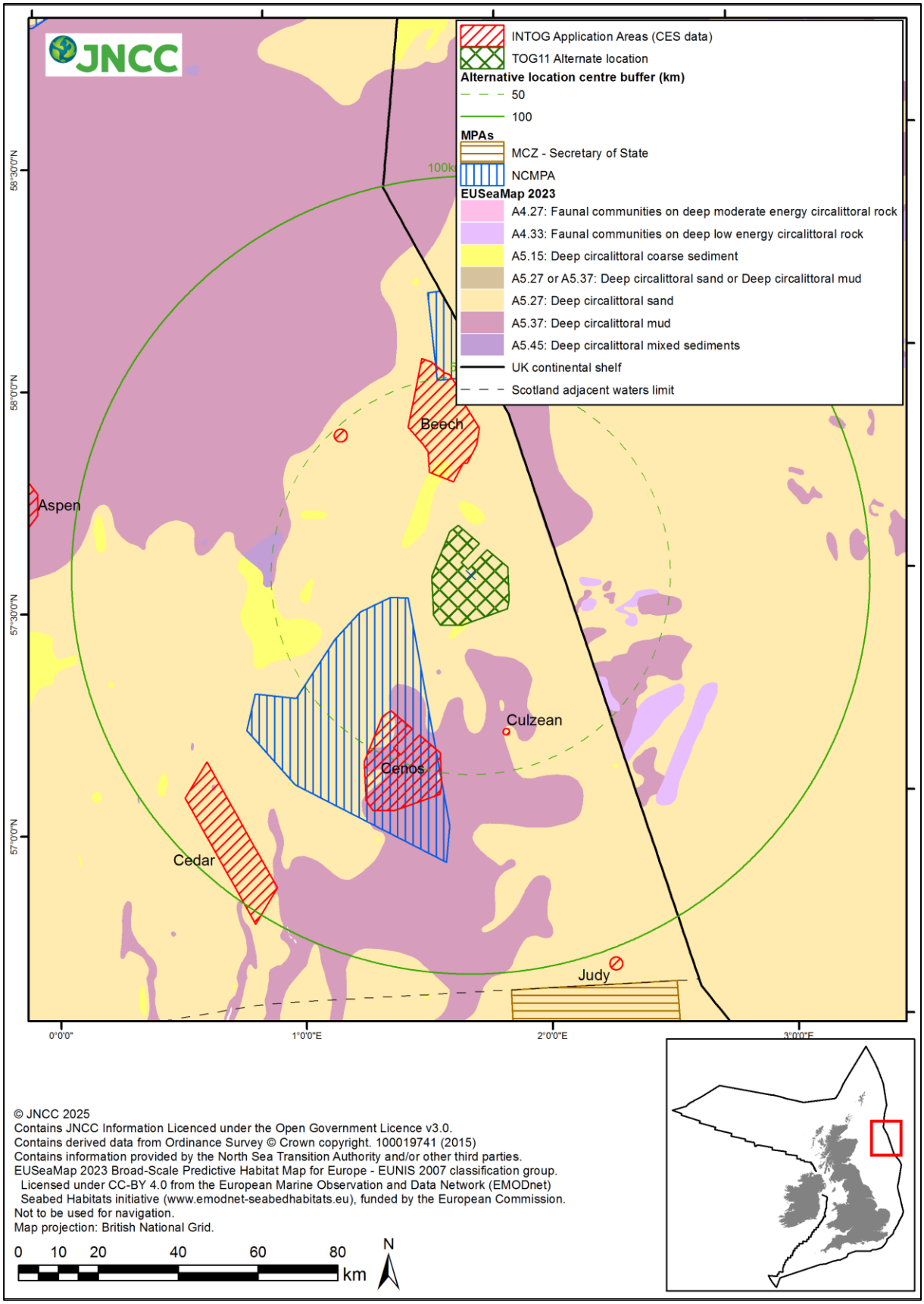

Figure 2. EUSeaMap 2023 broad-scale habitat map for the proposed alternative location.

The ‘central location’ argument within the NCMPA is further undermined by the consenting strategy the Applicant has deployed, which has changed since the original proposal. Much more certainty on potential oil and gas connections was promised during very early engagement with the Cenos project in 2022 (introductory meeting on 19 October 2022), whereas at the present time of applying for consent there is no guarantee which, if any, oil and gas connections will be made. This adds complexity to the justification of the central location in the NCMPA and also has implications in relation to overall impacts to the NCMPA from future oil and gas connections (discussed in more detail in Section 6.3, In-combination effects – onward connections). At present we are concerned we could end up with a windfarm (not a TOG project) in an NCMPA with no guaranteed oil and gas connections causing damage and undermining the MPA network, whilst there is an alternative location for this TOG windfarm and plenty of alternative windfarm locations within the proposed ScotWIND plans that do not overlap with any NCMPAs to this degree. Without the secured onward connections to oil and gas infrastructure, the proposed project would not meet the requirements of Targeted Oil and Gas (TOG) project, a “*project connected directly to oil and gas infrastructure, to provide electricity and reduce the carbon emissions associated with production*”.

The Applicant states there is no ‘do nothing option’ and that they are contributing to UK ambitions for floating wind (5GW ambition), but we would note that there are various floating wind proposals coming forward across the UK to contribute to this ambition at various stages of consenting and, as such, there are alternatives to this proposal. With specific regard to the Scottish INTOG plan process, there are alternative TOG sites within the wider INTOG leasing area (i.e. INTOG Area E-a) and beyond at various stages of the consenting process with more defined potential oil and gas connections to fulfil the TOG requirements. Furthermore, the INTOG plan itself does not set a specific GW ambition for the INTOG sites, but a cap of 4GW generating capacity from TOG projects.

Given the impacts to the NCMPA (which we believe will hinder the achievement of the conservation objectives of the site and as such the wider Scottish MPA network), the outstanding Iterative Plan Review (which should guide development locations overall and within NCMPAs) and the wider uncertainties of the Cenos consenting strategy in connecting to oil and gas developments and achieving its TOG ambitions (and lease conditions to Crown Estate Scotland) we consider alternative locations do exist and should be explored further. We provide this detail here at the Cenos application stage given we are unable to provide such detail yet to the delayed Iterative Plan Review for the Sectoral Marine Plan for Offshore Wind Energy.

5.4 Measures of Equivalent Environmental Benefit (MEEB) and Implementation Strategy

Within this EIA Report four options are proposed which we discuss below in turn. This section of our advice should be considered alongside our advice on the East of Gannet and Montrose Fields NCMPA (Section 5.1.1, East of Gannet and Montrose Fields NCMPA), impacts to the East of Gannet and Montrose Fields NCMPA (Section 5.2, Site specific impacts) and Alternatives (Section 5.3, Availability of suitable alternative location) to put it into context.

Our comments on the four MEEB proposals are:

5.4.1 Strategic compensation

Whilst we acknowledge that the Scottish Marine Recovery Fund (MRF) is under development, at present it is difficult to fully assess this proposed MEEB option as the Scottish MRF is not yet established, nor are the compensation options that the Scottish MRF may support. As such, whilst a monetary contribution is noted, JNCC can provide no further advice on the sufficiency and adequacy of the proposal as it is not linked to a specific environmental measure.

5.4.2 Removal of fishing pressure

The Scottish Government have consulted on fisheries management measure options for East of Gannet and Montrose Fields NCMPA and they are actively considering responses. As such, while no decision has been made on the wider fisheries management proposal for this NCMPA, JNCC can make no further assessment on the sufficiency and adequacy of this proposal. However, we would note that given the revised conservation objectives of East of Gannet and Montrose Fields NCMPA, the general advice of JNCC is to reduce all impacting activities within the site from current levels in order for the site to move toward achieving its conservation objectives (see Section 5.1.1, East of Gannet and Montrose Fields NCMPA).

We would also note that the impacts between the proposed development and fishing activities may not be easily comparable, i.e. are different in terms of permanent vs temporary (seasonal) impacts respectively and there is the additional loss of extent for the array development (see specifics on this impact in Section 6, Detailed advice).

5.4.3 Debris removal

Current evidence suggests this measure has not delivered adequate compensation thus far and has not managed to remove an amount of debris that is equivalent or more to the area damaged. We would suggest Marine Directorate contact the Department for Energy Security and Net Zero (DESNZ) directly for such evidence in relation to the Hornsea 3 litter removal campaign.

Collectively the shared view of the Statutory Nature Conservation Bodies is that marine debris removal is not an ecologically effective benthic compensation measure for large scale developments, as it does not offer adequate compensation, or MEEB, for long term/ permanent change/loss of benthic habitat within MPAs. Whilst marine debris removal has been stipulated as a compensation measure for some English offshore windfarms to date, it is worth noting that this was against the advice of JNCC and Natural England. We also note, on the basis of this advice, and further discussion, that the UK government no longer accepts marine debris removal as a viable benthic compensation option.

The Applicant suggests there is a large level of marine debris within East of Gannet and Montrose Fields NCMPA, yet the conservation objectives for the site do not include marine litter as a pressure of concern and it is therefore not considered a hindrance to the

conservation objectives of the site. Of the objects that Cenos have potentially identified, particularly on p32 and in Figure 3-4 of this Chapter, it is also not clear which ones they would need to remove as site clearance works for the development, and which would be contributing to MEEB.

Finally, removal of oil and gas infrastructure is being considered on a much larger scale via the Collaboration on Offshore Wind Strategic Compensation (COWSC) process, which Scottish Government are part of. As such Marine Directorate may want to reflect on this work in relation to this aspect of removal.

5.4.4 Designation of other sites

JNCC note that new designations as compensation for benthic MPAs has been approved as a strategic compensation measure via COWSC for English waters and that Scottish Government are involved in the COWSC process. However, at present, JNCC are unaware of Scottish Government policy on this measure as a possible compensation option in Scottish waters. JNCC would however reiterate our statements within Section 5.2, Site specific impacts, on our assessment of the impacts to the East of Gannet and Montrose Fields NCMPA and in Section 5.1.1, East of Gannet and Montrose Fields NCMPA, on the representativeness of the features within the Scottish MPA network.

6 Detailed advice

6.1 Scale of impacts

A minimum estimate of the total project footprint for the worst-case scenario within East of Gannet and Montrose Fields NCMPA was **8,280,954m^2** of permanent and temporary impacts. These impacts include an estimated 70,000m^2 of rock dump that will lead to a permanent habitat change of the designated features within the site. The impacts are within a wider impact area of **22,680,000m^2**, estimated for light smothering. The East of Gannet and Montrose Fields NCMPA: Advice on Operations spreadsheet, downloadable from the Site Information Centre, lists both the 'offshore deep sea muds' and the 'ocean quahog supporting habitat' as being sensitive to 'smothering and siltation rate changes (light)' for the construction, operation and maintenance, and decommissioning phases for offshore wind and power cable activities. JNCC consider that 22,680,000m^2 would be a significant impact to the NCMPA and its designated features, particularly the 'offshore deep sea muds'. It is important to note, however, that the above estimates do not include decommissioning (see Section 6.2.9, Decommissioning) and have not considered all impacts for construction, and operation and maintenance (see Section 6.1.2, Discrepancies and omissions of impacts). Based on that, the above estimated values for permanent and temporary impacts, including rock dump, should be considered as a minimum impact.

6.1.1 Permanent impact to the site – rock dump

JNCC welcomes the commitment from the Applicant to not use rock dump for cable touch down points with an alternative of concrete mattresses to be used at these locations (Section 5.6.3.1, Chapter 5). JNCC welcomes the use of concrete mattresses as an alternative on the

understanding that they will be fully removed at decommissioning. We also welcome the commitment from the Applicant to not use rock dump for cable protection (Section 5.6.3.2, Chapter 5). We note the exceptions at cable/pipeline crossings and the OSCPs but question why the use of removable concrete mattresses have not been utilised in these instances instead of rock dump.

JNCC are concerned with the proposed use of 24,448m^3 of protection material consisting of concrete mattresses, rock placement, rock bags, grout/cement bags, polyurethane Cable Protection System (CPS) and covering a 36,480m^2 area (see Table 5-12 of Chapter 5). We note that the long-term effect of the introduction of hard substratum into naturally sandy or muddy seabed is not fully understood at present and should be carefully considered by the regulators. Past operations from other industries have shown that the use of hard substrates, such as rock dump, within the protected 'offshore deep sea muds' of East of Gannet and Montrose Fields NCMPA has been underestimated by operators and ultimately required a significant increase in rock quantity in order to achieve the desired outcome. These proposed activities will therefore bring the site further away from achieving its conservation objectives.

In Section 10.6.2.3, Chapter 10, the Applicant states,

> "*the introduced rock could therefore be considered to provide surrogate substrate and ecosystem complexity that could possibly even have positive effects on productivity and diversity through colonising organisms*".

JNCC believe the Applicant's interpretation of the evidence is flawed and does not consider the designated features of the site and their conservation objectives. We would not consider a new habitat type as equating to suitable compensation for the impact and loss to the designated features of East of Gannet and Montrose Fields NCMPA. We would consider that introducing a hard substrate to a sedimentary environment to be a negative impact to the NCMPA's conservation objectives. The Applicant goes on to state that,

> "*The introduction of hard structures in a predominantly sedimentary environment/increased predation represents a minor shift away from the existing baseline conditions. Based on this, the effect is defined as being of low magnitude. Any effects are unlikely to affect the long-term functioning of the baseline benthic receptors.*"

JNCC do not agree with this conclusion. It is not clear how the Applicant has come to the conclusion that this pressure represents a "*minor shift away from the existing baseline conditions*". We note, again, that the long-term effect of introduction of hard substratum to naturally sandy or muddy seabed is not fully understood at present and should be carefully considered by the regulators. As the impacts are not fully known, the Applicant should not consider the introduction of hard substrate into a sedimentary habitat as beneficial to the area, especially within East of Gannet and Montrose Fields NCMPA which is already in unfavourable condition.

6.1.2 Discrepancies and omissions of impacts

The following highlights where we believe there may be discrepancies in the impact values either within chapters or between chapters. We also highlight impacts that the Applicant has not considered but has to consider if a full impact assessment is to be undertaken.

a) It was not clear within the EIA Report what the actual estimated footprint is. Impact values were found to differ between the MPA Assessment report and Chapter 10, 'Benthic Ecology' for values relating directly to the East of Gannet and Montrose Fields NCMPA. In addition, a number of impacts were not accounted for, including:

   - Clump weights for cut ends of disused cables
   - Jack up vessel spud cans, including during decommissioning (see Section 6.1.3, Impacts from jack-up vessels)
   - Stabilisation of spud cans in soft-sediment environments (see Section 6.1.3, Impacts from jack-up vessels)
   - Decommissioning of cable cut ends using rock dump
   - Scour and scour remediation (see Section 6.4.1, Physical processes and scour)
   - Marine growth from annual cleaning

   Based on our experience of other industries operating within East of Gannet and Montrose Fields NCMPA, JNCC have concerns about the possible underestimate by the Applicant of the quantity of rock dump that will be required (see Section 6.5, Our experience with operations in this location).

   Without a complete understanding of all the impacts involved, it is not possible to fully assess how the proposed project will affect the NCMPA and its designated features. As the Applicant has not considered all impacts, the resulting analysis by the Applicant will be an underestimate. JNCC's response is therefore based on this underestimate.

b) There is a lack of consistency between documents, in particular, but possibly not limited to, Table 10-14 of the Benthic Ecology chapter (Chapter 10) and information within the Project Description chapter (Chapter 5). Table 3-4 in the MPA Assessment does not list all the impacts, for example long-term and permanent impact from high order detonation of Unexploded Ordinance (UXOs) creating impact craters (the Benthic Ecology chapter suggested a 30m diameter crater to be a temporary impact, see JNCC's comment in Section 6.1.4, Crater creation from UXO detonation), spud cans from jack up vessels (no indication of footprint or impact, see Section 6.1.3, Impacts from jack-up vessels), and clump weights for disused cable cut ends (no indication of footprint or impact).

c) JNCC does not believe that the total seabed footprint for the Array Area has been fully calculated. The values quoted within Table 10-15, Chapter 10, of 6.03km^2 of temporary seabed footprint and 1.55km^2 of long-term seabed footprint (permanent impact footprint) does not account for the section of the EICC within the Array Area and does not account for temporary impacts from jack up vessels, impacts from clump weights for disused cut cables, and decommissioning impacts of cable cut

ends. All impact footprints need to be provided in full to allow for a complete assessment to take place.

d) Impacts from the Pre-Lay Grapnel Run (PLGR) are not clear and have not been fully estimated. The Applicant has not stated what happens to the 100m cut section of disused cable (we assume this is returned to shore) and there is no estimate to the number of disused cables that the Applicant anticipates will be found or an estimate of the permanent impact per disused cable for the two clump weights.

e) Boulder clearance has been assessed along cable routes. However, JNCC do not believe that bedform clearance and boulder clearance within the floating substructure footprints (Section 5.6.2.2, Chapter 5) has been considered. We would expect to see details of the methodology and the subsequent impacts for these operations.

f) The maximum seabed footprint within the Array Area (m^2) is listed in Table 5-8 of Chapter 5 as 15,840m^2 for semi-submersible and 28,215m^2 for Tension Leg Platform (TLP). If you multiply the maximum seabed footprint area per Floating Turbine Unit (FTU) for semi-submersible (198m^2) by the number of turbines (95) you get 18,810m^2. We believe this to be the correct figure for the semi-submersible maximum seabed footprint within the Array Area.

g) In Section 10.6.2.2.2, Chapter 10, the Applicant states, "*The spatial extent of long-term effects on 'Subtidal sands and gravels' in the East of Gannet and Montrose Fields NCMPA is 0.009 km^2*". It is not clear where the figure of 0.009km^2 comes from. Based on long-term/permanent impacts from Table 10-14 of the Benthic Ecology chapter, the long-term/permanent impact along the EICC is 0.0188km^2. This includes cable protection and cable crossings.

h) Impacts relating to operations and maintenance (Table 3-3 of the MPA Assessment and Table 10-9 of Chapter 10) should also include 'changes in physical processes' and 'colonisation of hard substrates'.

6.1.3 Impacts from jack-up vessels

No impacts from jack-up vessels' spud cans have been considered for construction, operation and maintenance, or for decommissioning phases. Table 10-2 of Chapter 10, 'Benthic Ecology' states, "*no rock stabilisation requirements are anticipated*" in relation to spud cans of jack-up vessels. JNCC are concerned that this does not align with our experience of other industries operating jack-up vessels in soft-sediment environments where rock dump was required for spud can stabilisation. Impacts from spud cans alone and impacts from potential rock dump need to be considered further and fully quantified, including an estimated number of spud can placements on the seabed (see also Section 6.5, Our experience with operations in this location).

6.1.4 Crater creation from UXO detonation

Table 10-14 of Chapter 10, 'Benthic Ecology' lists high order detonation of UXOs as a 'temporary impact to the seabed and benthic habitats'. We would not consider a 30m diameter crater of unknown depth to be a temporary impact to the 'offshore deep sea muds'

habitat of the NCMPA. High order detonations of UXOs would be considered a permanent or long-term impact to the designated feature of the NCMPA. Estimated crater depth has not been provided but is important to allow a complete understanding of whether the resulting crater will require remediation works to be carried out (i.e. if rock dump or other remediation is required) and to determine the impact on the natural organic carbon store of the 'offshore deep sea muds' habitat, noting that the natural organic carbon store extends deeper than the top 10cm considered by the Applicant (see also Section 6.4.2, Organic carbon storage).

6.2 MPA Assessment

Section 3.1 of the MPA Assessment states,

> "*The East of Gannet and Montrose Fields NCMPA is designated for two Priority Marine Features (PMFs): 'Offshore deep-sea muds' and aggregations of the long lived bivalve ocean quahog and their supporting 'Offshore subtidal sands and gravels' habitat.*".

East of Gannet and Montrose Fields NCMPA is designated for 'offshore deep sea muds' and 'ocean quahog aggregations (including sands and gravels as their supporting habitat)' and this may include the Priority Marine Feature (PMF) 'offshore subtidal sands and gravels' but is not limited solely to that habitat. "*Aggregations of the long lived bivalve ocean quahog and their supporting 'Offshore subtidal sands and gravels' habitat*" is a descriptor of the designation but not what the site is designated for.

6.2.1 Quality of the MPA Assessment

JNCC are concerned that the Applicant has not fully assessed the impacts to East of Gannet and Montrose Fields NCMPA. The MPA Assessment did not address impact pathways to the designated feature attributes. Although these were mentioned in the MPA Assessment, there was no direct link to how the proposed project will affect the attributes. East of Gannet and Montrose Fields NCMPA is already in unfavourable condition so any development impacting the designated features will hinder the site from achieving favourable condition. The Applicant has concluded that because the magnitude of effect for all impacts is considered 'low' or 'negligible' (conclusions which JNCC do not agree with) then the impacts will not hinder achievement of the conservation objectives. The magnitude of effect needs to take into account that both designated features are in unfavourable condition with 'Recover' objectives (see Table 1 in Section 5.1.1, East of Gannet and Montrose Fields NCMPA) and be assessed on the extent of the impact and not as a percentage of a wider area.

Although the pathway for impacts to the seabed might be reduced due to the proposed development utilising floating technology (see Section 4.2.2.6, Chapter 4), JNCC consider that the impacts will have a significant effect on the designated features of the NCMPA which has not been fully considered. Pathways for impacts to the seabed are present and impact a large geographic area in a MPA considered to be in unfavourable condition.

In order for a full MPA Assessment to be carried out, the Applicant must consider the attributes of the designated feature, namely the 'extent and distribution', 'structure and function', and 'supporting processes', in relation to the impacts and their pathways, taking

into account the feature sensitivity and magnitude of effect. For the ‘offshore deep sea muds’ habitat, both 'extent and distribution' and 'structure and function' have a 'Recover' objective and 'supporting processes' is 'Conserve'. For the ‘ocean quahog aggregations (including sands and gravels as their supporting habitat)’ feature, all three attributes have an objective of 'Recover'. This approach needs to be applied across all impacts. However, as already advised any additional information is unlikely to alter our overall conclusion on the proposal and we have based our assessment on the underestimation of impacts provided against our detailed understanding of the site’s conservation objectives.

JNCC do not agree with the Applicant’s conclusions regarding the magnitude of effects of the impact pathways on the designated features within East of Gannet and Montrose Fields NCMPA. We consider the scale of the impacts (as outlined in Sections 5.2, Site specific impacts, and 6.1, Scale of impacts, of this response) to be of sufficient magnitude, while directly impacting a designated feature that has a 'Recover' objective for its 'extent and distribution' and its 'structure and function', to be of significant concern. We would therefore consider that the overall magnitude of effect should be increased accordingly. Further detail to that effect has been added in the following sections.

6.2.2 Offshore deep sea muds

For clarification, the designated feature, ‘offshore deep sea muds’ is represented by a number of different biotope types including, but not limited to, SS.SMu.Omu, which is a biotope correlation for 'offshore deep sea muds' and also includes the biotope SS.SMu.Omu.PjefThyAfil, as detailed in Tyler-Walters *et al.* (2016). It was not always clear within the EIA Report that specific biotopes corresponded with the designated feature, ‘offshore deep sea muds’.

In Section 10.6.1.1.1, Chapter 10, the Applicant states,

> “*Overall while sensitivity is conservatively considered as high, the very close proximity to adjacent undamaged deep sea mud habitat is expected to ensure the localised recruitment of characteristic species and therefore no significant effects on the ecological functioning of the wider mud ecosystem are predicted.*”

JNCC are confused as to where the Applicant is referring to when referencing “*adjacent undamaged deep sea mud habitat*”. The ‘offshore deep sea muds’ habitat within East of Gannet and Montrose Fields NCMPA is in unfavourable condition with ‘Recover’ objectives for both ‘extent and distribution’ and ‘structure and function’. We have not seen a habitat assessment by the Applicant for any deep sea mud habitat outside of the NCMPA so are unsure how the Applicant was able to assess that the adjacent habitat was ‘undamaged’. If the Applicant was referring to the ‘offshore deep sea muds’ within the NCMPA that were not impacted by this proposed project, then JNCC would consider that these are already damaged, hence they are in unfavourable condition with ‘Recover’ objectives. Similar phrasing has been used in Section 3.4.1.1.1 of the MPA Assessment, stating,

> “*the very close proximity to adjacent, undisturbed ‘Offshore deep-sea muds’ habitat*”.

It is not clear what the Applicant means by ‘undisturbed’ and how the Applicant was able to conclude that the habitat is 'undisturbed'.

JNCC do not agree with the statement from Section 10.6.1.1.1 (Chapter 10),

> "*the wider ecological function of the 'Offshore deep-sea muds' habitat will remain intact*".

The figure quoted for the temporary habitat loss of the 'offshore deep sea muds', 6.38km^2, has not included all temporary impacts, does not include impacts from decommissioning, and does not account for more than 20.16km^2 of impact from light smothering which the designated feature is regarded to be 'Sensitive' to.

6.2.3 Ocean quahog aggregations (including sands and gravels as their supporting habitat)

JNCC does not currently believe that seabed imagery at a level of evidence needed for scientifically robust EIA can facilitate quantitative sampling of *Arctica islandica* (ocean quahog) offshore. We consider that there is currently no single method that effectively surveys or monitors the population status of *A. islandica in situ*. We therefore would suggest that developers do not undertake any systematic survey for *A. islandica* unless agreed with the regulator or consultees. Taking this into account alongside the Applicant's sampled records of juvenile ocean quahog (109 juveniles recorded from 22 grab samples in the Array Area and 21 juveniles from eight grab samples in the EICC) and the eDNA analysis that showed ocean quahog to be present in all samples within the Array Area, the indication is that ocean quahog are present, although in unknown quantities, within the Array Area. The Applicant should therefore take the precautionary approach and assume that ocean quahog aggregations will be impacted by the proposed project.

Section 10.4.4.4.2, Chapter 10 states,

> "*Ocean quahog is a designated feature in the East of Gannet and Montrose Fields NCMPA*".

Although ocean quahogs are part of the designation for East of Gannet and Montrose Fields NCMPA, the official designation is 'ocean quahog aggregations (including sands and gravels as their supporting habitat)' which, importantly, also includes their supporting habitats of sands and gravels.

6.2.4 Temporary impacts to the seabed and benthic habitats

Temporary impacts to the seabed and benthic habitats has only been assessed for the construction phase. The Applicant has touched on this in Section 3.4.2.1 of the MPA Assessment but this needs to be assessed fully for the operation and maintenance phase, even if based on an educated estimate. However, JNCC would not consider an impact that lasts for 41 years covering construction and operation and maintenance phases to be a temporary one.

The removal of marine growth has not been considered within the impacts from the operational and maintenance phase or the decommissioning phase. JNCC would consider the removal of marine growth to be a temporary impact, but it should still be included in the

assessment as it will occur annually for 35 years during the operation and maintenance and then finally at decommissioning.

6.2.4.1 Temporary impacts – Offshore deep sea muds

In Section 3.4.1.1.1 of the MPA Assessment, the Applicant states,

> "*For the purposes of this assessment, it is therefore conservatively assumed that the sensitivity of the 'Offshore deep-sea muds' habitat within the East of Gannet and Montrose Fields NCMPA to temporary disturbance resulting from Project construction is high.*"

JNCC agrees with the conclusion of an overall high sensitivity for 'offshore deep sea muds' to temporary disturbance resulting from the proposed project construction. However, we would not consider this to be a 'conservative assumption' and it does not correspond with the Benthic Ecology chapter, Chapter 10, page 129, that clearly states the sensitivity as being 'high'.

JNCC would not consider over 6km^2 of 'temporary impacts to the seabed and benthic habitats' during the construction phase and the operation and maintenance phase as being of "*low magnitude*", especially when the operations are impacting the designated features of the NCMPA with 'Recover' objectives for their 'extent and distribution' and 'structure and function'. Taking this into account and the fact that the Advice on Operations within the Site Information Centre states that this habitat is 'Sensitive' to this pressure, and based on information from Table 10-12, page 102 of Chapter 10, of the Benthic Ecology chapter, as well as applying the worst-case scenario, we would therefore consider that the overall effect should be considered as being **high magnitude**. Furthermore, JNCC do not agree with the conclusions on the potential to hinder achievement of the conservation objectives. These impacts will be in conflict with the conservation objectives of the NCMPA, its designated features, and their corresponding attributes, and in our opinion will hinder achievement of these conservation objectives.

6.2.4.2 Temporary impacts – Ocean quahog aggregations (including sands and gravels as their supporting habitat)

In Section 3.4.1.1.2 of the MPA Assessment, the Applicant states,

> "*There will be direct disturbance during construction causing potential mortality to any ocean quahog specimens in the immediate disturbance footprint. These direct temporary disturbances will be short-term and limited in extent.*"

JNCC would not consider mortality of any ocean quahog specimens to be a temporary impact. Mortality of any specimen is a permanent impact. However, it is possible to have a temporary disturbance to the population with a permanent impact to individuals or aggregations. Based on our advice in Section 6.2.3, Ocean quahog aggregations (including sands and gravels as their supporting habitat), the Applicant should take the precautionary approach and assume that ocean quahog aggregations will be present and impacted by the proposed project and when this involves mortalities of specimens/aggregations, this should be considered as permanent.

6.2.5 Potential changes to suspended sediment concentrations and deposition

It is not clear what impact values are being used within the MPA Assessment report. Within the Benthic Ecology chapter, a total impact area for 'potential changes to suspended sediment concentrations' was given as 6,694,458m^2 for East of Gannet and Montrose Fields NCMPA but a value of 22,680,000m^2 was also provided for 'smothering and siltation rate changes (light)'. JNCC consider that either of these values would have a significant impact to the NCMPA and its designated features.

There are two aspects to the 'potential changes to suspended sediment concentrations' potential impact that need to be considered (Table 3-4, MPA Assessment). There is the increased suspended sediment concentrations (SSC) close to the impact as reported in the Benthic Ecology chapter equating to 6,694,458m^2 and there is the wider impact that is subject to 0.05m thick deposits, reported as 22,680,000m^2. The latter area includes the former, but the former has the potential for a greater seabed impact and should be considered separately.

No information is provided for additional maintenance activities with regard to impact footprints for 'potential changes to suspended sediment concentrations and deposition' during the operation and maintenance phase (Table 3-4 and Section 3.4.2.3 of the MPA Assessment). Without this information it is not possible to fully assess the impact to the NCMPA or the designated features.

The Benthic Ecology chapter, Chapter 10, Section 10.5.6.3, page 126, states that,

> "*it is concluded that an area of 20,160,000m^2 (20.16 km^2) in the Array Area and 22,680,000m^2 (22.68km^2) in the East of Gannet and Montrose Fields NCMPA will be subject to light smothering (Table 10-16)*".

The Applicant has failed to take this impact footprint into consideration within the MPA Assessment (Section 3.4.1.2.1), particularly within the magnitude of assessment.

6.2.5.1 SSC – Offshore deep sea muds

JNCC would not consider an impact relating to 'potential changes to suspended sediment concentrations and sediment deposition' during the construction phase that is estimated to be greater than 20km^2 within a MPA and directly impacting a designated feature that has a 'Recover' objective for its 'extent and distribution' and its 'structure and function' to be defined as being of "*low magnitude*". The impact from this pressure will occur at both the construction and decommissioning phases (the latter has not been considered by the Applicant). Taking this into account and the fact that the Advice on Operations within the Site Information Centre states that this habitat is 'Sensitive' for this pressure, we would therefore consider that the overall effect should be considered as being **high magnitude**. Furthermore, JNCC do not agree with the conclusions on the potential to hinder achievement of the conservation objectives. These impacts will be in conflict with the conservation objectives of the NCMPA, its designated features, and their corresponding attributes, and in our opinion will hinder achievement of these conservation objectives.

We acknowledge that the potential changes to suspended sediment concentrations and deposition at the operation and maintenance phase will be less than the construction and decommissioning phases. However, the Applicant has not provided information on projected impact frequency and footprint of cable repair, reburial or replacement activities (in addition to other major maintenance activities). We appreciate that this may not be possible so, taking the precautionary approach and as a worst-case scenario, it would have been prudent for the Applicant to assess their magnitude of effect as **medium magnitude**. Furthermore, JNCC do not agree with the conclusions on the potential to hinder achievement of the conservation objectives. These impacts will be in conflict with the conservation objectives of the NCMPA, its designated features, and their corresponding attributes, and in our opinion will hinder achievement of these conservation objectives.

6.2.6 Long-term impacts to the seabed and benthic habitats

There are discrepancies between chapters of the EIA Report in reported long-term impact values with Section 3.4.2.2 of the MPA Assessment reporting 1.57km^2 of long-term habitat loss and disturbance associated with the installation of infrastructure and mooring chains, compared with 1,550,048m^2, as summarised in this response (Section 5.2, Site specific impacts).

The Applicant states that the "*long-term footprint will occur within the boundary of the larger temporary footprint*" (Section 10.5.6.1, Chapter 10). Based on information previously provided within the Benthic Ecology chapter (Chapter 10), JNCC questions whether this statement is correct. For example, 'temporary impacts to the seabed and benthic habitats' are not attributed to OSCPs or mooring piles.

6.2.6.1 Long-term impacts – Offshore deep sea muds

JNCC would agree with the Applicant that,

> "*The introduction of the hard substrata including supporting rock will result in long-term loss of the 'Offshore deep-sea muds' habitat in the immediate vicinity with no possibility of future recovery. These muddy habitats will essentially be lost.*"

These long-term impacts are in fact permanent impacts and would be considered as a 'physical change (to another seabed type)'.

The long-term disturbance associated with the mooring chains will occur over the lifetime of the project, estimated as 35 years. However, these impacts are not expected to recover quickly, as detailed in Section 3.4.1.1.1, page 94 of the MPA Assessment which stated that,

> "*There may be some physical scarring of the seabed which, due to the weak currents and low energy present at the site, may take many years to return to pre-construction conditions.*"

Therefore, these impacts should be considered to be permanent.

JNCC would not consider an impact of 1.56km^2 of 'long-term impacts to the seabed and benthic habitats' during the operations and maintenance phase, the majority of which would

be considered permanent, as being of "*low magnitude*", especially when the operations are directly impacting the designated features of the NCMPA with 'Recover' objectives for their 'extent and distribution' and 'structure and function'. Taking this into account and the fact that the Advice on Operations within the Site Information Centre states that this habitat is 'Sensitive' for this pressure we would therefore consider that the overall effect should be considered as being **high magnitude**. Furthermore, JNCC do not agree with the conclusions on the potential to hinder achievement of the conservation objectives. These impacts will be in conflict with the conservation objectives of the NCMPA, its designated features, and their corresponding attributes, and in our opinion will hinder achievement of these conservation objectives.

6.2.6.2 Long-term impacts – Ocean quahog aggregations (including sands and gravels as their supporting habitat)

The designated feature for East of Gannet and Montrose Fields is 'ocean quahog aggregations (including sands and gravels as their supporting habitat)' as stated in the Site Information Centre. This designated feature has a 'Recover' objective for all three of its attributes. This designation has two elements to it, the primary element is the 'ocean quahog aggregations' but this also includes the 'sands and gravels as their supporting habitat'. The Applicant has focussed on the supporting habitat but has not considered the main element of the designated feature, namely the ocean quahog aggregations. The Applicant has demonstrated that ocean quahog are present throughout their survey area with juvenile specimens in all samples and includes positive eDNA results across the Array Area. Historical records are also available, which the Applicant has also highlighted. It is therefore in no doubt that ocean quahog are present within the Array Area. Additionally, at the start of Section 3.4.2.2.2 of the MPA Assessment, the Applicant states,

> "*The long-term loss of sediment substrata through the installation of hard structures will incur direct mortality to any ocean quahog individuals present as well as remove any possibility of recovery within the footprint of the activities.*"

It would therefore be appropriate to consider that the 'long-term impacts to the seabed and benthic habitats', considered to be 1.56km^2, should be considered a direct and permanent impact to ocean quahog. Taking all this into account, along with the features 'high' sensitivity and that 'offshore deep sea muds' are also a supporting habitat for ocean quahog aggregations (supported by historical records and reported on by the Applicant), we would therefore consider that the overall effect should be considered as being **high magnitude**. Furthermore, JNCC do not agree with the conclusions on the potential to hinder achievement of the conservation objectives. These impacts will be in conflict with the conservation objectives of the NCMPA, its designated features, and their corresponding attributes, and in our opinion will hinder achievement of these conservation objectives.

6.2.7 Introduction of hard surfaces in a predominantly sedimentary environment/increased predation

The Applicant has not considered the magnitude of effect for a 250,000m^2 habitat change from the introduction of hard surfaces in a predominantly sedimentary environment that

impacts ocean quahog aggregations. Direct impacts of this nature would lead to mortalities of this designated feature that has a 'Restore' objective for all three of its attributes. As the total area is not insignificant, we would not agree with the conclusion of a low magnitude of effect in relation to ocean quahog aggregations.

JNCC would not consider an impact of 250,000m^2 from the 'introduction of hard surfaces in a predominantly sedimentary environment/increased predation' during the operations and maintenance phase, the majority of which would be considered permanent, as being of "*low magnitude*" for either of the designated features, especially when the operations are directly impacting the designated features of the NCMPA which have 'Recover' objectives for their attributes (see Section 5.1, Nature Conservation Marine Protected Areas (NCMPA), for details). Taking this into account and the fact that the Advice on Operations within the Site Information Centre states that these features are 'Sensitive' for this pressure we would therefore consider that the overall effect should be considered as being **high magnitude**. Furthermore, JNCC do not agree with the conclusions on the potential to hinder achievement of the conservation objectives. These impacts will be in conflict with the conservation objectives of the NCMPA, its designated features, and their corresponding attributes, and in our opinion will hinder achievement of these conservation objectives.

6.2.8 Removal of hard structures during decommissioning resulting in loss of colonised surfaces

The Applicant has not provided sufficient details or information around 'removal of hard structures during decommissioning resulting in loss of colonised surfaces' during decommissioning. No assessment has been carried out by the Applicant on whether there will be potential to hinder achievement of the conservation objectives. The Applicant has stated that these impacts will be similar to or smaller than the construction phase so based on that assumption, JNCC would consider that impacts will be in conflict with the conservation objectives of the NCMPA, its designated features, and their corresponding attributes, and in our opinion will hinder achievement of these conservation objectives.

We are concerned with the Applicant's statement in Section 3.4.3.1 of the MPA Assessment that,

> "*should complete removal of the Export/Import Cable and IACs be required*"

Our understanding from the information provided by the Applicant (Section 10.6.3.1, Chapter 10) is that all cabling will be removed. Therefore, complete removal must be fully assessed at decommissioning.

6.2.9 Decommissioning

Decommissioning activities have not been fully considered. The 'Offshore Renewable Energy: Decommissioning Guidance for Scottish Waters (2022)' sets out that, at the end of a wind farm's operational life, all infrastructure is expected to be fully removed. This can be achieved by following the recently published guidelines by Offshore Energies UK (OEUK, 2024) for 'Designing for Decommissioning of Offshore Wind' which states that:

> "*Assets should be designed to be decommissioned with a technology available at the time of commissioning*"

JNCC understand this to mean that the Applicant should assess decommissioning of all infrastructure based on available technologies now and not in the future. The Examining Authority for Five Estuaries Offshore Wind Farm Limited (project EN010115) has requested from the Applicant that:

> "*Decommissioning is required to be assessed in order that the Examining Authority (ExA) and Secretary of State can have regard to the likely significant effects of the whole project over its lifecycle in making a recommendation and determination.*"

JNCC consider that without assessing decommissioning now, it is not possible to determine the likely significant effects of the project as a whole for the offshore environment.

Through decommissioning, and in addition to 'removal of hard structures during decommissioning resulting in loss of colonised surfaces' the Applicant will also have to consider impacts relating to:

- 'Temporary impacts to the seabed and benthic habitats' for example for any infrastructure lay-down, workbaskets, or jack up vessels that are required.
- 'Long-term impacts to the seabed and benthic habitats' for example rock dump at cable cut ends/crossings or infill from mud depressions.
- 'Introduction of hard substrates in a predominantly sedimentary environment/Increased predation' will be linked with additional rock dump.
- 'Potential changes to suspended sediment concentrations' will also need considered in relation to seabed disturbance.
- 'Changes in physical processes' related to any protection left in place.
- 'Colonisation of hard substrates' related to any protection left in place.

6.2.9.1 Pile decommissioning

With regard to decommissioning of piles by cutting 3m below the mudline (as detailed in Section 10.6.3.1 of Chapter 10), JNCC are concerned that the time required for the 'offshore deep sea muds' to recover from these long-term impacts has not been considered. Cutting piles 3m below the mudline leaves a 3m deep depression in the seabed. No information has been provided on whether those depressions will be infilled and, if so, what the infill will be, or how long the depressions will take to naturally back fill. Artificial infill will not allow the habitat to recover and will therefore be regarded as permanent impact while natural back fill will take a considerable amount of time in low dynamic environments. Based on the information provided in Table 5-8 of Chapter 5, the anchor pile impact would equate to 28,215m^2 plus an estimated 175m^2 (based on information from Table 5-14 of Chapter 5) for the OSCP pin piles. If rock dump is used to remediate these holes during decommissioning, that would be an additional 28,390m^2 on top of the 70,000m^2 of rock dump already accounted for in this application within East of Gannet and Montrose Fields NCMPA (see also Section 6.5, Our experience with operations in this location).

6.2.9.2 Cable decommissioning

JNCC welcomes the Applicant's commitment to full removal of all cabling associated with the proposed project (Section 10.6.3.1 of Chapter 10), however, it is not clear what is meant by "*where appropriate*" and how the cut ends will be buried.

This also seems to conflict with Section 3.4.3 of the MPA Assessment which states,

> "*Should complete removal of the Export/Import Cable and IACs be required,…*" and "*...if the other decommissioning options were to be progressed, they would have no more significant adverse effects*"

It is not clear what is meant by "*other decommissioning options*" as these have not been made available within the MPA Assessment report. JNCC's stance is for full removal of all cabling from this proposed project. If cabling remains *in situ*, potential future developments may require additional permanent rock protection at crossing locations which will add to the overall impact to the NCMPA. As such, aspects of cabling decommissioning are not clear and likely to be another underestimate within the assessment.

6.3 In-combination effects – onward connections

The Statement of Combined Effects chapter (Chapter 22) assesses the potential impacts from the onward cable connections to oil and gas infrastructure. JNCC acknowledge that these onward connections are out of scope for this application but have been provided to enable early consideration of whole project impacts. They are, however, integral for this proposed project as a TOG development. The impact analysis for the onward connections have been based on the Applicant's conclusions within the MPA Assessment on the impact to East of Gannet and Montrose Fields NCMPA which JNCC do not agree with (see previous sections of this response).

For the onward cable connections, an estimated worst-case scenario of an additional 200km of buried HVAC cabling could be installed within the Array Area, which falls within East of Gannet and Montrose Fields NCMPA. This estimate does not account for cabling outside the Array Area but still within the NCMPA. In comparison, the buried inter-array cables from the proposed project are estimated to be 280km in length (350km in total) plus 35km of the export/import cable. Based on the worst-case scenario, an estimated **585km of cabling** will be installed within the East of Gannet and Montrose Fields NCMPA, taking into account that the 200km of onward cable connections did not account for all of the NCMPA, for this proposed project and the onward cable connections. Within the Applicant's analysis of 'temporary impacts to the seabed and benthic habitats' (Section 22.7.3.1, Chapter 22) and 'long-term impacts to the seabed and benthic habitats' (Section 22.7.3.2, Chapter 22), there is reference to "*the combined effects will be relatively low*". We would, however, not consider an additional 200km of buried cables within the Array Area as 'relatively low'. The proposed 200km of onward connections equate to an additional 70% extra cabling within the Array Area (more if you include the unknown quantity of onward cabling outside the Array Area but inside the NCMPA) compared with the proposed buried sections of the IACs. We would consider this to be a significant increase in extent, magnitude, and impact to the NCMPA. If the onward cable connections are installed post construction, then we would also expect to

see a significant increase in impacts from suspended sediment concentrations (Section 22.7.3.4, Chapter 22).

The Applicant has estimated that the onward development may comprise up to a maximum of ten HVAC cables that will be laid in up to three pre-determined corridors that are designed into the array layout and provide a clear route between the edge of the Array and the OSCPs. The Applicant proposes that the onward cable connections from multiple oil and gas operators will be bundled into these three unofficial[2] cable corridors. JNCC commend the Applicant for efforts to try and reduce impact to the NCMPA, however, in our experience with oil and gas operators and marine renewables companies it is not as straight forward as it might seem. Such approaches have been suggested in other locations but usually have additional challenges relating to practical and/or legal aspects. For example, operators/companies will be working at different timescales so bundling their cables together would not be feasible or there are additional legal questions around responsibility with operators reluctant to take on the additional liability. For these reasons, we would suggest that a precautionary approach be taken whereby it is assumed that all cables will be laid independently, at different timescales, and following separate routes to the OSCPs.

When considering the 'introduction of hard substrates in a predominantly sedimentary environment/increased predation' (Section 22.7.3.3, Chapter 22), the Applicant states,

> "*The spatial extent of the habitats that will be affected from the installation of infrastructure and rock protection across the Project Area is small and would be increased by the rock required for the Onward Development Connections*".

JNCC do not consider 70,000m^2 of permanent impact from rock dump as a small impact on a protected habitat with a 'Recover' objective. Adding to that permanent impact with more rock dump from onward cable connections will take this habitat and NCMPA further away from being able to achieve its conservation objectives. As no values have been attributed to the onward cable connections, we do not see how the Applicant can conclude that this will be a minor shift from baseline and that the combined effect would not be significant. JNCC do not agree with these conclusions.

6.4 General comments

It is not clear where the EUNIS habitat type layer has originated from in Figure 10-1 (Chapter 10). JNCC consider EUSeaMap2023 to be the most up-to-date broad-scale habitat layer available. With regard to the habitats within East of Gannet and Montrose Fields NCMPA, including the Array Area, JNCC would expect to see the JNCC habitat layer used, as highlighted in our previous responses and as shown on the JNCC MPA Mapper website. JNCC do not consider that Figure 10-1 shows an accurate representation of the habitats in and around the Array Area and the EICC within the protected site.

JNCC do not agree with this statement in Section 4.2.2.6, Chapter 4,

[2] JNCC have termed the onward cable connection corridors as 'unofficial, as the Applicant cannot guarantee these will be the routes used by oil and gas within their windfarm consent.

"*the Array Area has been specifically refined to minimise impact on features considered to be more representative of those designated within the East of Gannet and Montrose Fields NCMPA*"

The Array Area is over the designated feature 'offshore deep sea muds' and will directly impact on ocean quahog aggregations which are also a designated feature of the site.

JNCC do not agree that the OSCPs have been located in areas not designated as 'offshore deep sea muds' (Section 2.3 of the MEEB report). They may be located in areas that have a higher sand component based on particle size analysis (psa) but the resulting biotope of that location corresponds with the designated feature, 'offshore deep sea muds', according to the Applicant's own analysis, results, and chapters of the EIA Report. We are concerned that the Applicant is making statements based on part of their analysis, rather than considering all of the facts.

6.4.1 Physical processes and scour

It is possible that potential effects of changes to currents on the sand and gravel habitats that support the ocean quahog feature of the East of Gannet and Montrose Fields NCMPA have been underestimated. The reasons given do not appear adequate, as listed below alongside our response:

- *Sedimentary cover is very thin/absent*. This is not a material point: the assessment should consider those areas where this sedimentary cover is sufficient to support the ocean quahog feature.
- *Where sedimentary cover is thicker than 0.5m, infrastructure would be micro-sited to other locations with "an acceptable level of anticipated scour"*. Without any quantification of potential scour or "acceptable level" this point is not material; also given the spatially sparse (low-resolution) evidence on seabed sediment thickness there doesn't appear to be confidence that such micro-siting could be achieved.
- *The worst-case scenario suction-pile anchors stand only one diameter above the seabed*. Without any quantification of how this affects potential area of scour, this point appears to be not material.
- Sc*our potential is limited by slow current speeds and depth*. However, Section 8.4.4.7.3 (Chapter 8) found that all grades of sand are likely to be mobilised at peak spring flows; moreover scour 1m deep and 3m in extent was identified around a shipwreck (p149 of Chapter 8 and see also Section 6.5, Our experience with operations in this location, of this response).

As scour has been shown to be present within East of Gannet and Montrose Fields NCMPA, it would be appropriate to assess the impact of scour on all the benthic infrastructure as this will add to the overall impact of the proposed project on the designated features of the NCMPA. Although the scour impact alone may not have a significant effect on the features, it will add to the overall long-term impact.

6.4.2 Organic carbon storage

The Applicant has undertaken a qualitative assessment only for blue carbon impacts across the Project Area. However, it should be noted that other applications have attempted to quantify the potential loss of sedimentary blue carbon by estimating the surficial Organic Carbon (OC) stock and assuming 100% of disturbed sediment results in CO_2 emissions (worst-case scenario). The advice below relates to East of Gannet and Montrose Fields NCMPA only.

6.4.2.1 Sensitivity

The overall assessment conclusions are that the overall impact on blue carbon from the proposed project is assessed as minor and not significant (noting that this is for the whole project and not the NCMPA alone). We believe that the assigned sensitivity of the blue carbon receptors might underplay the risks to sedimentary OC stores; the assessment determines a sensitivity of blue carbon receptors of the Project Area as being of a medium sensitivity, however we believe that this has not taken enough of a precautionary approach and would argue for a **high sensitivity**. Our reasoning for this are as follows:

- Seabed sediments are geological stores of carbon that accumulates over 1,000s of years, therefore losses can be significant in the timescales of the proposed project. The loss is highly unlikely to restore itself in the proposed project timeframe, even with the possibility of enhanced deposition due to the modification of current speed around the array (Diesing *et al.*, 2021; Daewel *et al.*, 2022; Heinatz and Scheffold, 2023).
- The assessment has only considered disturbance to surficial sediments and not the additional disturbance to deeper layers through the suction piling anchors and cable burial, or the potential indirect effects of scour from modified flow.
- The Array Area will be situated in an area of muddier sediments (‘offshore deep sea muds’). Muddy sediments are more sensitive to disturbance and hold relatively more carbon.

6.4.2.2 Magnitude of effect

In line with our advice on other impacts from this proposed project on magnitude of effects within the NCMPA (see Section 6.2.1, Quality of the MPA Assessment), we would not agree with a negligible magnitude of effect. Our reasoning for this is that the overall loss of habitat to hard structures, moorings, anchors, cables, and indirect effects such as scour, carbon loss, and sediment displacement are extensive and have not been fully assessed, especially for decommissioning but also for the other phases of construction and operation and maintenance. The Applicant has also not considered the depth of impact within the NCMPA and only focused on the surficial sediments (the top 10cm). It is therefore important to consider the total volume of impact, and not just the surface area impact, when assessing the magnitude of effect. A precautionary approach should also be applied that assumes 100% of disturbed OC results in emissions with the ‘offshore deep sea muds’ storing more organic carbon. We would therefore consider that the overall effect should be considered as being **medium or high magnitude**. Furthermore, it is important to consider that the

ecosystem services provided by the function of the feature, 'offshore deep sea muds', (as part of the designated feature's attribute, 'structure and function') in the NCMPA include 'climate regulation'. 'Offshore deep sea muds' provide a long-term carbon sink (Alonso *et al.*, 2012), so are important for climate regulation. As this feature attribute has a 'Recover' objective, the overall impact on blue carbon from the proposed project will hinder the achievement of the conservation objectives of East of Gannet and Montrose Fields NCMPA.

6.5 Our experience with operations in this location

JNCC's experience of operations undertaken within East of Gannet and Montrose Fields NCMPA by other marine industries has clearly demonstrated the extensive requirement for the use of rock dump within the designated 'offshore deep sea muds' habitat of the NCMPA.

Past operations within the NCMPA have underestimated the quantity of rock dump required for cable protection within the 'offshore deep sea muds' with one operator exceeding their 'allowance' for their licence. With 350km of inter-array cabling (280km of which will be buried) and 35km of export/import cabling within East of Gannet and Montrose Fields NCMPA, unforeseen rock dumping around cables is a significant concern for JNCC.

Rock dump has also been used as remediation for filling in mooring depressions within the 'offshore deep sea muds' based on the assumption that natural back fill of the depressions will take too long. At decommissioning of the proposed project, there will be extensive depressions left from either removal of piles or cutting piles 3m below the mudline (see also Section 6.2.9.1, Pile decommissioning). For the Floating Turbine Unit (FTU) anchoring piles alone this would amount to 28,215m^2 with a further 24 pin piles for the two OSCPs. The Applicant has not considered these impacts to the designated features of the NCMPA which is a significant concern for JNCC.

Our experience of other industries operating jack-up vessels in soft-sediment environments shows a regular requirement for the use of rock dump for spud can stabilisation (also see Section 6.1.3, Impacts from jack-up vessels). The requirement for rock dump in this instance can be very site-specific but to assume that rock dump will not be required is quite concerning. If a worst-case approach is taken, details will be needed on the number of spud cans per vessel, the spud can's dimensions, when jack up vessels will be used (including for decommissioning), and the frequency of their use.

Past surveys from other marine industry operations within East of Gannet and Montrose Fields NCMPA have shown scouring to be present around rocks and the Applicant's own surveys (Section 8.6.2.5.3 of Chapter 8, Marine Geology, Oceanography and Coastal Processes) showed that scour 1m deep and 3m in extent was identified around a shipwreck. The impact from scour and any remediation associated with scour needs to be accounted for by the Applicant. JNCC welcomes the commitment from the Applicant to not use rock dump for scour protection around the anchors as this would add to the permanent impact on the protected features of the site. We would, however, expect to see more detail on what scour protection may be factored in with relation to the design of the piles and what impact that may have on the protected features of the site (see also Section 6.4.1, Physical processes and scour).

6.6 Quality of submission

Discrepancies and omissions of impacts have already been highlighted (see Section 6.1.2 of this response).

As part of our response with NatureScot (dated 23 May 2024) to the Environmental Impact Assessment (EIA) Scoping Report, JNCC highlighted that the Applicant had not referred to the East of Gannet and Montrose Fields NCMPA correctly. We note that errors are still present in several chapters, including within the 'Non-technical summary' where the NCMPA was referred to as "*East of Montrose and Gannet Fields Nature Conservation Marine Protected Area (NCMPA)*". Considering the Array Area and part of the EICC are within this NCMPA, it is disappointing that the Applicant has not prioritised this.

The general quality of some of the chapters was quite poor. For example, parts of the MPA Assessment, and other chapters, had pages of text that seemed to be converted to an image of poorer quality than the text either side. There were also some instances of circular cross-referencing where the reference pointed back to the same location (for example, see Section 20.4.4 of Chapter 20).

7 References

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Marine Analytical Unit

Scottish Government
Riaghaltas na h-Alba

Cenos Offshore Wind Farm

Marine Analytical Unit Response
Marine Directorate

The Cenos Offshore Wind Farm Environmental Impact Assessment ("EIA") report includes descriptions of a range of potential impacts. This response focuses only on the assessment of social and economic impacts.

Assessment of impacts

All socio-economic impacts identified during the scoping stage were assessed. The assessment was carried out for all stages of the project.

According to the developer, the epicentres of socio-economic activity created by the project are the major ports that will be used to facilitate the construction, operation and maintenance, and decommissioning of the Project. A list of potential construction ports was provided, however the list of ports provided was stated to not be exhaustive. All ports on the East coast of Scotland and North-East of England were considered in the assessment. Ports in Norway, the Netherlands, or the rest of the North Sea region were also not ruled out.

Aberdeen, Peterhead, Cromarty Firth, Invergordon and Nigg were assessed to be the main epicentres for construction effects. Cromarty Firth, Invergordon and Nigg, Aberdeen, Peterhead, and Montrose were identified as potential ports for the operation and maintenance phase of the project, however only Aberdeen and Peterhead are expected to experience major activity. Therefore, Aberdeen and Peterhead are assessed to be the main epicentres for the operation and maintenance effects. For decommissioning effects, Aberdeen, Scotland and UK are predicted be the main epicentres.

The Socio-economics, Tourism and Recreation Study Area is defined as:

• Local: Within the Project Area; Peterhead locality; Inner Moray Firth (IMF) locality; Aberdeen City Council; Aberdeenshire Council; Highland Council;

• Regional: Combined Aberdeenshire Council and Aberdeen City Council areas; Highland Council; and

• National: Scotland; UK.

The developers note that the quantification of Socio-economics, Tourism and Recreation effects was conducted primarily as a desk-based exercise using Project-specific information provided by Cenos Offshore Windfarm Ltd. and a range of publicly available data. They state that stakeholder engagement also contributed to quantification via conducting face-to-face engagement and via relevant non-statutory stakeholder consultation

For the analysis of socio-cultural effects, the five spatial areas that were Peterhead locality, the Inner Moray Ferth locality, Aberdeen City Council, Aberdeenshire Council and Highland Council. The MAU agree with the study area suggested.

It was good to see a broad range of data sources consulted in the baseline section of the report

The assessment uses magnitude and significance methodology. The magnitude is determined by the importance of the receptor, potential socio-economic or socio-cultural challenge and the possibility of adaptation or recovery. The sensitivity is determined by the predicted change relative to the study area. They state that the determination of significance may be quantitative or qualitative and is to be informed by "expert judgement", however MAU cannot comment on the criteria for these judgments or the expertise of who was consulted. In general, effects that are moderate or higher are considered significant under their proposed methodology.

Summary of anticipated impacts

The assessment considered the following potential effects:

- Change in employment levels;
- Change in GVA levels;
- Change in demand for housing;
- Change in local services, such as education, healthcare and public transport;
- Change in the volume and value of tourism and recreation;
- Change in Marine commercial activities
- Change in socio-cultural conditions;
- Distributional effects.

These effects were considered for the following areas:

- A variety of ports, noting that port locations won't be known until a later stage.
- Aberdeen City
- Peterhead (socio-cultural impacts only)
- Aberdeenshire
- Highlands
- Scotland;
- UK.

<u>Impacts</u>

In terms of significance of effects, the assessment anticipates a moderate (significant) beneficial effects in terms of economic impacts for the Highlands during the construction phase.

With regards to sociocultural impacts, it is anticipated that Peterhead will experience moderate adverse (significant) effects during both the construction phase and the operation and maintenance phase of the development. The same impacts are also expected as cumulative effects of the project, combined with other projects in the surrounding area. However, the developers state that proposed mitigation measures will reduce the significance of the effect from moderate to minor (thereby making it

non-significant based on their methodology). The MAU cannot comment on the suitability of the mitigations themselves, however including affected communities in decision making is in line with MAU advise on best practice.

Consultation and engagement

The developer stated that a stakeholder mapping exercise was conducted post Scoping to identify non-statutory stakeholders that could be impacted by the Project in relation to Socio-economics, Tourism and Recreation. The final group was contacted via email (14/10/2024) and invited to a discussion on any potential positive or negative impacts they might experience as a result of the Project. The developer states that discussions from this group contributed to baseline characterisation and ensuring appropriate receptor sensitivities were selected. This was in line with MAU advice to consult a wider range of non-statutory stakeholders in regards to socio-economic impacts

The developer also notes that "*Once further engineering and supply chain analysis has been conducted, comprehensive community consultation and engagement will be undertaken to ensure that the work of the community liaison officer and the community benefit fund is focused on the areas of greatest need*". This consultation work is discussed as part of the approach of their mitigation strategy. The MAU cannot comment on the suitability of the mitigations themselves, however including affected communities in decision making is in line with MAU advise on best practice.

Summary

Overall, the assessment of socio-economic impacts is conducted to a satisfactory standard .The developers have adopted MAU advice on consulting a range of stakeholders post scoping and have signalled their intention to conduct further engagement around mitigation measures. Although specific ports are not currently known, the developer provided a list of likely candidates that allowed for a more granular assessment of impacts than would have been achieved through a national aggregate.

Maritime and Coastguard Agency

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www.gov.uk/mca
2nd April 2025

Licensing Operations Team,
Marine Directorate,
Scottish Government,
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AB11 9DB.

By email to MD.MarineRenewables@gov.scot

Dear Marine Directorate,

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND A MARINE LICENCE UNDER PART 4 OF THE MARINE (SCOTLAND) ACT 2010 AND PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 BY FLOTATION ENERGY LIMITED TO CONSTRUCT AND OPERATE THE CENOS OFFSHORE WIND FARM.

Thank you for the opportunity to comment on the application for consent under Section 36 of the Electricity Act 1989 and marine licence under the Marine (Scotland) Act 2010 for the Cenos Offshore Windfarm.

The Maritime and Coastguard Agency (MCA) is an Executive Agency of the Department for Transport and is responsible throughout the UK for implementing and developing the UK Government's maritime safety and environmental protection policy. This includes co-ordinating maritime Search and Rescue (SAR) through His Majesty's Coastguard 24 hours a day, and checking that ships meet UK and international safety rules. The MCA works to prevent the loss of lives at the coast and at sea, to ensure that vessels are safe, and to prevent coastal pollution. The UK Technical Services Navigation Branch is responsible for UK radiocommunication and navigation policy. This primarily covers SOLAS Convention (Safety of Life at Sea Convention 1974, as amended) Chapters IV and V; the COLREG Convention (International Regulations for Preventing Collisions at Sea 1972, as amended); and the ITU Convention (International Telecommunications Convention 1932, as amended).

The Navigation Risk Assessment (NRA) and the shipping and navigation elements of the Environmental Impact Assessment Report have been reviewed and we would like to comment as follows:

Navigation Risk Assessment
Anatec Limited has undertaken a detailed NRA in accordance with MCA guidance (MGN 654) and NRA risk assessment methodology. We are satisfied that appropriate traffic data has been collected in accordance with MGN 654. We would like to point out that in lieu of the standard two 14-day

surveys and in consultation with the applicant, we were willing to accept a 21-day summer survey collected from a vessel-based survey using AIS, radar and visual observations (22nd August – 12th September 2023) and 12 months of Automatic Identification System (AIS) data (1st January 2023 - 31st December 2023) which covered the winter period.

We agreed with the applicant that the more exposed site location and the increased potential for extreme weather in the winter months were likely to lead to operational suspensions during any survey activity. This, combined with the low probability of non-AIS equipped vessels navigating in the study area over the winter period led to discussions with the applicant for permission for an AIS only winter survey as part of the 12 months of total data. We are content with this AIS only approach for the winter survey, based on the reasons given, on this occasion. The data from this 12-month data set is further assessed in Appendix D. It should be noted that this decision does not set a precedent for any future projects and that we continue to assess every project on a case-by-case basis.

The MCA is content that the hazard log presented in Appendix C, Table C.1 of the NRA is a reasonable and proportional assessment of the risks. A completed MGN 654 Checklist has also been provided in Appendix F, Table F.1 as part of the NRA, and the MCA is satisfied that all recommendations have been addressed.

It is noted that some of the older studies carried out regarding Navigation, Communication, and Position Fixing Equipment are referred to in Section 13 of the NRA. Although we are content with the conclusions drawn there may be additional benefit in referring to more recent helicopter trials and documents written by the MCA in 2019, titled: “MCA report following aviation trials and exercises in relation to offshore windfarms” and “MCA report following aviation trials at Hornsea Project 1 windfarm”. Many of the issues identified in the 2005 paper are relevant today, but there are now some different systems and aircraft in operation and windfarms have become larger and further offshore.

Emergency Response and Search and Rescue

A SAR checklist based on the requirements in MGN 654 Annex 5 will need to be completed in agreement with MCA before construction starts. This will include the requirement for an approved Emergency Response Co-operation Plan (ERCoP) and will be incorporated as a condition of the Marine Licence.

During SAR discussions, particular consideration will need to be given to the implications of the site size and location. Attention should be paid to the level of radar surveillance, AIS and shore-based VHF radio coverage and give due consideration for appropriate mitigation such as radar, AIS receivers and in-field, Marine Band VHF radio communications aerial(s) (VHF voice with Digital Selective Calling (DSC)) that can cover the entire wind farm sites and their surrounding areas.

Cumulative Impacts

A Cumulative Effects Assessment (CEA) has been made based on existing and proposed developments in the study area to the methodology presented in Volume 4, Appendix 31 and presented in the NRA and section 15.7 of chapter 15: Shipping and Navigation. The assessment also summarises the main commercial routes and those with potential for deviations. 20 commercial routes are identified with 11 of those anticipated to require a deviation. These routes are presented in Figure 15.1 of the NRA with a deviation summary in Table 15.1. We are content with this approach to the CEA at this stage.

Layout Design
The turbine layout design will require MCA and Northern Lighthouse Board (NLB) approval prior to construction to minimise the risks to surface vessels, including rescue boats, and search and rescue aircraft operating within the site. The MCA will seek to ensure all structures are aligned in straight rows and columns with a minimum of two lines of orientation. Further advice will be provided to the project once the layout discussions have started.

Marking, Lighting and Construction Programme
The MCA will seek to ensure the turbine numbering system follows a 'spreadsheet' principle and is consistent with other windfarms in the UK. All lighting and marking arrangements will need to be agreed with the MCA and the NLB. The MCA requires all aviation lighting to be visible 360° and compatible with night vision imaging systems, as detailed in CAP 764 and MGN 654 Annex 5. We would also expect to see some form of linear progression of the construction programme avoiding disparate construction sites across the development area, and the consent needs to include the requirement for an agreed construction plan to be in place ahead of any works commencing.

Wet Storage
We note from the responses to various stakeholders from the applicant in chapter 4, section 4.2, table 4.1 of the NRA that: '*Wet storage of Floating Turbine Units (FTUs) is not being considered within this application but will be assessed separately including from a navigational safety perspective. Plans on the pre-lay of mooring lines and IACs, including mitigations, will be included in the Construction Method Statement which will be required to be approved by MD-LOT in consultation with the MCA.*'
The MCA welcome the clarification from the applicant on this matter and agree that wet storage options are yet to be fully explored. We would encourage the applicant when discussing any potential options to consult other relevant maritime stakeholders including the MCA and NLB.

Mooring Arrangements
Third Party Verification of the mooring arrangements for all floating devices will be required prior to construction to provide assurance against loss of station. Ideally this will be a condition of the marine licence. Guidance on regulatory expectations on mooring arrangements can be found on our website: https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping.
We note that the applicant has referenced this document in chapter 15, section 15.12 and refers to it in section 17.1.5, paragraph 431 of the NRA.

The applicant has also stated in Paragraph 431 of the NRA that they will put in place a system that continually monitors each individual WTG. The proposal is to have the capability of tracking each turbine in the event of a loss of station. The use of GPS in this system would be expected but inclusion of AIS on all turbines, the overall particulars of this system and recovery arrangements in case of a loss of station will need further discussion with the MCA and NLB prior to construction.

Hydrographic Surveys
MGN 654 requires that hydrographic surveys should fulfil the requirements of the International Hydrographic Organisation (IHO) Order 1a standard, with the final data supplied as a digital full density data set, and survey report to the MCA Hydrography Manager. Further information can be found in MGN 654 Annex 4 supporting document titled 'Hydrographic Guidelines for Offshore Developers', available on our website: https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping. This includes surveys during the pre-construction, post-construction and post-decommissioning stages. We would like to highlight the need to provide the data in either GSF or CARIS format and that Total Vertical and Horizontal Uncertainty (TVU & THU) calculations must be provided.

Cable Routes
It is noted in table 19.1 of the NRA and table 15.11 as mitigation MM-008 in the shipping and navigation chapter, that a Cable Burial Risk Assessment (CBRA) is to be carried out and a cable plan (CaP) produced. Any consented cable protection works must ensure existing and future safe navigation is not compromised. The MCA would be willing to accept a 5% reduction in surrounding depths referenced to Chart Datum.

The Export/Import Cables are proposed to be High Voltage Direct Current (HVDC). It is noted that the applicant has completed a pre-construction compass deviation study that has been presented in volume 4 Appendix 14A, 14B and 14C. A summary of the findings is presented in section 13.6.2 and 17.2.10 of the NRA. We are content with the conclusions of the study and agree with the applicant that any deviations associated with the cable are within the tolerances accepted by the MCA.

The Inter Array Cables (IACs) and export cables to the oil and gas platforms are proposed to be High Voltage Alternating Current (HVAC). As a result, the effects on ships magnetic compasses of these cables are expected to be negligible and therefore a pre-construction compass deviation study will not be required for these.

Safety Zones
The requirement and use of safety zones as detailed in the application, specifically as mitigation measure MM-035 in table 15.11, volume 3, Chapter 15, is noted. MCA supports the use of safety zones and will comment on the safety zone application once submitted, as a statutory consultee.

Liaison with local MCA Marine Office
The applicant should be reminded that their contractors and subcontractors must have the required certification for all vessel operations, and early engagement with the local MCA Marine Office should be undertaken where necessary to ensure there are no issues with regards to survey and inspections, towage, and safety requirements. Various additional certificates including a loadline exemption for the turbine platforms will be required prior to any towage to site and the applicant must ensure any ballast water requirements are addressed.

Embedded Mitigation
We have the following comments on the proposed risk controls in section 19, Table 19.1, and Table 15.11 in Volume 3, Chapter 15: Shipping and Navigation:

1. Cable Burial Risk Assessment (Cable Plan)
    - In case of damage to, or destruction or decay of, the authorised project seaward of MHWS or any part thereof, excluding the exposure of cables, notification must be issued to MCA, NLB, the Kingfisher Information Service of Seafish and the UKHO within 24 hours of becoming aware.
    - In case of exposure of cables on or above the seabed, the undertaker must within three days following identification of a potential cable exposure, notify mariners and inform Kingfisher Information Service of the location and extent of exposure. Copies of all notices must be provided to the MCA, NLB, and the UKHO within 5 days.
    - The plan must include proposals for monitoring offshore cables including cable protection during the operational lifetime of the authorised scheme which includes a risk-based approach to the management of unburied or shallow buried cables.

- Attention should be paid to cabling routes and where appropriate burial depth for which a Burial Protection Index study should be completed and subject to the traffic volumes, an anchor penetration study may be necessary.

2. Navigation Safety Plan (NSP)
    - Local notification to mariners must be issued at least 14 days prior to the commencement of the authorised project or any part thereof advising of the start date of each work and the expected vessel routes from the construction ports to the relevant location. They must be updated and reissued at weekly intervals during construction activities and at least 5 days before any planned operations (or otherwise agreed) and maintenance works and supplemented with VHF radio broadcasts agreed with the MCA.
    - The Kingfisher Information Service of Seafish, must be informed of details of the vessel routes, timings and locations relating to the construction of the authorised project or any part thereof by email to kingfisher@seafish.co.uk :-
        i. at least 14 days prior to the commencement of offshore activities, for inclusion in the Kingfisher Fortnightly Bulletin and offshore hazard awareness data, and;
        ii. as soon as reasonably practicable and no later than 24 hours of completion of all offshore activities.
    - Post construction monitoring is required and must include vessel traffic monitoring by automatic identification system for a duration of three consecutive years following the completion of construction of the authorised project. An appropriate report must be submitted to the MCA and NLB at the end of each year of the three-year period.

Conclusion
The comments detailed above are not considered to be blocks to development, but they are provided to highlight any areas which may require further discussion. Subject to the applicant meeting requirements addressed in this letter, and meeting licence conditions which will be provided to Marine Directorate, it provides a cautious acceptance of the application for consent.

Yours faithfully,

[Redacted]

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Marine Directorate- Science, Evidence, Data and Digital

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JUDITH HORRILL
MARINE LICENSING CASEWORK OFFICER
LICENSING OPERATIONS TEAM
MARINE DIRECTORATE
SCOTTISH GOVERNMENT

31/03/2025

RE: Cenos Offshore Wind Farm

Advisors from the SEDD Marine Renewables & Ecology Team have reviewed the above request and provide the following advice.

Physical Processes

MD-SEDD advise that the applicant has followed the advice given in response to the Scoping Report, and has chosen use an analytical method of the potential effects of the OWF on stratification and the related positioning of oceanographic fronts. The conclusion of that analysis is that the floating structures of the OWF are unlikely to fully mix the water column, as the turbulent mixing time scale is greater than the advective time scale. MD-SEDD agree with the overall result of the analysis. MD-SEDD highlight that the use of the analytical method to assess potential effects of OWF structures on stratification is relatively new and thus, advise monitoring is undertaken to confirm the assumptions and outcomes of the EIA.

MD-SEDD highlight that potential cumulative impacts to designated seabed features within protected sites (East of Gannet and Montrose Fields NCMPAs) which could arise during the (35 year) operational lifetime of the Project are limited to the OWF under consideration interacting with existing oil and gas infrastructure. Given limited footprint of such infrastructure, as acknowledged by the applicant, it is not surprising that no cumulative effects are forecasted. It is far more likely that cumulative impacts will arise from multiple Offshore Wind developments (e.g. Figure 7-8 of Appendix 7 - Marine & Physical Processes Modelling Report shows a number of such developments, with the most significant ones in

the planning stage) but this possibility has been given no consideration. While mixing effects due to OWF structures are likely to be more localised, modelling work published in the scientific literature has shown that large scale wind-wake cumulative effects on oceanographic processes are likely. However, MD-SEDD recognise that there are no current mechanisms to assess the potential cumulative impact of multiple developments beyond the Project under consideration and those developments already built, consented or with applications recently submitted.

MD-SEDD highlight a number of omissions and misrepresentations which are identified below:

- Cenos Offshore Windfarm EIA Report – Non -Technical Summary: Section 2. Marine Geology, Oceanography and Coastal Processes (pp. 33-34). The bullet point listing of potential impacts assessed did not include any potential changes to the timing or magnitude of stratification, or the location of thermohaline fronts, which were considered in this EIA.
- EIAR Chapter 8 – Marine Geology, Oceanography and Coastal Processes: The future baseline characterisation presented in Section 8.4.5.5 states that "Any changes to the frequency of occurrence or properties of fronts and stratification will be dictated by mesoscale processes and regional changes to the water column, which would also be influenced by climate change (…)". It is implied that OWFs, potentially in large numbers, can have no role in future changes to the water column structure baseline (unless this is implied by "regional changes"). This is contrary to current expectations in the scientific literature, as highlighted by our response to the Cenos EIA scoping report (Marine and Coastal Processes) and should be acknowledged.

Commercial Fisheries

<u>Mitigation</u>

MD-SEDD note that significant impacts have been identified for the passive gear fleet during the construction and decommissioning phases in relation to temporary loss of or restricted access to fishing grounds and displacement of fishing effort. Co-operation agreements for vessels required to relocate static gear have been proposed as a form of mitigation to reduce these impacts from moderate (significant) to minor (not significant). MD-SEDD advise that

cooperation agreements are a form of compensation. The Scottish Government have no remit on compensation for fisheries, and therefore have no control over the use of this method as a way to reduce the potential significant impacts to not significant in EIA terms. MD-SEDD therefore advise careful consideration of this proposed option as the only method to reduce the significance of the potential impacts from moderate (significant) to minor (not significant).

MD-SEDD note that boulder removal will be required during site preparations. MD-SEDD advise that the location of large boulders, that are relocated during construction and may pose a snagging risk for fishing gear, must be disclosed to the fishing industry within a timely manner and in an accessible format. MD-SEDD also advise that the final installed location of cables and project infrastructure is provided to the Kingfisher Information Service, Offshore Renewable and Cable Awareness project (KIS-ORCA) in a timely manner.

Monitoring

MD-SEDD note that monitoring of demersal trawlers has been proposed due to the magnitude of impact during the operation phase being assessed as high for long-term loss or restricted access to fishing grounds, and displacement of fishing effort, despite the overall evaluation of significance concluding as minor and not significant. Given the moderate and significant impact identified to the passive gear fleet during construction, MD-SEDD advise that monitoring is also undertaken for the passive gear fisheries pre-, during and post-construction. The Scottish Government will soon be publishing a good practise guidance on commercial fisheries monitoring, and MD-SEDD advise this guidance should be used to develop the monitoring programme for both demersal trawlers and the passive gear fleet.

Yours sincerely,

Marine Renewables and Ecology Team
Marine Directorate – Science, Evidence, Data and Digital

Ministry of Defence

Defence Infrastructure Organisation

Teena Oulaghan
Safeguarding Manager
Ministry of Defence
Safeguarding
Defence Infrastructure Organisation
St George's House
DMS Whittington
Lichfield, Staffordshire
WS14 9PY
United Kingdom

Telephone: [Redacted]
E-mail: [Redacted]

Application Ref: S36

Our Reference: DIO10058765

Judith Horrill
Licensing Operations Team
Marine Directorate
Scottish Government
5 Atlantic Quay
150 Broomielaw
GLASGOW
G2 8LU

25 March 2025

Dear Judith,

Dear Sir/Madam,

ELECTRICITY ACT 1989
The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
The Electricity (Applications for Consent) Regulations 1990

MARINE (SCOTLAND) ACT 2010
The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017

MARINE AND COASTAL ACCESS ACT 2009
The Marine Works (Environmental Impact Assessment) Regulations 2007

Flotation Energy Limited – Cenos Offshore Wind Farm – Central North Sea, approximately 200 km east of Aberdeen.

Thank you for consulting the Ministry of Defence (MOD) on the above Section 36 Consent Application in respect of the Cenos Offshore Wind Farm development. The consultation was received by this office on 13 February 2025.

I write to advise the safeguarding position of the MOD in relation to the proposed construction and subsequent operation of the Cenos Offshore Wind Farm Project.

The Defence Infrastructure Organisation (DIO) Safeguarding Team represents the MOD as a consultee in UK planning and energy consenting systems to ensure that development does not compromise or degrade the operation of defence sites such as aerodromes, explosives storage sites, air weapon ranges, technical sites such as the Military Low Flying System, or maritime defence assets and interests.

The submitted Cenos Offshore Wind Farm Offshore Environmental Impact Assessment Report (EIAR) covers offshore elements of the project that would generate and transmit electricity from the array to landfall at Longhaven. The EIAR highlights the potential physical, biological, and human environmental significant effects during pre-construction, construction, operation and maintenance, and decommissioning phases of the project.

The project is a floating offshore windfarm which would be located approximately 200km off the east coast of Scotland (Aberdeen) and would comprise:

- up to a maximum of 95 Floating Turbine Units (FTUs), each of which would feature a Wind Turbine Generator (WTG) with a maximum height of up to 320metres above mean sea level and floating substructure. The FTUs would be anchored to the seabed to ensure that they maintain position within a given radius;
- up to two offshore Substation Converter Platforms (OSCPs);
- array cables linking WTGs to OSCPs;
- interarray cables between OSCPs; and
- an export/import Cable bundle comprising two High Voltage Direct Current cables from OSCPs to landfall at Longhaven.

The principal concerns of the MOD with respect to this proposed wind farm relate to the potential to create a physical obstruction to air traffic movements.

Physical Obstruction

In this case the development falls within Low Flying Area 14 (LFA 14). Within Low Flying Areas fixed wing aircraft may operate as low as 250 feet or 76.2 metres above ground/surface level to conduct low level flight training. The addition of turbines in this location would introduce a physical obstruction to low flying aircraft operating in the area.

In order to mitigate physical obstruction impacts stated above, the MOD would require that conditions/requirements are added to any consent issued that require the submission, approval and implementation of an aviation lighting scheme, and require the submission of sufficient data to ensure that structures can be accurately charted to allow deconfliction. The applicant has acknowledged the MOD requirement for MOD accredited aviation safety lighting in table 18.6.1 of EIAR Chapter 18 – Military and Civil Aviation.

The MOD acknowledge that the EIAR identifies the risk with any potential presence of UXO, this has been independently assessed as being low within the array area and medium toward the western end of the export/import cable corridor, approximately 50-60km from land fall. Any UXO that cannot be avoided, or which pose a genuine threat to the safe completion of construction works, clearance will be undertaken as necessary.

I trust this adequately explains our position on this matter.

Yours sincerely

[Redacted]

Teena Oulaghan
Safeguarding Manager

NATS

From: NATS Safeguarding <NATSSafeguarding@nats.co.uk>
Sent: 18 February 2025 14:41
To: MD Marine Renewables
Subject: RE: [SG35049] Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation – Response Required by 4 April 2025 [SG35049]

Categories:
Objective:

Our Ref: SG35049

Dear Sir/Madam

The proposed development has been examined from a technical safeguarding aspect and does not conflict with our safeguarding criteria. Accordingly, NATS (En Route) Public Limited Company ("NERL") has no safeguarding objection to the proposal.

However, please be aware that this response applies specifically to the above consultation and only reflects the position of NATS (that is responsible for the management of en route air traffic) based on the information supplied at the time of this application. This letter does not provide any indication of the position of any other party, whether they be an airport, airspace user or otherwise. It remains your responsibility to ensure that all the appropriate consultees are properly consulted.

If any changes are proposed to the information supplied to NATS in regard to this application which become the basis of a revised, amended or further application for approval, then as a statutory consultee NERL requires that it be further consulted on any such changes prior to any planning permission or any consent being granted.

Yours faithfully

NATS Safeguarding

E: natssafeguarding@nats.co.uk

4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
www.nats.co.uk

Natural England

Date: 02 April 2025
Our ref: 502939
Your ref: Not provided

Marine Directorate
Scottish Government
Marine Laboratory
Aberdeen
AB11 9DB

Lancaster House
Hampshire Court
Newcastle-upon-Tyne
NE4 7YH

T 0300 060 3900

BY EMAIL ONLY

Dear Judith

ELECTRICITY ACT 1989
The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
The Electricity (Applications for Consent) Regulations 1990

MARINE (SCOTLAND) ACT 2010
The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017

MARINE AND COASTAL ACCESS ACT 2009
The Marine Works (Environmental Impact Assessment) Regulations 2007

Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application.

Location: Approximately 200 km east of Aberdeen.

Thank you for seeking our advice on the Cenos Offshore Wind Farm (OWF) in your consultation which we received on 13 February 2025.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

The advice contained within this letter is provided by Natural England, which is the statutory nature conservation body within English territorial waters (0-12 nautical miles). We have delegated responsibility from JNCC to also advise on offshore wind farms in waters out to 200 nautical miles or the median line. Due to our remit, our advice on this consultation is restricted to species within England and to protected species from English designated sites which may be impacted by the proposed wind farm. We defer to NatureScot to advise on Scottish matters.

We have considered the documents provided with the consultation request in our review, and the measures proposed to mitigate for all identified adverse effects that could potentially occur as a result of the proposal. We advise that, providing there are no substantial changes to the project design envelope, this project alone will not have an Adverse Effect on Site Integrity (AEoSI) on any English SPA or SAC. We also agree that any addition to in combination impacts with other projects will be de-minimis and as such are unlikely to significantly contribute to AEoSI for any English SPA or SAC in combination with the other Plans or Projects assessed.

Should the proposal be amended in a way which significantly affects its impact on the natural environment then, in accordance with Section 4 of the Natural Environment and Rural Communities Act 2006, Natural England should be consulted again.

Additional Information

Natural England note that a number of pressures do not appear to have been considered for in-combination impacts. For English designated sights this includes the following;

- Farne Islands SPA
    - Puffin – Entanglement – Operational Phase
    - Kittiwake – Disturbance from vessels – Operational Phase

- Flamborough and Filey Coast SPA
    - Gannet – Entanglement – Operational Phase

We do not anticipate that contributions to these pressures from the proposed development in combination with other plans or projects would result in AEoSI for any English designated sites. However, it is Natural England's advice that pressures identified at the screening stage as having potential for Likely Significant Effect (LSE) should be assessed alone and in combination at the Appropriate Assessment (AA) stage.

For any queries relating to the specific advice in this letter only please contact me using the details below. For any new consultations, or to provide further information on this consultation please send your correspondence to consultations@naturalengland.org.uk.

Yours sincerely

Pete Welby
Operations Delivery Higher Officer Marine
E-mail: [Redacted]

NatureScot

NatureScot
Scotland's Nature Agency
Buidheann Nàdair na h-Alba

Marine Directorate
Scottish Government
Marine Laboratory
Aberdeen
AB11 9DB

Sent by email only

07 April 2025

Our ref: CNS REN OSWF INTOG - Cenos

Dear Judith,

CENOS OFFSHORE WINDFARM

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND MARINE LICENCES UNDER PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 TO CONSTRUCT AND OPERATE THE CENOS OFFSHORE WINDFARM

Thank you for consulting NatureScot on the Section 36 and Marine Licence Applications submitted by Cenos Offshore Windfarm Limited (the Applicant) for the proposed Cenos Offshore Windfarm. These are accompanied by an Environmental Impact Assessment Report (EIA Report), Report to Inform Appropriate Assessment (RIAA) and Shadow Derogation Case provided on a without prejudice basis.

In addition, the Section 36 and Marine Licence Applications are supported by a Nature Conservation Marine Protected Area (NCMPA) Assessment as well as a MPA Derogation Case and Measures of Equivalent Environmental Benefit (MEEB) Implementation Strategy - both submitted on a without prejudice basis. **Please note, this response <u>does not</u> incorporate advice on these documents as they relate to the East of Gannet and Montrose Fields NCMPA.** Our response covering aspects relating to this NCMPA, including advice from JNCC, will be provided later in April. Thank you for granting an extension to consider more fully aspects relating to this protected site.

Our advice in this letter is in relation to the Array Area, the Offshore Export/Import Cable Corridor (EICC) and landfall (up to Mean High Water Springs (MHWS) only). Onshore components will be subject to separate terrestrial planning Applications.

Policy context

Working within the context of a climate emergency and a biodiversity crisis, we seek to provide advice that is enabling and secures the right development in the right place with most benefit for climate change reduction and that which avoids damage, and where possible, achieves restoration and enhancement of biodiversity.

As a statutory consultee, NatureScot works in support of the Scottish Government's vision for a Blue Economy[1] with its six outcomes acting as focal points to ensure the marine environment supports ecosystem health, improved livelihoods, economic prosperity, social inclusion and wellbeing. We provide advice in the spirit of Scottish Government's ambition for offshore wind as outlined in the Sectoral Marine Plan for Offshore Wind Energy (SMP-OWE) published in 2020 and now undergoing an Iterative Plan Review (IRP) (publication anticipated in 2025). The SMP-OWE aims to balance the promotion of the sustainable development of offshore wind, whilst protecting and restoring our biodiversity.

We support the current work of the Scottish Government in considering a new policy direction on nature positive requirements for offshore wind. We seek further consideration and engagement on what might be possible in terms of biodiversity enhancement that would also align with the renewable energy production aims and objectives of this proposal within in the context of the climate emergency and biodiversity loss crisis, if consented.

Introduction

The Applicant was awarded a Targeted Oil and Gas (TOG)[2] Decarbonisation Exclusivity Agreement in November 2023 for a floating offshore wind development located within search area E-a[3]. The proposal seeks to provide the opportunity for oil and gas assets located in the surrounding waters to electrify via connection to the electricity hub within the offshore wind array. Connection to oil and gas assets, described as Onward Development Connection(s), is however currently unknown (Chapter 22). Cable connections between the offshore wind array electricity hub and oil and gas assets will be subject to separate marine licencing and permitting requirements - the responsibly for which lies with the Onward Development Connection(s) by individual oil and gas assets. There is no assessment of these cables in this Application. The proposal does include and assesses an Export / Import cable to shore.

Given the uncertainty regarding Onward Development Connection(s) to oil and gas assets - the rationale behind the leasing of TOG projects, and the location of the Array Area within an NCMPA with likely adverse impacts - we seek assurances that if this proposal is consented, then it is only enabled to proceed if definite onward connections are made. We will provide further advice on the NCMPA in due course.

---

[1] Scottish Government (2022) *A Blue Economy Vision for Scotland*. Available at: https://www.gov.scot/publications/blue-economy-vision-scotland/ (Accessed 27 November 2024)

[2] The SG published an Initial Plan Framework (IPF) for a Sectoral Marine Plan for Offshore Wind for Innovation and Targeted Oil and Gas Decarbonisation (SMP-INTOG) in February 2022, to enable projects to progress through the planning and seabed leasing process under the 'Targeted Oil and Gas Decarbonisation' (TOG) category, providing they met a number of criteria. The IPR process will combine the SMP-OWE with INTOG into one Plan. This remains outstanding.

[3] https://www.gov.scot/publications/initial-plan-framework-sectoral-marine-plan-offshore-wind-innovation-targeted-oil-gas-decarbonisation-intog/pages/4/

Proposal

The proposed development is located approximately 200km east of Aberdeen in the central North Sea and includes an Array Area (covering an area of 333 km^2) and EICC. The proposal, which follows a project design envelope (PDE) approach, comprises:

- Up to 95 Floating Turbine Units (FTUs) each with a Wind Turbine Generator (WTG) and either tension leg platform (TLP) or semi-submersible floating substructures that will be anchored to the seabed.
- A maximum rotor blade tip height of 320m; a maximum rotor blade diameter of 280m and a minimum rotor blade tip to mean sea level of 22m with 15, 18 and 21 Megawatt (MW) WTG options being considered.
- Up to nine mooring line tendons per TLP substructure with a tension mooring design, and up to six mooring line tendons per semi-submersible with either a semi-taut or taut mooring design.
- Up to 6 anchors per substructure comprising suction or driven anchor piles. Suction embedded plate anchors and other novel piling methods are considered. Scour protection maybe required around anchors.
- Up to 2 Offshore Substation Converter Platforms (OSCPs) to be located within the Array Area on fixed bottom jackets foundations linked via a bridge-link with a 50m space between each jacket. Mud mats, cable and scour protection maybe required for OSCPs.
- 350km of Inter-Array cables (AICs) including 280km of buried static cable and 70km of dynamic cabling to connect the WTGs to the OSCPs. Dynamic cabling will be secured to the seabed via gravity or novel anchoring and will require touch down protection. Depending on IAC layout up to 19 sub-sea hubs may be required.
- An Export / Import cable bundle comprising two High Voltage Direct Current (HVDC) cables and fibre optic cable in a single trench spanning 230km from the OSCP to landfall at Longhaven.
- A minimum of 70, 000m^3 of rock protection is required.
- Horizontal Directional Drilling (HDD) for the EICC cables across the intertidal zone.
- An anticipated operational life of 35 years.

The construction phase, including site preparation works such as boulder clearance and UXO clearance is expected to take up to six years. 24-hour working is envisaged with seasonal campaigns likely to account for poor weather over winter. This includes up to two geophysical / geotechnical pre-construction surveys, which would take place in the year prior to construction commencing.

Two options are being considered for FTU installation – either integration and assembly of WTGs onto the floating substructure at the construction Port before tow-out to the Array Area and hook up to pre-laid moorings, or the floating substructure could be towed out to the Array Area and the WTG installation achieved by heavy lift vessel or alternative offshore crane solution. Any temporary wet storage is therefore assumed to be within the relevant Port authorities' limits.

The operational phase is expected to be 35 years, which will include a programme of monitoring, refurbishment and or replacement of assets in-situ however the option to detach FTUs from the IACs and mooring systems and tow back to shore for repairs is included.

Decommissioning and Repowering are both briefly addressed in Chapter 5, and we advise that the Decommissioning Plan should be predicated on full removal of all infrastructure in line with current policy[4].

Location

The Array Area, OSCPs and approximately 35km of the EICC is located almost entirely within the East of Gannet and Montrose Fields NCMPA, designated for its unique offshore deep-sea mud feature as well as its and Ocean quahog aggregations including sands and gravels as their supporting habitat[5]. **The Cenos floating offshore windfarm is the only proposed development (ScotWind or INTOG) within a draft Option Area sited almost wholly within a NCMPA.**

NorthConnect Ltd

The proposed EICC route shares the consented NorthConnect interconnector cable route from MHWS to 12nm. The Applicant has entered into a binding agreement to acquire and hold the benefit of the spatially shared NorthConnect Marine Licences.[6] A separate Marine Licence is sought for this portion of the cable route, as part of this Application because the cable is for connection to an offshore generating station rather than part of an exempt interconnector cable. The Applicant notes that only one set of infrastructure will be placed in this portion of the cable corridor. From 12nm the proposed EICC deviates from the NorthConnect route.

Further advice is provided with respect to conditions associated with the existing NorthConnect consent which are relevant to this proposal in the accompanying appendices.

Assessment approach

The Applicant has largely followed standard EIA processes and has generally followed our pre-application advice. Information contained within the EIA Report has been laid out sufficiently to aide our review and understanding although a number of aspects within the Ornithological assessment lack clarity which has affected our confidence in the assessment provided.

Significance matrices

Increasingly, we note the tendency for significance tables presented in EIA Reports to be especially weighted towards negligible outcomes– this is largely because individual sensitivity and magnitude scores consistently underplay potential impacts. Further detail is provided within our advice including provision of our own matrix appraisal, where relevant.

Nature Conservation MPA (NCMPA) assessments

The assessment of impact to protected features of NCMPA have been carried out using EIA methodology (i.e. this assessment relies on sensitivity and magnitude scoring). However, the Conservation Objectives and feature attributes detailed in the relevant Conservation and Management Advice documentation for these sites, and how the proposed activities will impact upon these has not been sufficiently addressed. Further detail is provided within our advice for

[4] https://www.gov.scot/publications/offshore-renewable-energy-decommissioning-guidance-scottish-waters/
[5] https://jncc.gov.uk/our-work/east-of-gannet-and-montrose-fields-mpa/
[6] We understand an extension to the existing Marine Licence consents (06771 & 06870) has recently been granted (00010932)

relevant NCMPAs. Noting that specific advice for East of Gannet and Montrose Fields NCMPA will follow in due course.

NatureScot advice

Offshore and intertidal ornithology – EIA

The EIA assessment for offshore and intertidal ornithology concludes **no significant impacts from the proposal alone.** We broadly agree with the Applicant's conclusions in relation to the proposal alone impacts under EIA.

While we are mostly in agreement with the Applicant's conclusions for the cumulative assessment, we also conclude that there will be significant effects cumulatively for guillemot.

We conclude that **cumulative effects** from this proposal with other offshore wind farms are **significant in EIA terms,** including and excluding the Berwick Bank proposal, for the following:

- Kittiwake through collision and displacement
- Puffin through displacement
- Gannet through collision and displacement
- Guillemot through displacement.

Offshore and intertidal ornithology – RIAA

Within our advice on the RIAA, we note several issues and a general lack of clarity. Fundamentally, these points have affected our confidence in the assessments provided. However, we consider that based on the information provided within the Application and our judgement we are able to reach and provide our own conclusions. Where an issue has been noted, we have taken a precautionary approach in determining Adverse Effect on Site Integrity (AEOSI) for HRA.

We broadly agree with the Applicant's conclusion that there will be **no AEOSI from the Project alone**. However, following our own appraisal of the information provided, we disagree with the conclusion that there will be no AEOSI in-combination.

With respect to Scottish SPAs, **we conclude AEOSI in-combination** (for both scenarios; in-combination with other wind farms including the Berwick Bank proposal and in-combination excluding the Berwick Bank proposal) for:

- Kittiwake at Buchan Ness to Collieston Coast SPA
- Kittiwake at East Caithness Cliffs SPA
- Kittiwake at North Caithness Cliffs SPA
- Gannet at Forth Islands SPA

For the following qualifying species and Scottish SPAs**, we are unable to conclude no AEOSI in-combination** (for both scenarios; in-combination with other wind farms including the Berwick Bank proposal and in-combination excluding the Berwick Bank proposal) for:

- Puffin at Forth Islands SPA
- Gannet at Hermaness, Saxa Vord and Valla Field SPA

Furthermore, we have concluded **AEOSI in-combination** with other wind farms including the Berwick Bank proposal, however, we are **unable to conclude no AEOSI in-combination** with other wind farms excluding the Berwick Bank proposal for the following:

- Kittiwake at Forth Islands SPA
- Kittiwake at Fowlsheugh SPA
- Kittiwake at St Abb's Head to Fast Castle SPA
- Kittiwake at Troup, Pennan & Lion's Heads SPA

Further advice with respect to Ornithological interests is provided in **Appendix A** together with a summary of our conclusions provided in Table 1A of **Annex 1A**.

Marine mammals – EIA and RIAA

The EIA assessment for marine mammals concludes no significant impacts, both alone and cumulatively. However, we raise an issue regarding the sensitivity scoring in our advice below, and as such disagree with the outcome of the assessment. Instead, we conclude **significant impacts** for disturbance from piling, both for the proposal alone and cumulatively, for white-beaked dolphin and bottlenose dolphin.

Regarding the minke whale protected feature of the Southern Trench NCMPA, based on the information provided we have undertaken our own appraisal of impacts. As such, we advise that the proposal is capable of affecting, the minke whale protected feature of the Southern Trench NCMPA. However, we conclude there is **no significant risk of hindering the achievement of the Conservation Objectives**.

Further advice, including requirements for mitigation, recommendations for conditions and a request for clarification, is provided in **Appendix B**.

Regarding the RIAA, we advise there to be potential for LSE from UXO clearance, geophysical activities and vessel presence on the bottlenose dolphin feature of the Moray Firth SAC in respect of the export cable corridor only. Consequently, Marine Directorate, as competent authority, is required to carry out an Appropriate Assessment in view of the site's Conservation Objectives for this qualifying species. Given the embedded mitigation, as set out in the RIAA, we are able to conclude **No AEOSI for bottlenose dolphin** as a qualifying species of the Moray Firth SAC. Further advice is provided in **Appendix B.**

Fish and shellfish ecology – EIA

The EIA assessment for fish and shellfish ecology concludes no significant impacts, both alone and cumulatively – we agree with these conclusions.

Regarding the sandeel protected feature of the Turbot Bank NCMPA, based on the information provided we have undertaken our own appraisal of impacts. As such, we advise that the proposal is **capable of affecting but insignificantly** the sandeel protected feature of the Turbot Bank **NCMPA.** Further advice is provided in **Appendix C.**

Benthic ecology – EIA

The EIA assessment for benthic interests concludes **no significant impacts, both alone and cumulatively** – we agree with these conclusions. Further advice, including requirements for mitigation is provided in **Appendix D.**

Please note, this excludes consideration of the protected features of the East of Gannet and Montrose Fields NCMPA. Advice with respect to this site and its features will be provided in due course.

Marine geology, oceanography and coastal processes – EIA

The EIA assessment for marine geology, oceanography and coastal processes concludes **no significant impacts, both alone and cumulatively** – we agree with these conclusions.

Regarding the geodiversity protected feature of the Southern Trench NCMPA, based on the information provided we have undertaken our own appraisal of impacts. As such, we advise that the proposal is capable of affecting the subglacial tunnel valley protected feature of the Southern Trench NCMPA. However, we conclude there is **no significant risk of hindering the achievement of the Conservation Objectives**. Further advice is provided in **Appendix E.**

Blue carbon – EIA

The EIA assessment for blue carbon concludes **no significant impacts, both alone and cumulatively** – we agree with these conclusions. Further advice is provided in **Appendix F.**

Please note, this excludes consideration of the protected features of the East of Gannet and Montrose Fields NCMPA. Advice with respect to this site and organic carbon will be provided in due course.

Seascape, landscape and visual impacts (SLVIA) – EIA

In line with the Scoping Opinion and our advice, SLVIA has been scoped out of the EIA assessment. Nevertheless, we expect the final layout, if consented, to be provided within the Design Specification and Layout Plan (DSLP).

Next steps

For a number of European sites, we have reached the conclusion of AEOSI or have been unable to conclude No AEOSI in-combination with other wind farms including and excluding Berwick Bank.

As a result, Marine Directorate will be required to undertake an Appropriate Assessment.

Compensatory measures

The Applicant has initiated consideration of compensation measures and proposes to share measures with the consented Green Volt development. This approach requires further consideration, noting the requirement for further baseline monitoring to inform and confirm the sufficiency of the proposed measures for Green Volt alone. As Cenos would also be reliant on these measures, we request ongoing involvement to advise on the ecological effectiveness of any required compensation measure(s). Further advice is provided in **Appendix G**.

Further information and advice

We hope this advice is helpful. Please contact Joe Nisbet [Redacted] or Clare McCarty [Redacted] in the first instance for any further advice, copying in our marine energy mailbox – marineenergy@nature.scot.

Yours sincerely,

Erica Knott

Head of Marine Energy – Sustainable Coasts and Seas

CC – Karen Millichip, JNCC

Contents

NATURESCOT ADVICE ON CENOS OFFSHORE WIND FARM

Appendix A – Offshore and intertidal ornithology

Offshore and intertidal ornithological interests are considered in Chapter 12 of the Cenos EIA Report and the following supporting Appendices:

- Appendix 19 – Ornithology Baseline Report
- Appendix 20 - Intertidal & Nearshore Bird Surveys
- Appendix 21 – Collision Risk Modelling Report
- Appendix 22 – Distributional Response Report
- Appendix 23 – Regional Populations and Associated Colony Counts
- Appendix 24 – Apportioning Report
- Appendix 25 – Population Viability Analysis Report

Ornithological interests are also considered in Section 7, Section 8.2 and Appendix A of the RIAA. The RIAA is accompanied by a HRA Without Prejudice Shadow Derogation and HRA Compensation and Implementation Strategy, our detailed advice regarding Derogation is included within **Appendix G**.

In general, we have found the quality, clarity and consistency of the ornithology assessment variable. Whilst at times the reports were of good quality, we also found various instances where the narrative was confusing and the assessments hard to follow. This is reflected in the elements discussed below which have on occasion required our own further investigation or appraisal.

EIA summary

The EIA assessment for offshore and intertidal ornithology concludes no significant impacts from the proposal alone. We broadly agree with the Applicant's conclusions in relation to the proposal alone impacts under EIA.

Furthermore, we are mostly in agreement with the Applicant's conclusions for the cumulative assessment, however, we conclude that there will be significant effects cumulatively for guillemot.

We conclude that cumulative effects with other offshore wind farms are **significant in EIA terms**, including and excluding the Berwick Bank proposal, for the following:

- **Kittiwake through collision and displacement**
- **Puffin through displacement**
- **Gannet through collision and displacement**
- **Guillemot through displacement.**

In line with established EIA practice, we expect mitigation to be identified where a significant adverse effect is identified. The Applicant proposes that secondary mitigation requirements will be met via compensatory measures proposed for protected sites where AEOSI is concluded (see our advice regarding the RIAA below and derogation in Appendix G to our advice). However, guillemot has not been assessed within the RIAA and as such has not been considered within the proposed compensatory measures.

RIAA summary

Within our advice below, we note several issues and a general lack of clarity. Fundamentally, these points have affected our confidence in the assessments provided. However, we consider that based on the information provided within the Application and our judgement we are able to reach and provide our own conclusions. Where an issue has been noted, we have taken a precautionary approach in determining Adverse Effect on Site Integrity (AEOSI) for HRA.

The RIAA concludes there will be no AEOSI both from the Project alone and in-combination for all effect pathways considered. We broadly agree with the Applicant's conclusion that there will be **no AEOSI from the Project alone**. However, following our own appraisal of the information provided, we disagree with the conclusion that there will be no AEOSI in-combination**.**

With respect to Scottish SPAs, **we conclude AEOSI in-combination** (for both scenarios; in-combination with other offshore wind farms including the Berwick Bank proposal and in-combination with other offshore wind farms excluding the Berwick Bank proposal) for:

- Kittiwake at Buchan Ness to Collieston Coast SPA
- Kittiwake at East Caithness Cliffs SPA
- Kittiwake at North Caithness Cliffs SPA
- Gannet at Forth Islands SPA

For the following qualifying species and Scottish SPAs**, we are unable to conclude no AEOSI in-combination** (for both scenarios; in-combination with other offshore wind farms including the Berwick Bank proposal and in-combination with other offshore wind farms excluding the Berwick Bank proposal) for:

- Puffin at Forth Islands SPA
- Gannet at Hermaness, Saxa Vord and Valla Field SPA

Furthermore, we have concluded **AEOSI in-combination** with other wind farms including the Berwick Bank proposal, however, we are **unable to conclude no AEOSI** in-combination with other wind farms excluding the Berwick Bank proposal for the following:

- Kittiwake at Forth Islands SPA
- Kittiwake at Fowlsheugh SPA
- Kittiwake at St Abb's Head to Fast Castle SPA
- Kittiwake at Troup, Pennan & Lion's Heads SPA

A summary of our conclusions can be found in Table 1A of Annex 1A below.

As such, we advise a derogation case is required, please see **Appendix G** for further advice.

Baseline characterisation

Digital Aerial Surveys

The Ornithology Baseline Report is provided in Appendix 19 of the Cenos EIA Report. The Applicant undertook two years of Digital Aerial Surveys (DAS) across the INTOG lease area with a 4km buffer. The aircraft flew at an altitude of 550m, with a 2cm Ground Sample Distance (GSD), 2.5km space transects were used and a 10% site coverage was agreed.

Surveys were flown from April 2021 to March 2023 inclusive, with missed surveys in July 2021 and December 2022, however, supplementary surveys were undertaken in early August 2021 and early-to-mid January 2023, which is appropriate.

Intertidal and nearshore bird surveys

The proposed EICC landfall site is within the Buchan Ness to Collieston Coast SPA (designated for fulmar, guillemot, herring gull, kittiwake, shag and seabird assemblage). The Applicant has access to survey data from NorthConnect Ltd, however, as this survey data is over five years old, new survey work was undertaken to support the validity of the existing survey data. The Intertidal and Nearshore Bird Surveys report is provided within Appendix 20, of the Cenos EIA Report.

The new survey work was performed from April 2024 to September 2024 and therefore covers the breeding but not the non-breeding season. We are content with the survey methodology including that the same vantage points were used as in NorthConnect Ltd survey to ensure consistency.

The Cenos Survey Report notes several differences between the results of the new survey work and the NorthConnect Ltd surveys. There are more species reported in the new survey work: curlew, redshank, black-headed gull, common gull, sandwich tern, great skua and arctic skua were recorded in the Cenos Intertidal survey, but not in the NorthConnect survey. The peak counts differ for every species recorded within both survey programmes, with higher peak counts of eider, kittiwake, puffin and cormorant.

The Cenos Survey Report notes a poor breeding season for guillemot and razorbill in 2023, where many individuals did not attempt to breed or failed early and left breeding colonies as a result. Additionally, the Report also notes that local population trends may have caused the difference in peak counts, offering the increase in Kittiwake Apparently Occupied Nests (AON) within Buchan Ness to Collieston Coast SPA as an example. As such, the results of the two surveys are not necessarily comparable. Additionally, the report notes that the NorthConnect Ltd survey used a different methodology with flying birds counted.

We note that as the new survey work only covers six months of data, in the breeding season, the survey work will not capture species that may only be present in the non-breeding season. The report notes that the NorthConnect Ltd data shows peak counts of fulmar and shag in the non-breeding season.

Given these inconsistencies, we advise that further survey work is undertaken during the pre-construction period, if the proposal is consented, to better inform any requirement for any mitigation during construction activities. Further advice is provided below in Table 25.

Assessment approach

Overall, the approach to assessments is appropriate and methods used are as expected and, in general, NatureScot guidance and advice has been followed. However, there are some exceptions to this which we address in the sections below. Where the assessment has diverged from our guidance, we appraise whether this would have an impact on our conclusions.

Collision Risk Modelling (CRM)

Avoidance rates

The collision avoidance rates included for consideration in the assessment are provided in Table 4 of Appendix 21 – Collision Risk Modelling (CRM) Report and are as per those recommended in the recent joint SNCB Advice Note (2024)[7]. Table 1 below outlines the avoidance rates used.

Table 1: Collision avoidance rates used

Species	sCRM
Kittiwake	0.9929
Gannet	0.9929

Macro-avoidance

We note that in Section 3.3 of the CRM report (Appendix 21), that for the non-breeding season gannet collision estimates have been corrected for macro avoidance after undertaking CRM, rather than the preferred approach of applying this correction beforehand. While this approach is not recommended in the recent Natural England Commissioned Report on macro-avoidance in gannet[8], the Natural England Report does acknowledge that macro-avoidance could be accounted for at any stage of the process and therefore, in this instance, we can agree with the approach taken.

The CRM Report states that a macro-avoidance rate of 70% has been applied. However, within Tables 6 to 8, it appears that a 30% macro-avoidance rate has been applied instead (that is, rather than multiplying mortalities by 1-0.7 the Applicant has multiplied by 0.7). This results in a more precautionary approach, and as such we can accept this and have taken it into consideration in our assessments.

Distributional responses

The Distributional Responses Report, provided within Appendix 22, discusses displacement and barrier effects. Kittiwake, guillemot, puffin and gannet are considered.

SeabORD

Annex 2 of this Report considers the modelling outputs from SeabORD, which are provided as contextual information and are not used in the assessment. SeabORD modelling was run for kittiwake and puffin; gannet cannot be run using the current version and guillemot was not assessed in the breeding season. Fowlsheugh SPA, Buchan Ness to Collieston Coast SPA and Troup, Pennan and Lion's Heads SPA were included for kittiwake. Farne Islands SPA was included for puffin. As no tracking data was available for these SPAs, SeabORD was run using the distance decay function. It is noted that several issues were encountered whilst running the SeabORD tool, and large run times prevented the Applicant from using the maximum of six colonies. However, in this instance, the results of the SeabORD analysis were roughly similar to the results of the

[7] Joint advice note from the Statutory Nature Conservation Bodies (SNCBs) regarding bird collision risk modelling for offshore wind developments (2024). https://hub.jncc.gov.uk/assets/f7892820-0f84-4e96-9eff-168f93bd343d

[8] Consideration of avoidance behaviour of northern gannet (*Morus bassanus*) in collision risk modelling for offshore wind farm impact assessments (Sept 2023). Natural England Commissioned Report NERC512

displacement matrix approach. We welcome the inclusion of this contextual information and are content with the level of detail that has been provided within Appendix 22.

Disturbances / displacement effects

The displacement and mortality rates included for consideration in the assessments are provided in Table 3 of Appendix 22 and have followed NatureScot (2023) guidance.

We are satisfied with the displacement and mortality rates used, as shown in Table 2 below.

Table 2: Displacement and mortality rates used

Species	Percentage of birds displaced	Breeding season mortality	Non-breeding season mortality
Kittiwake	30	1% and 3%	1% and 3%
Guillemot	60	Not assessed	1% and 3%
Puffin	60	3% and 5%	1% and 3%
Gannet	70	1% and 3%	1% and 3%

Regional populations and associated colony counts

Detail regarding regional populations and associated colony counts has been provided in Appendix 23.

Colony count data

The Applicant has not used Seabirds Count (Burnell et al. 2024) data to source the colony counts to be used to calculate the regional population size for the EIA and in the apportioning of mortalities to SPAs for the RIAA. Instead, counts from the Seabird Monitoring Programme (SMP) have been used, selecting count data from years that are considered to be "*most contemporaneous to the time of the site-specific DAS*". Whilst this approach is not necessarily incorrect, we have identified some potential issues with the use of this data, specifically the following:

- Counts for puffin include a mixture of Apparently Occupied Burrows (AOB), Individuals on land (IND) and Individuals on the sea (SEA) counts – the Applicant has multiplied AOB counts by 2 to convert AOBs (and therefore breeding pairs) into adult INDs. However, IND and SEA are also expected to equate breeding pairs and should also be multiplied by 2 to calculate adult INDs (Hughes et al. 2019[9], Mitchell et al. 2004[10]). As such, several colonies have underestimated colony counts.
- Some of the counts pre-date Seabirds Count and so may be inaccurate.
- The use of data from across such a large timescale (2000-2024) means that apportioning may be less accurate, with some sites having data potentially skewed by large scale population changes that have occurred over that timescale.
- For apportioning, it is important that the data used is from a similar timespan.

[9] Hughes, R. D., Bouard F. L., Bradbury, G., & Owen, E. 2019 A Census of the Atlantic Puffins *Fratercula arctica* breeding on Orkney in 2016

[10] Mitchell, P. I., Newton, S. F., Ratcliffe, N. & Dunn,T. E. 2004. Seabird Populations of Britain and Ireland. T. & A.D. Poyser, London.

There may be additional issues with the way in which the SMP data has been used to calculate colony counts. In order to compare the Applicants approach of using SMP data to that of Seabirds Count data, we have calculated regional populations using Seabirds Count data. This shows differences in populations between the two methods, with higher counts for puffin and gannet and a lower count for kittiwake using Seabirds Count data, as shown below in Table 3.

Table 3: Comparison of the regional population estimate presented within Tables 5 to 7 of Appendix 23 and those calculated by NatureScot using data from the Seabirds Count.

Species	Regional population estimate presented in Tables 5-7 in Appendix 23	Regional population size calculated using Seabirds Count data
Puffin	215,019	224,262
Kittiwake	231,732	187,470
Gannet	238,322	264,458

We note that using the Seabirds Count data would not affect whether the percentage point change in mortality would surpass the threshold for performing a PVA for the project alone and cumulative assessments at EIA level. However, with the information available to us, we cannot assess what impact it would have on the PVA results and therefore we have been more precautionary in some instances, as outlined below.

In addition, we also note several more minor errors within Appendix 23:

- The regional population estimates presented do not equal the sum of the colony counts presented in the tables for puffin and kittiwake.
- For some sites, year of count and the count number appear to have been switched for some entries. This appears to be only a typo in the table as the master site sums have not been affected:
    - Puffin – Lunan Bay to Arbroath – Rumkemno
    - Puffin - Troup, Pennan and Lion's Heads SPA – Aberdour Bay and Crovie to Collie Head
- For some sites, the count listed does not match the count in the SMP database, it is unclear whether these are typos/errors or if there may be an explanation for the use of a different number:
    - Kittiwake – Copinsay RSPB – Cenos colony count states 529 adult INDs, however the SMP database entry for 2015 states 955 AON and therefore 1910 adult INDs. Additionally, there are also counts available for this colony for 2023 (296 AON) and 2024 (335 AON) that were not used.
    - Kittiwake – North Caithness SPA, Stacks of Duncansby – Cenos colony count states 1432 adult INDs, however, the SMP database entry for 2023 states 282 AON and therefore 564 breeding INDs.
    - Gannet – Marwick Head SPA – Cenos colony count states 116 adult INDs, however, the SMP database entry for 2023 states 29 AON and therefore 58 adult INDs.

- Puffin – Forth Islands SPA, Inchmickery RSPB – Cenos colony count states 28 adult INDs, however, the SMP database entry for 2023 states 17 IND and therefore 34 adult INDs.

- Kittiwake - River Dee to Muchalls – table states that the count is from 2014, however, there is no count in the SMP database from 2014, and the count number matches an entry from 2024.

Apportioning

An Apportioning Report is provided within Appendix 24. The distance measurements that have been used within this part of the assessment are somewhat unclear.

Distance measurements

NatureScot's guidance is that ***connectivity*** should be defined using foraging range (Woodward et al. 2019), based on distance as measured from the closest edge of the Array Area to the closest of edge of the colony/SPA – either at sea or straight line is acceptable. In paragraph 13 of the Apportioning Report (Appendix 24) it is stated that *connectivity* has been defined using edge to edge distances – this would be the correct approach.

However, in Section 2.3.1, paragraphs 26 and 27 indicate that for the ***apportioning*** calculation, the distances from the colony to the Array Area were measured from the closest edge of the Array Area. This approach is not in alignment with the NatureScot interim guidance note on apportioning[11]. The apportioning calculation should be performed using the distance as measured from the *geometric* centre of the Array Area to the *geometric* centre of the colony/SPA.

In order to better understand how the Applicant has calculated these distances, we reviewed a subset of the distances presented in Table 8 of the Apportioning Report - Buchan Ness to Collieston Coast SPA, Fowlsheugh SPA, Forth Islands SPA (measured from the Isle of May) and St Abb's Head to Fast Castle SPA. By measuring the (straight line) closest edge to closest edge and geometric centre to geometric centre distances for these sites, we found that for most of the sites the geometric centre to centre distances were roughly similar to those in Table 8. However, we note that for St Abb's Head to Fast Castle SPA, the distance reported of 273km appears to be too large for either edge to edge or geometric centre to geometric centre distance measurements.

The proportion of range at sea has not been provided and as such we are unable to re-create the apportioning calculations and mortalities allocated to each SPA. Therefore, we are unsure how the above issue affects the HRA assessments involving apportioning calculations, and have therefore taken a more precautionary approach in some instances, as outlined below.

We note further instances where inconsistencies regarding distance measurements occur. Including, within the RIAA as discussed below.

In view of the points above, we request clarification from the Applicant regarding the distances used in the *apportioning* calculation and the process that has been used to measure the distance between colonies and the Array Area for this calculation.

[11] https://www.nature.scot/doc/interim-guidance-apportioning-impacts-marine-renewable-developments-breeding-seabird-populations

Sabbatical and immature birds

The Apportioning Report does not clearly explain how sabbatical and immature birds were treated within the assessments. However, this is made more apparent within detail included in the RIAA.

An unusual approach has been taken to removing sabbaticals and immature birds in the breeding season assessments. We would usually expect sabbaticals and immatures to be removed after having collated seasonal collision/displacement mortalities, before apportioning mortalities to SPAs. However, the Applicant has calculated a colony apportionment rate and then applied sabbatical and immature rates to this in order to get an overall apportionment rate which is used in assessments. We have compared both methods and found the results to be very similar therefore, in this instance, we can accept the approach.

Additional gannet scenario at Forth Island SPA

Annex 3 of Appendix 24 sets out an additional scenario for gannet at Forth Islands SPA.

The Applicant's original approach to gannet apportioning uses counts from 2023 for all sites except Forth Island SPA, where the most recent count in the SMP Database (and Seabirds Count) is from 2014. An additional scenario is also presented where counts from Bass Rock from 2023 are used instead of the 2014 Forth Islands count. The 2023 Bass Rock count is from Harris et al 2024[12] but does not appear to be referenced.

The 2023 count is lower than the 2014 count, and results in a small reduction in apportioning weight from 0.80 for the 2014 scenario to 0.73 for the 2023 scenario. The 2023 scenario results in a slightly higher percentage point change in mortality of 0.016, as compared to the 2014 scenario (0.012). For both the original approach and the additional scenario, the percentage point change in mortality is below 0.02 and therefore a PVA is not required for either scenario for project alone effects under EIA. We appraise both scenarios within our advice regarding the RIAA.

LSE Screening process

Within Section 5.1.1 (Table 5-1) of the RIAA, the Applicant states that connectivity for SPAs is "*measured from the geometric centre of the development to the geometric centre of the colony*." For LSE screening **connectivity** distances should be measured from the closest edge of the colony to the closest edge of the Array Area – either straight line or at sea.

In our view, this discrepancy does not result in any key sites being excluded from the screening assessment – as summarised in Table 7-3 in the RIAA.

However, we note inconsistences in the way Northern Isles SPAs included for kittiwake in Table 7-3 are then considered. For example, some of these sites are either not considered in the Apportioning Report or not taken forward any further in assessments e.g. Hoy and Copinsay SPAs. West Westray SPA does not appear to be included in the Apportioning Report, but it has been taken forward for assessment in the RIAA. **These inconsistencies, and the lack of explanation for them, make it difficult for us to be confident in the assessments and as such we request clarification from the Applicant regarding their approach.**

[12] https://www.seabird.org/uploads/store/mediaupload/2181/file/Bass%20Rock%20Count%20Report_Final.pdf

In spite of our concerns, due to the distance of the project from Northern Isles sites, we are able to conclude that it is likely only negligible impacts would have been apportioned to these SPAs.

In summary, the issues described above have affected our confidence in the assessments provided. We are able to draw conclusions for both EIA and HRA based on the information in the Application, however, where necessary we take a precautionary approach in determining AEOSI for HRA and significance of effects for EIA to take account of these issues.

NatureScot Appraisal - EIA

Proposal alone impact assessment

Within the EIA, the Applicant has considered impacts from the proposal alone for kittiwake, guillemot, puffin and gannet as outlined in the table below.

Table 4: Project alone annual mortalities for the species assessed (kittiwake, guillemot, puffin and gannet)

Species	Regional population	Annual displacement adult mortalities	Annual collision adult mortalities	Total annual adult mortalities	Percentage point change in mortality
Kittiwake	231,732	0.84 - 2.61	12.2	13.04 - 13.64	0.003 - 0.004%
Guillemot	1,617,306	50 - 150	NA	50 - 150	0.003 - 0.009%
Puffin	215,019	3.72 - 6.14	NA	3.72 - 6.14	0.002 - 0.003%
Gannet	238,322	1.35 - 4.05	18.29	16.74 - 25.14	0.007 - 0.009%

The percentage point change in mortality from total annual adult mortalities is below the 0.02 threshold and as such no PVAs were required for the project alone assessment.

The Applicant concluded that for all species assessed, none of the proposal alone impacts are significant in EIA terms - we are in agreement with the Applicant's conclusions under EIA.

Cumulative impact assessment

The cumulative impact assessment considers kittiwake, guillemot, puffin and gannet. PVAs were undertaken for these four species.

Kittiwake

The cumulative impact of predicted collision and displacement mortality results in a percentage point change in mortality that exceeds the 0.02 threshold for PVA requirement.

Table 5: Cumulative assessment predicted annual mortalities for kittiwake (BB – proposed Berwick Bank Offshore Wind Farm)

Scenario	Regional population	Annual displacement adult mortalities	Annual collision adult mortalities	Total annual adult mortalities	Percentage point change in mortality
Other offshore wind farms without BB	231,732	84.3 - 254.8	615.5	700.2 - 731.2	0.129 - 0.186%

Other offshore wind farms with BB	231,732	156.6 - 471.7	918.4	1075.1 - 1148.1	0.259 - 0.236%

We agree with the Applicant's conclusion that the results of the PVA show a moderate to high consequence is likely to occur for kittiwake as a result of the cumulative impacts (with, and moderate without, the proposed Berwick Bank OWF).

Table 6: Cumulative assessment PVA results for kittiwake (BB – proposed Berwick Bank Offshore Wind Farm. CGR – counterfactual of population growth rate, CPS - counterfactual of final population size).

Scenario	Median CGR	Median CPS	Applicant's conclusion
Other offshore wind farms without BB	0.995 - 0.996	0.844 - 0.874	Moderate consequences – significant
Other offshore wind farms with BB	0.992 - 0.994	0.760 - 0.810	Moderate-high consequences - significant

The Applicant proposes that secondary mitigation requirements will be met via compensatory measures proposed for protected sites where AEOSI is concluded which we accept however please see our advice regarding the RIAA below and derogation in Appendix G to our advice.

Puffin

The cumulative impact of predicted displacement mortality results in a percentage point change in mortality that exceeds the 0.02 threshold for PVA requirement.

Table 7: Cumulative assessment predicted annual mortalities for puffin (BB – proposed Berwick Bank Offshore Wind Farm)

Scenario	Regional population	Annual displacement adult mortalities	Percentage point change in mortality
Other offshore wind farms without BB	215,019	279 - 465.9	0.130 - 0.217%
Other offshore wind farms with BB	215,019	496.6 - 1022.0	0.163 - 0.272%

We are in agreement with the Applicant's conclusion that the results of the PVA show a moderate consequence is likely to occur for puffin as a result of the cumulative impacts (with and without Berwick Bank).

Table 8: Cumulative assessment PVA results for puffin (BB – proposed Berwick Bank Offshore Wind Farm. CGR – counterfactual of population growth rate, CPS - counterfactual of final population size).

Scenario	Median CGR	Median CPS	Applicant's conclusion
Other offshore wind farms without BB	0.995 - 0.998	0.831 - 0.916	Minor-moderate consequences - significant
Other offshore wind farms with BB	0.994 - 0.997	0.810 - 0.902	Minor-moderate consequences - significant

It is proposed that secondary mitigation requirements will be met via compensatory measures proposed for protected sites where AEOSI is concluded which we accept, however, please see our advice regarding the RIAA below and derogation in Appendix G to our advice.

Gannet

The cumulative impact of predicted collision and displacement mortality for gannet results in a percentage point change in mortality that exceeds the 0.02 threshold for PVA requirement.

Table 9: Cumulative assessment predicted annual mortalities for gannet (BB – proposed Berwick Bank Offshore Wind Farm)

Scenario	Regional population	Annual displacement adult mortalities	Annual collision adult mortalities	Total annual adult mortalities	Percentage point change in mortality
Other offshore wind farms without BB	238,322	259.3 - 680.2	930.6	707.5 - 1438.5	0.297 - 0.470%
Other offshore wind farms with BB	238,322	302.4 - 909	1016.9	815.5 - 1571.5	0.341 - 0.545%

We agree with the Applicant's conclusion that the results of the PVA show a moderate consequence is likely to occur for gannet as a result of the predicted cumulative impacts (with and without Berwick Bank).

Table 10: Cumulative assessment PVA results for gannet (BB – proposed Berwick Bank Offshore Wind Farm. CGR – counterfactual of population growth rate, CPS - counterfactual of final population size).

Scenario	Median CGR	Median CPS	Applicant's conclusion
Other offshore wind farms without BB	0.991 - 0.994	0.719 - 0.797	Moderate consequences - significant
Other offshore wind farms with BB	0.990 - 0.993	0.693 - 0.778	Moderate consequences - significant

The Applicant proposes that secondary mitigation requirements will be met via compensatory measures proposed for protected sites where AEOSI is concluded which we accept, but please see our advice regarding the RIAA below and derogation in Appendix G to our advice.

Guillemot

The cumulative impact of predicted displacement mortality for guillemot results in a percentage point change in mortality that exceeds the 0.02 threshold for PVA requirement.

Table 11: Cumulative assessment predicted annual mortalities for guillemot (BB – proposed Berwick Bank Offshore Wind Farm)

Scenario	Regional population	Annual displacement adult mortalities	Percentage point change in mortality
Other offshore wind farms without BB	1,617,306	2256 - 6769	0.139 - 0.156%
Other offshore wind farms with BB	1,617,306	2522 - 7565	0.419 - 0.468%

However, we note that the Applicant has omitted the breeding season mortality contributions from other projects to the annual mortality total. The Applicant needs to assess what their proposal's contribution is to the cumulative total year-round, and therefore, despite predicting no contribution to the breeding season total, the year-round total (breeding season and non-breeding season) should be assessed. Please see below.

Table 12: Cumulative assessment PVA results for guillemot (non-breeding season only), (BB – proposed Berwick Bank Offshore Wind Farm. CGR – counterfactual of population growth rate, CPS - counterfactual of final population size).

Scenario	Median CGR	Median CPS	Applicant's conclusion
Other offshore wind farms without BB	0.995 - 0.998	0.845 - 0.946	Minor consequences - insignificant
Other offshore wind farms with BB	0.995 - 0.998	0.828 - 0.939	Minor consequences - insignificant

The non-breeding season PVA results in a Counterfactual of Population Size (CPS) of 0.845 - 0.946 and a Counterfactual of Population Growth Rate (CGR) of 0.995 - 0.998, which are low enough for concern. We consider it likely that an annual assessment including the breeding season contributions of other sites would also point to concerning results. However, the mortalities contributed by the proposal would be smaller in proportion.

In summary, we conclude that the **cumulative impact** of the proposal with other offshore wind farms are **significant in EIA terms**, for both scenarios with and without Berwick Bank, for:

- Kittiwake through collision and displacement
- Puffin through displacement
- Gannet through collision and displacement
- Guillemot through displacement

As above, the Applicant proposes that secondary mitigation requirements will be met via compensatory measures proposed for protected sites where AEOSI is concluded (see our advice regarding the RIAA below and derogation **in Appendix G** to our advice). However, guillemot has not been assessed within the RIAA and as subsequently is not addressed within the proposed compensatory measures.

Should Scottish Ministers be minded to grant consent, we advise that:

- **Further consideration of predicted impact to guillemot under EIA is required with identification of required mitigation under EIA.**

Mitigation

In line with established EIA practice, we expect mitigation to be identified where a significant adverse effect is identified.

Without prejudging the outcome of the Appropriate Assessment, we anticipate, should consent be granted, that compensatory measures would need to be secured for kittiwake, puffin and gannet. We consider that in this instance agreed compensation measures would be sufficient to address impacts predicted under EIA for these species.

In relation to guillemot No AEOSI was concluded within the RIAA, which we agree with. Therefore, impacts on this species will need to be addressed through the EIA, as outlined above. We are happy to discuss ideas for such mitigation measures if required.

Monitoring

The Applicant has not proposed any monitoring for ornithology as there were no significant effects from the Project alone during any phase. We largely agree, in this instance, as specific requirement for monitoring will instead be required through the derogation case for ornithology to ensure compensatory measures are effective. However, further consideration maybe required for guillemot as discussed above.

Cross-border impacts

We recommend that advice is sought from Natural England in respect of English SPAs, specifically:

- Farne Islands SPA
- Flamborough and Filey Coast SPA

Transboundary impacts

Little narrative is provided to justify the Applicants conclusion on the potential for transboundary impacts. That said, we do not consider impacts from this proposal will cause transboundary impacts.

Report to Inform Appropriate Assessment (RIAA)

As Marine Directorate is the Competent Authority, our advice is provided to assist with the Appropriate Assessment in considering the impacts on protected interests of European Sites within Scotland.

Our advice below primarily focuses on the quantitative assessments of collision and displacement impacts presented in the RIAA for Scottish seabird SPAs and our determination of Adverse Effect on Site Integrity (AEOSI) for these sites and their qualifying species.

Although our assessments of AEOSI are primarily based on the PVA Counterfactual of Population Size (CPS) outputs, after 35 years, in reaching our conclusions we also consider a range of other factors including:

- Counterfactual of Population Growth Rate (CGR) outputs and the % decrease in population growth rate
- Status of the population including short and long-term trends
- Condition of the feature
- Species ecology
- Proportional importance of species in Scotland and UK
- Impacts of HPAI and other recent mortality events
- Discrepancies which reduce our confidence in the assessments

In addition, we also consider the qualitative assessments undertaken for other sites/species and other impact pathways.

HRA screening

The RIAA draws on the HRA Screening Report (submitted to MD LOT in May 2024), together with consultee feedback (as summarised in Table 4-1 of the RIAA).

As detailed above, we raise an issue regarding the distances used to establish *connectivity* within the LSE Screening. However, in our assessment, this discrepancy does not result in any key sites being excluded from the screening assessment summary in Table 7-3 in the RIAA.

We also note above inconsistences in the way Northern Isles SPAs included for kittiwake in Table 7-3 are then considered. For example, some of these sites are either not considered in the Apportioning Report or not taken forward any further in assessments – an example being Hoy and Copinsay SPAs. Additionally, West Westray SPA does not appear to be included in the Apportioning Report, but it has been taken forward for assessment in the RIAA. These inconsistencies, and the lack of explanation for them, make it difficult to be confident in the assessments. However, despite our concerns, we are able to conclude that, due to the distance of the project from Northern Isles sites, it is likely only negligible impacts would have been apportioned to these SPAs.

For completeness, we provide in Annex 1A of this Appendix, a list of sites and species assessed in the RIAA and our subsequent conclusions.

NatureScot Appraisal - RIAA

Proposal alone assessment of AEOSI

For all species and SPAs assessed, the proposal alone impacts did not meet or exceed the 0.02 percentage point change in adult survival rate threshold. Therefore, no PVAs were required for the proposal alone assessment.

As a result, **we can conclude no AEOSI** for the species and sites in Table 13 below:

Table 13: NatureScot's assessment of project alone determination of AEOSI

Species	SPA	Determination of AEOSI
Kittiwake	Buchan Ness to Collieston Coast	No AEOSI
	East Caithness Cliffs	No AEOSI
	Forth Islands	No AEOSI
	Fowlsheugh	No AEOSI
	North Caithness Cliffs	No AEOSI
	St Abb's Head to Fast Castle	No AEOSI
	Troup, Pennan & Lion's Heads	No AEOSI
	West Westray	No AEOSI
Puffin	Fair Isle	No AEOSI
	Forth Islands	No AEOSI
	Foula	No AEOSI
	Hermaness, Saxa Vord & Valla Field	No AEOSI
	Hoy	No AEOSI
Gannet	Fair Isle	No AEOSI

Species	SPA	Determination of AEOSI
	Forth Islands	No AEOSI
	Hermaness, Saxa Vord & Valla Field	No AEOSI
	North Rona & Sula Sgeir	No AEOSI
	Noss	No AEOSI
	St Kilda	No AEOSI
	Sule Skerry & Sule Stack	No AEOSI

Please note that we agree that guillemot is outwith foraging range for all SPAs and is therefore not assessed for HRA.

In-combination assessment of AEOSI

The Project was assessed in-combination with other offshore wind farm developments under two scenarios:

- Other offshore wind farm developments **including** the proposed Berwick Bank Offshore Wind farm currently awaiting determination; and
- Other offshore wind farm developments **excluding** the proposed Berwick Bank Offshore Wind farm.

We also describe this as with or without Berwick Bank.

The assessment for several SPAs and the species assessed demonstrated the percentage point change in adult survival did not meet the 0.02 threshold and/or the mortality from the project was less than 0.2 birds/annum and, therefore, PVA was not undertaken. As a result, **we can conclude no AEOSI** for the species/sites shown in Table 14 below.

Table 14: NatureScot's in-combination assessment of AEOSI for sites and species where the % point change in adult survival did not meet the 0.02 threshold or the mortality from the project was less than 0.2 birds/annum

Species	SPA	Determination of AEOSI
Kittiwake	West Westray	No AEOSI
Puffin	Fair Isle	No AEOSI
	Foula	No AEOSI
	Hermaness, Saxa Vord & Valla Field	No AEOSI
	Hoy	No AEOSI
Gannet	North Rona & Sula Sgeir	No AEOSI
	St Kilda	No AEOSI
	Sule Skerry & Sule Stack	No AEOSI

PVAs were undertaken for the remaining sites/species assessed, and we provide advice on the PVA results and our determination of AEOSI for seabird SPAs via a summary table and more detailed assessments for individual SPAs and species under the proceeding sub-sections.

In combination assessment - summary table

We provide a summary below (Table 15) of the conclusions we have reached of those SPAs for which we consider there is AEOSI or where we are unable to conclude No AEOSI in-combination with Berwick Bank or without Berwick Bank. Please note we have not used a threshold to reach

our conclusions, instead our assessment includes aspects of precaution as well as relevant contextual information as provided in our conclusions above. For each Counterfactual of Population Scale (CPS) column, low displacement mortality rate value followed by high displacement mortality rate value have been provided.

Table 15: Summary of NatureScot in-combination assessment

Species	SPA	CPS 35 years including Berwick Bank Low/High displacement	CPS 35 years excluding Berwick Bank Low/High displacement	Additional mortality from project alone (birds/ annum)	NatureScot Determination of AEOSI
Kittiwake	Buchan Ness to Collieston Coast	0.862-0.824	0.878-0.846	1.3-1.48	AEOSI – both scenarios
	East Caithness Cliffs	0.766-0.688	0.781-0.708	1.35-1.53	AEOSI – both scenarios
	Forth Islands	0.834-0.778	0.90-0.858	0.47-0.54	AEOSI including Berwick Bank Unable to conclude no AEOSI excluding Berwick Bank
	Fowlsheugh	0.826-0.777	0.895-0.861	1.81-2.07	AEOSI including Berwick Bank Unable to conclude no AEOSI excluding Berwick Bank
	North Caithness Cliffs	0.864-0.828	0.876-0.845	0.4-0.45	AEOSI – both scenarios
	St Abb's Head to Fast Castle	0.392-0.298	0.898-0.861	0.36-0.42	AEOSI including Berwick Bank Unable to conclude no AEOSI excluding Berwick Bank
	Troup, Pennan & Lion's Heads	0.880-0.837	0.894-0.856	0.98-1.12	AEOSI including Berwick Bank

Species	SPA	CPS 35 years including Berwick Bank Low/High displacement	CPS 35 years excluding Berwick Bank Low/High displacement	Additional mortality from project alone (birds/ annum)	NatureScot Determination of AEOSI
					Unable to conclude no AEOSI excluding Berwick Bank
Puffin	Forth Islands	0.924-0.874	0.932-0.886	1.13-2.02	Unable to conclude no AEOSI – both scenarios
Gannet	Fair Isle	0.943-0.925	0.944-0.924	0.53-0.67	No AEOSI – both scenarios
	Forth islands (2014 count)	0.792-0.724	0.821-0.764	14.51-17.89	AEOSI – both scenarios
	Forth Islands (2023 count)	0.714-0.626	0.752-0.676	13.14-16.14	AEOSI – both scenarios
	Hermaness, Saxa Vord & Valla Field	0.911-0.875	0.913-0.877	1.25-1.65	Unable to conclude no AEOSI – both scenarios
	Noss	0.934-0.908	0.935-0.910	1.08-1.38	No AEOSI – both scenarios

In-combination assessment – individual SPA assessments

Buchan Ness to Collieston Coast SPA

Table 16 provides the PVA results for kittiwake at Buchan Ness to Collieston Coast SPA and our determination of AEOSI.

Table 16: Summary of PVA results for kittiwake at Buchan Ness to Collieston Coast SPA and NatureScot conclusion

Species	CPS[&] 35 years (including Berwick Bank)	CPS 35 years (excluding Berwick Bank)	CGR[#] 35 years % decrease in growth rate	Additional mortality from the project (birds/annum)	NatureScot determination of AEOSI
Kittiwake	0.862-0.824*	0.878-0.846*	0.4-0.5	1.3-1.48*	AEOSI – both scenarios

** LOW / HIGH displacement mortality rates – applies to all tables in this section*

[&]CPS - Counterfactual of Population Scale, [#]CGR – Counterfactual of Growth Rate – applies to all tables in this section.

We conclude **AEOSI** for **kittiwake** both scenarios, taking into account:

- the moderately low CPS, especially for the high displacement rate, representing a population decline of up to 17.6%

- the decrease in population growth rate of up to 5%
- the unfavourable condition of the feature
- the 19% population decline between Seabird 2000 and the Seabirds Count
- discrepancies which reduce our confidence in the assessments and require us to take a precautionary approach to AEOSI where counterfactuals are moderately low.

East Caithness Cliffs

Table 17 provides the PVA results for kittiwake at East Caithness Cliffs SPA and our determination of AEOSI.

Table 17: Summary of PVA results for kittiwake at East Caithness Cliffs SPA and NatureScot conclusion

Species	CPS 35 years (including Berwick Bank)	CPS 35 years (excluding Berwick Bank)	CGR 35 years % decrease in growth rate	Additional mortality from the project	NatureScot determination of AEOSI
Kittiwake	0.766-0.688	0.781-0.708	0.7-1.0	1.35-1.53	AEOSI – both scenarios

We conclude **AEOSI** for **kittiwake** at East Caithness Cliffs for both scenarios taking into account:

- the low CPS, representing a population decline of up to 31%
- the decrease in population growth rate of up to 1.0%
- the 39% population decline between Seabird 2000 and the Seabirds Count, despite the favourable condition of the feature.

Forth Islands SPA

Table 18 below provides the PVA results for kittiwake, puffin, gannet (2014 and 2023 colony count) at Forth Islands SPA and our determination of AEOSI.

Table 18: Summary of PVA results for qualifying species of the Forth Islands SPA and NatureScot conclusion

Species	CPS 35 years (including Berwick Bank)	CPS 35 years (excluding Berwick Bank)	CGR 35 years % decrease in growth rate	Additional mortality from the project	NatureScot determination of AEOSI
Kittiwake	0.834-0.778	0.90-0.858	0.5-0.7 (with Berwick Bank) 0.3-0.4 (without Berwick Bank)	0.47-0.54	AEOSI with Berwick Bank Unable to conclude no AEOSI without Berwick Bank

Species	CPS 35 years (including Berwick Bank)	CPS 35 years (excluding Berwick Bank)	CGR 35 years % decrease in growth rate	Additional mortality from the project	NatureScot determination of AEOSI
Puffin	0.924-0.874	0.932-0.886	0.3-0.4 (with Berwick Bank) 0.2-0.3 (without Berwick Bank)	1.13-2.02	Unable to conclude no AEOSI – both scenarios
Gannet (2014 colony count)	0.792-0.724	0.821-0.764	0.6-0.9 (with Berwick Bank) 0.5-0.7(without Berwick Bank)	14.51-17.89	AEOSI – both scenarios
Gannet (2023 colony count)	0.714-0.626	0.752-0.676	0.9-1.3 (with Berwick Bank) 0.8-1.1 (without Berwick Bank)	13.14-16.14	AEOSI – both scenarios

We conclude **AEOSI** for **kittiwake** at Forth Islands SPA including Berwick Bank. In reaching this conclusion we have considered:

- the low CPS, representing a population decline of up to 22%
- the decrease in population growth rate of up to 0.7%
- the unfavourable condition of the feature
- a 22% decline between Seabird 2000 and the Seabirds Count
- a further decline of 29% in the 2023 survey (Tremlet et al. 2024)[13]

We are **unable to conclude no AEOSI** for **kittiwake** at Forth Islands SPA excluding Berwick Bank, taking into account:

- the moderately low CPS for the high displacement mortality rate, representing a population decline of up to 14.2%
- the decrease in population growth rate of up to 0.4%
- the 22% decline in population between Seabird 2000 and the Seabirds Count
- a further decline of 29% in the 2023 survey (Tremlet et al. 2024)

[13] UK seabird colony counts in 2023 following the 2021-22 outbreak of Highly Pathogenic Avian Influenza. Tremlet et al. 2024

- the unfavourable condition of the feature.

We are **unable to conclude no AEOSI** for **puffin** at Forth Islands SPA for both scenarios, taking into account:

- the moderately low CPS for the high displacement mortality rate, representing a population decline of up to 12%
- the decrease in population growth rate of up to 0.4%
- the 39% decline in population between Seabird 2000 and the Seabirds Count
- the favourable condition of the feature.

We conclude **AEOSI** for **gannet** at Forth Islands SPA for the 2014 colony count and both scenarios, taking into account:

- the low CPS, representing a population decline of up to 28%
- the decrease in population growth rate of up to 0.9%
- a population increase of 57% between Seabird 2000 and the Seabirds Count
- a population decrease of 27% between Seabirds Count and the 2023 survey (Tremlet et al. 2024), indicating that the population has been significantly impacted by HPAI
- the favourable condition of the feature
- the moderate contribution from the project.

We conclude **AEOSI** for **gannet** at Forth Islands SPA for the 2023 colony count and both scenarios, taking into account:

- the low CPS, representing a population decline of up to 37%
- the decrease in population growth rate of up to 1.3%
- a population increase of 57% between Seabird 2000 and the Seabirds Count
- a population decrease of 27% between Seabirds Count and the 2023 survey (Tremlet et al. 2024), indicating that the population has been significantly impacted by HPAI
- the favourable condition of the feature
- the moderate contribution from the project.

Fowlsheugh SPA

Table 19 provides the PVA results for kittiwake at Fowlsheugh SPA and our determination of AEOSI.

Table 19: Summary of PVA results for kittiwake at Fowlsheugh SPA and NatureScot conclusion

Species	CPS 35 years (including Berwick Bank)	CPS 35 years (excluding Berwick Bank)	CGR 35 years % decrease in growth rate	Additional mortality from the project	NatureScot determination of AEOSI
Kittiwake	0.826-0.777	0.895-0.861	0.5-0.7 (with Berwick Bank) 0.3-0.4 (without Berwick Bank)	1.81-2.07	AEOSI with Berwick Bank

					Unable to conclude no AEOSI without Berwick Bank

We conclude **AEOSI** for **kittiwake** at Fowlsheugh SPA including Berwick Bank, taking into account:

- the low CPS, representing a population decline of up to 22%
- the decrease in population growth rate of up to 0.7%
- a 51% decline in population between Seabird 2000 and the Seabirds Count
- the unfavourable declining condition of the feature.

We are **unable to conclude no AEOSI** for **kittiwake** at Fowlsheugh SPA excluding Berwick Bank, taking into account:

- the moderately low CPS for the high displacement rate, representing a population decline of up to 14%
- the decrease in population growth rate of up to 0.4%
- a 51% decline in population between Seabird 2000 and the Seabirds Count
- the unfavourable declining condition of the feature.

Hermaness, Saxa Vord and Valla Field SPA

Table 20 provides the PVA results for gannet at Hermaness, Saxa Vord and Valla Field SPA and our determination of AEOSI.

Table 20: Summary of PVA results for gannet at Hermaness, Saxa Vord and Valla Field SPA and NatureScot conclusion

Species	CPS 35 years (including Berwick Bank)	CPS 35 years (excluding Berwick Bank)	CGR 35 years % decrease in growth rate	Additional mortality from the project	NatureScot determination of AEOSI
Gannet	0.911-0.875	0.913-0.877	0.3-0.4	1.25-1.65	Unable to conclude no AEOSI – both scenarios

We are **unable to conclude no AEOSI** for **gannet** at Hermaness, Saxa Vord and Valla Field SPA, taking into account:

- the moderately low CPS for the high displacement mortality rate up to 12.5%
- the 89% increase in population between Seabird 2000 and the Seabirds Count
- the favourable condition of the feature

Considered together, these factors would not raise significant concerns. However, there has been a decline of 37% between Seabirds Count and the 2023 gannet survey, indicating that the population has been significantly impacted by HPAI. In view of this we are unable to conclude no AEOSI.

North Caithness Cliffs SPA

Table 21 provides the PVA results for kittiwake at North Caithness Cliffs SPA and our determination of AEOSI.

Table 21: Summary of PVA results for kittiwake at North Caithness Cliffs SPA and NatureScot conclusion

Species	CPS 35 years (including Berwick Bank)	CPS 35 years (excluding Berwick Bank)	CGR 35 years % decrease in growth rate	Additional mortality from the project	NatureScot determination of AEOSI
Kittiwake	0.864-0.828	0.876-0.845	0.4-0.5	0.4-0.45	AEOSI – both scenarios

We conclude **AEOSI** for **kittiwake** at North Caithness Cliffs for both scenarios, taking into account:

- the low CPS for the high displacement rate, representing a population decline of up to 17%
- the decrease in population growth rate of up to 0.5%
- the 45% decline in population between Seabird 2000 and the Seabirds Count, though we note an increase of 41% in population in the 2023 survey
- the unfavourable condition of the feature
- discrepancies which reduce our confidence in the assessments and require us to take a precautionary approach to AEOSI where counterfactuals are moderately low.

St Abb's Head to Fast Castle SPA

Table 22 provides the PVA results for kittiwake at St Abb's Head to Fast Castle SPA and our determination of AEOSI.

Table 22: Summary of PVA results for kittiwake at St Abb's Head to Fast Castle SPA and NatureScot conclusion

Species	CPS 35 years (including Berwick Bank)	CPS 35 years (excluding Berwick Bank)	CGR 35 years % decrease in growth rate	Additional mortality from the project	NatureScot determination of AEOSI
Kittiwake	0.392-0.298	0.898-0.861	2.6-3.3 (with Berwick Bank) 0.3-0.4 (without Berwick Bank)	0.36-0.42	AEOSI with Berwick Bank Unable to conclude no AEOSI without Berwick Bank

We conclude **AEOSI** for **kittiwake** at St Abb's Head to Fast Castle SPA including Berwick Bank. This takes into account:

- the very low CPS, representing a population decline of up to 70%
- the decrease in population growth rate of up to 3.3%
- the 68% decline in population between Seabird 2000 and the Seabirds Count
- the unfavourable condition of the feature.

We are **unable to conclude AEOSI** for **kittiwake** at St Abb's Head to Fast Castle SPA excluding Berwick Bank. This takes into account:

- the moderately low CPS for the high displacement rate, representing a population decline of up to 14%
- the decrease in population growth rate of up to 0.4%
- the 68% decline in population between Seabird 2000 and the Seabirds Count
- the unfavourable condition of the feature

Troup, Pennan and Lion's Heads SPA

Table 23 provides the PVA results for kittiwake at Troup, Pennan and Lion's Heads SPA and our determination of AEOSI.

Table 23: Summary of PVA results for kittiwake at Troup, Pennan and Lion's Heads SPA and NatureScot conclusion

Species	CPS 35 years (including Berwick Bank)	CPS 35 years (excluding Berwick Bank)	CGR 35 years % decrease in growth rate	Additional mortality from the project	NatureScot determination of AEOSI
Kittiwake	0.880-0.837	0.894-0.856	0.4-0.5 (with Berwick Bank) 0.3-0.4 (without Berwick Bank)	0.98-1.12	AEOSI with Berwick Bank Unable to conclude no AEOSI without Berwick Bank

We conclude **AEOSI** including Berwick Bank for **kittiwake** at Troup, Pennan and Lion's Heads SPA, taking into account:

- the moderately low CPS, especially for the high displacement rate, representing a population decline of up to 16%
- a decrease in population growth rate of up to 0.5%.

We are **unable to conclude no AEOSI** for **kittiwake** at Troup, Pennan and Lion's Heads SPA excluding Berwick Bank, taking into account:

- the moderately low CPS, representing a population decline of up to 14%
- a decrease in population growth rate of up to 0.4%.

While these PVA outputs are not of high concern, the impacts are exacerbated by:

- a 44% decline in population between Seabird 2000 and the Seabirds Count
- the unfavourable declining condition of the feature.

Outer Firth of Forth and St Andrews Bay Complex (OFFSABC) - Breeding seabird features

Functionally linked colonies

Our assessment of impacts to the OFFSABC marine SPA breeding seabird qualifying features was undertaken with respect to the functionally linked breeding colony SPAs[14].

These are listed in the Table 24 below along with the relevant species and colony SPA conclusions for AEOSI including in-combination with other wind farms for the two scenarios of:

- Other offshore wind farm developments **including** the proposed Berwick Bank Offshore Wind farm currently awaiting determination; and
- Other offshore wind farm developments **excluding** the proposed Berwick Bank Offshore Wind farm.

Table 24: Summary of NatureScot conclusions for OFFSABC functionally linked colonies

SPA	Species	Colony SPA conclusion
Buchan Ness to Collieston Coast	Kittiwake	AEOSI – both scenarios
Forth Islands	Kittiwake	AEOSI including Berwick Bank
		Unable to conclude no AEOSI excluding Berwick Bank
	Puffin	Unable to conclude no AEOSI – both scenarios
	Gannet	AEOSI – both scenarios
Fowlsheugh	Kittiwake	AEOSI including Berwick Bank
		Unable to conclude no AEOSI excluding Berwick Bank
St Abb's Head to Fast Castle	Kittiwake	AEOSI including Berwick Bank
		Unable to conclude no AEOSI excluding Berwick Bank
Troup, Pennan and Lion's Heads	Kittiwake	AEOSI including Berwick Bank
		Unable to conclude no AEOSI excluding Berwick Bank

[14] https://www.nature.scot/sites/default/files/special-protection-area/10478/conservation-and-management-advice.pdf

Seabird assemblage features

Any named qualifying species of an assemblage feature in an SPA is protected in its own right. The SPA Conservation Objectives are set for individual species rather than the assemblage and therefore the features should be assessed and any impacts concluded at the individual species level.

This is the established position in Scotland, although we understand that this differs from the approach taken in England.

For those SPAs which have a seabird assemblage feature, where we have concluded **AEOSI** for at least one named species of the seabird assemblage, then that is the conclusion for the assemblage feature. See Table 1A on Annex 1A.

Qualitative assessment

Fulmar – Scottish SPAs

A qualitative distributional responses assessment has been carried out for fulmar for project alone impacts, relevant to any of the SPAs assessed. No in-combination assessment has been undertaken, this is acceptable as generally other wind farms have not included fulmar in assessments. The SPA considered are listed in Section 7.7.2 of the RIAA and we agree with those sites considered.

To assess possible impacts the Applicant has considered the potential increase in foraging distance required for fulmar to avoid the Array Area. For the recommended foraging range this would equate to 1.5-2.3%, which seems a small addition to the length of fulmar foraging trips.

In the absence of a quantitative assessment, we accept the approach the Applicant has taken and agree with their conclusion of no AEOSI for all relevant Scottish SPAs with fulmar qualifying species.

Qualitative assessment of impact pathways occurring during construction and decommissioning

Our advice with respect to impact pathways qualitatively assessed by the Applicant for construction and decommissioning is provided in Table 25 below.

Table 255: NatureScot advice regarding impact pathways assessed qualitatively during construction/decommissioning

Impact pathway	NatureScot advice
Distributional responses Array Area - Vessel disturbance	We agree with the conclusion of **No AEOSI on any SPAs from this impact pathway.**
Distributional responses - EICC	The EICC route and landfall passes through the Buchan Ness to Collieston Coast SPA, around Longhaven Cliffs. We understand that installation of the cable via HDD from offshore to onshore (cable pull), will be carried out in March/April or Aug/Sept at the start/end of the breeding bird season to minimise disturbance to nesting seabirds (Section 4.7.1.21). We note from Appendix 20 *Intertidal and Nearshore Bird Surveys* that lower numbers of the SPA qualifying features were present in the SPA marine extension during September (e.g. 18 kittiwake) compared with April (200 kittiwake).

	Unfortunately, March was not surveyed. These results were also inconsistent with previous survey undertaken by NorthConnect Ltd as discussed above. In view of this, **we recommend that, should Scottish Ministers be minded to grant consent we advise that:** • **works are carried out at the end of the breeding season, preferably late August/September, rather than at the beginning to minimise disturbance.** • **or if this is not possible, further pre-construction surveys are carried out to better inform requirements for mitigation.** **If our recommendation above is followed, we advise a likely conclusion of No AEOSI on this SPA from this impact pathway.** We conclude **No AEOSI on any other SPAs** from this impact pathway.
Changes in prey availability	We note that the Applicant concludes No LSE for this impact pathway. We disagree with this conclusion, however, we note the information provided in Chapter 12, Section 12.6.1.3 on changes in prey resource and as such we can **conclude No AEOSI for all SPAs**.

Qualitative assessment of impact pathways occurring during operation and maintenance

Our advice with respect to impact pathways qualitatively assessed by the Applicant for construction and decommissioning is provided in Table 26 below.

Table 266: NatureScot advice regarding impact pathways assessed qualitatively during operation

Impact pathway	NatureScot advice
Secondary entanglement	We note that removal of debris from floating lines and cables to minimise potential for secondary entanglement is included in the embedded mitigation measures (Table 7-5). We can accept that this will reduce the likelihood of entanglement and can **conclude No AEOSI for any SPAs from this impact pathway.**
Migratory collision risk	A qualitative assessment has been carried out for SPAs for qualifying features which migrate and could be at risk of collision with operating WTG's, using appropriate literature. The migratory CRM tool was not available to use during the assessment. From the information provided and in the absence of the migratory CRM tool, **we can agree with the Applicant's conclusion of No AEOSI on any SPAs from this impact pathway.**

Next steps

In our assessment, we have reached conclusions of AEOSI to seabird species from a number of European sites, all in-combination between this proposal and other offshore wind farms. In addition, there are some species / sites where we are unable to reach a definitive conclusion for this proposal in-combination with other offshore wind farms.

As a result, we advise Marine Directorate to undertake an Appropriate Assessment. Our advice on the derogation case submitted is provided in **Appendix G**.

Annex 1A (Appendix A) – European sites and qualifying species assessed in the RIAA

Table 1A below contains a list of sites and species assessed in the RIAA and our subsequent conclusion of AEOSI, including those sites and species for which a conclusion of No AEOSI has been reached.

Table 1A: European sites and qualifying species assessed in the RIAA and subsequent NatureScot conclusion on AEOSI alone and in-combination.

Protected Site (Scottish)	Qualifying species screened in for potential LSE	NatureScot conclusion of AEOSI – proposal alone	NatureScot conclusion of AEOSI – in-combination
Buchan Ness to Collieston Coast SPA*	Kittiwake	No AEOSI	AEOSI – both scenarios
	Seabird assemblage	No AEOSI	AEOSI as above for kittiwake
East Caithness Cliffs SPA	Kittiwake	No AEOSI	AEOSI – both scenarios
	Seabird assemblage	No AEOSI	AEOSI as above for kittiwake
Fair Isle SPA	Puffin	No AEOSI	No AEOSI
	Gannet	No AEOSI	No AEOSI
	Seabird assemblage	No AEOSI	No AEOSI as above for puffin and gannet
Forth Islands SPA	Kittiwake	No AEOSI	AEOSI with Berwick Bank Unable to conclude no AEOSI without Berwick Bank
	Puffin	No AEOSI	Unable to conclude no AEOSI
	Gannet	No AEOSI	AEOSI – both scenarios
	Seabird assemblage	No AEOSI	AEOSI as above for kittiwake, puffin and gannet

Foula SPA	Puffin	No AEOSI	No AEOSI
	Seabird assemblage	No AEOSI	No AEOSI as above for puffin
Fowlsheugh SPA	Kittiwake	No AEOSI	AEOSI with Berwick Bank
			Unable to conclude no AEOSI without Berwick Bank
	Seabird assemblage	No AEOSI	AEOSI as above for kittiwake
Hermaness, Saxa Vord & Valla Field SPA	Puffin	No AEOSI	No AEOSI
	Gannet	No AEOSI	Unable to conclude no AEOSI
	Seabird assemblage	No AEOSI	Unable to conclude no AEOSI as above for gannet
Hoy SPA	Puffin	No AEOSI	No AEOSI
	Seabird assemblage	No AEOSI	No AEOSI as above for puffin
North Caithness Cliffs SPA	Kittiwake	No AEOSI	AEOSI – both scenarios
	Seabird assemblage	No AEOSI	AEOSI as above for kittiwake
North Rona & Sula Sgeir SPA	Gannet	No AEOSI	No AEOSI
	Seabird assemblage	No AEOSI	No AEOSI as above for gannet
Noss SPA	Gannet	No AEOSI	No AEOSI
	Seabird assemblage	No AEOSI	No AEOSI as above for gannet
Outer Firth of Forth and St Andrews Bay Complex SPA	Gannet	No AEOSI	AEOSI – both scenarios
	Kittiwake	No AEOSI	AEOSI – both scenarios

	Puffin	No AEOSI	Unable to conclude no AEOSI without Berwick Bank
	Seabird Assemblage	No AEOSI	AEOSI as above for puffin, kittiwake and gannet
St Abb's Head to Fast Castle SPA	Kittiwake	No AEOSI	AEOSI with Berwick Bank
			Unable to conclude no AEOSI without Berwick Bank
	Seabird assemblage	No AEOSI	AEOSI as above for kittiwake
St Kilda SPA	Gannet	No AEOSI	No AEOSI
	Seabird assemblage	No AEOSI	No AEOSI as above for gannet
Sule Skerry & Sule Stack SPA	Gannet	No AEOSI	No AEOSI
	Seabird assemblage	No AEOSI	No AEOSI as above for gannet
Troup, Pennan & Lion's Heads SPA	Kittiwake	No AEOSI	AEOSI with Berwick Bank
			Unable to conclude no AEOSI without Berwick Bank
	Seabird assemblage	No AEOSI	AEOSI as above for kittiwake
West Westray SPA	Kittiwake	No AEOSI	No AEOSI
	Seabird assemblage	No AEOSI	No AEOSI as above for kittiwake

*Please also note the need for clarification regarding the potential for overlap with HDD works and the breeding season for qualifying seabird species at this site.

NATURESCOT ADVICE ON CENOS OFFSHORE WIND FARM

Appendix B – Marine Mammal Ecology

Marine mammal interests are considered in Chapter 11 of the Cenos EIA Report and the following supporting Appendices:

- Appendices 4 to 6 - Unexploded Ordnance (UXO) Supporting Information
- Appendix 15 - Underwater Noise Modelling Report
- Appendix 16 - Marine Mammal Baseline Report
- Appendix 17 - Marine Mammal Cumulative Effects Assessment Screening
- Appendix 18 - Interim Population Consequences of Disturbance (iPCoD) Modelling Report
- Appendix 33 - Outline Marine Mammal Mitigation Protocol

Marine mammal interests are also considered in Section 6, Section 8.1 and Appendix A of the RIAA. Our advice on the bottlenose dolphin qualifying species of the Moray Firth Special Area of Conservation (SAC) is included within this Appendix.

The Marine Protected Area Assessment considers the Southern Trench nature conservation Marine Protected Area (NCMPA) located within inshore waters. Our advice on the minke whale protected feature of this site is also included in this Appendix.

The EIA assessment for marine mammals concludes no significant impacts, both alone and cumulatively. However, we raise an issue regarding the sensitivity scoring in our advice below, and as such we disagree with the outcome of the assessment. **Instead, we conclude significant impacts for disturbance from piling, both for the proposal alone and cumulatively, for white-beaked dolphin and bottlenose dolphin**. Further advice is provided below.

As such, should Scottish Ministers be minded to grant consent, we advise that:

- **The Applicant will need to consider the implications further, through the development of the Piling Strategy and Marine Mammal Mitigation Protocol (MMMP) post-consent, for all species considered in the EIA Report, but for white-beaked dolphin and bottlenose dolphin in particular.**
- **A monitoring proposal may be required to validate the Piling Strategy predictions and better understand the likelihood of impacts for disturbance from piling, particularly as the proposal is a floating wind technology development. The requirement for monitoring will be better understood as part of the development and consideration of the Piling Strategy.**

Furthermore, there are various aspects where we request clarification from the Applicant, as detailed within our advice below.

Study area

Section 11.4.1 of Chapter 11 sets out the two marine mammal study areas used in the assessment. The Project Study Area has been defined using a 100 km buffer around the project area, this is unusual as for other proposed offshore wind developments we tend to see project study areas based on the DAS survey area. The regional study area is based on species specific Management Units (MUs), which is as we expect.

Baseline characterisation

Section 11.4.4 outlines the existing baseline for marine mammals, with further detail provided in Appendix 16 (Marine Mammal Baseline Report).

In general, the Baseline Report is well structured and uses the expected range of research and available information to inform its conclusions. We are content with the marine mammal species that are considered in the Report. Harbour porpoise, bottlenose dolphin, white-beaked dolphin, minke whale and grey seal are considered quantitatively. Atlantic white-sided dolphin, humpback whale and harbour seal have been assessed qualitatively, we agree with this approach. Other cetacean species known to occur throughout the North Sea are also considered in Section 11.4.4.2 of Chapter 11.

Abundance and density estimates are presented in Table 11-4 (harbour porpoise, bottlenose dolphin, white-beaked dolphin and minke whale) and Table 11-5 (Atlantic white-sided dolphin) of Chapter 11. We are generally content with the density estimates presented, which include the best available, and most precautionary from SCANS III and IV, the adjoining SCANS blocks (NS-D or NS-G, which Cenos straddles), and DAS results. For seals, density estimates from Carter et al. (2022) have been used.

For bottlenose dolphin, we note that separate densities are provided for the offshore and coastal (Moray Firth Special Area of Conservation [SAC] population) ecotypes (0.0298 and 0.625 respectively). The Marine Mammal Baseline Report indicates that the inshore population density estimate has been derived from modelling carried out for the Moray West offshore wind farm marine mammal assessment (2018) that uses acoustic data from Palmer et al. (2017). Whilst we consider that the visual data used in this model is now out-dated (last data source year was 2010), the inclusion of acoustic information from the ECOMASS project via Palmer et al. (2017) does to some extent update the calculated densities. We note that more recent data sources are available which may provide a more realistic estimation for the coastal (SAC) bottlenose dolphin population. However, the density estimate used is suitably precautionary and, in this instance, we are content to accept this for the assessment of activities associated with landfall areas at the coast and inshore sections of cable corridors.

Assessment approach

EIA sensitivity criteria

Sensitivity criteria for marine mammals are described in Section 11.5.3 and Table 11-13. Sensitivity has been assigned based on species ability to tolerate change and relies on effect to Favourable Conservation Status (FCS) through impacts on vital rates (i.e. survival and reproduction rates). This approach does not take into account the sensitivity of individual animals in terms of health or welfare consequences, e.g. hearing damage or loss of foraging.

Section 11.5.3 describes receptor value and states that *"all marine mammal receptors are considered to have a high conservation value and therefore the receptor value has not been used to differentiate impact outcomes to the marine mammal populations considered as part of this assessment".* We disagree with this approach. Not including value / importance within the sensitivity criteria disregards the inherent reason why cetaceans and seals are given a high level of legislative protection through the Habitats Regulations and fails to fully acknowledge the potential risks to individuals and populations. We consider that this approach is likely to result in the assessment conclusions underplaying potential impacts.

As such, we consider that revisions to the sensitivity scoring for several impacts are required and within our advice below we present the EIA Report conclusions alongside revised scored based on our own assessment for both proposal alone and cumulative impacts, see Table 1 and Table 2 respectively. Furthermore, monitoring will be critical to validate the EIA and/or Piling Strategy predictions and to help reduce uncertainty and inform assessments for any future developments.

EIA magnitude criteria

Magnitude criteria are described within Section 11.5.3 and presented in Table 11-14. These criteria are based around spatial extent, duration, frequency, intensity, likelihood and reversibility.

We are broadly content with the approach used for magnitude criteria. However, we disagree with some of the assigned magnitude scores, this is discussed within our advice below and we present revised scores for several impacts within Table 1 and Table 2.

Underwater noise modelling report (Appendix 15)

The Underwater Noise Modelling Report is provided within Appendix 15. This report was difficult to follow in terms of its content, narrative and structure and contained a number of errors and inconsistencies, including:

- Presentational errors including uncompleted sentences, incorrectly labelled Figures and Sections.
- Tables 6.66 – 6.88 show incorrect values for the number of strikes at each phase of the piling sequence. We note that the number of strikes at each phase of the piling sequence does not add up to the total number of strikes overall.
- Several tables throughout the Report do not match the Table numbering set out in the List of Tables provided on pages 7 – 10.
- Section 6.4.1 states that "Operational noise due to floating wind turbines and mooring lines is dealt with qualitatively in section 6.4.1". However, this information is not detailed within Section 6.4.1.
- Tables 8.1 and 8.2 show predicted impact ranges for disturbance from geophysical and geotechnical survey activities, respectively. The disturbance ranges are from 140m to 2.8 km, depending on the equipment type. However, in Table 5.3, it states that the 5 km EDR will be used for disturbance from geophysical surveys. It is not clear which of these has been used in the assessments. **We request clarification from the Applicant regarding which disturbance ranges have been used,** noting this has not affected the outcome of our assessment.

Disturbance criteria

Table 5.3 defines the marine mammal disturbance criteria used in the assessment. For *Impulsive Threshold (Piling)* the Graham et al. (2019) dose-response curve has been used. While this is appropriate for cetaceans, we advise that for seals the Whyte et al. (2020) dose-response curve should have been used. We provide further comment on this point below within our advice on the impact assessment.

Impulsive noise thresholds

Section 5.5 reviews the understanding of how impulsive noise changes with distance from the source. We note that this section does not refer to the Offshore Renewables Joint Industry

Programme (ORJIP) report on Range dependent nature of impulsive noise (RaDIN) (Matei et al. 2024)[15].

Should Scottish Ministers be minded to grant consent, we advise that the findings of the RaDIN report, and any subsequent work on this topic, will need to be considered further in the Piling Strategy and other relevant post-consent plans.

Modelling of auditory injury from impact piling

The results of noise modelling of auditory injury from impact piling are presented in Tables 8.9 to 8.32. These tables cover several scenarios and are presented with and without the use of 30 minutes of acoustic deterrent devices (ADDs) as a mitigation measure. It is useful to see the results from the range of scenarios.

The results for the impact ranges for instantaneous PTS (SPLpk) are as generally expected. However, the results presented for the impact ranges for cumulative PTS (SELcum) are not as expected, these are very small and in some cases are smaller than the SPLpeak ranges. We also note that the ranges predicted are considerably different (on occasion different by orders of magnitude) to those predicted by proprietary models used in assessments for other offshore wind farms that have been either consented or proposed in Scottish waters. Given these differences and the overall uncertainty associated with predictive modelling, we advise, **should Scottish Ministers be minded to grant consent, a Piling Strategy should be developed with updated modelling which may require monitoring to validate and better understand predicted impact ranges through in-field verification.**

Interim Population Consequences of Disturbance (iPCoD) Modelling Report (Appendix 18)

As set out in Appendix 18, iPCoD modelling has been carried out for harbour porpoise, minke whale and grey seal. We are content with the approach taken and the interpretation of the resulting outputs.

Impact assessment

Within Section 11.5 (impact assessment methodology), Table 11-11 lists the potential impacts that have been scoped in, and Table 11-12 lists the potential impacts that have been scoped out.

The assessment of each potential impact is presented within Section 11.6. For the impacts where we disagree with the EIA Report conclusions, we provide further comment and advice below. In addition, Table B1 provides a summary of our revised scores based on our assessment for the proposal alone. Table B2 provides a summary of our revised scores for cumulative impacts.

Piling parameters

Pile driving scenarios are presented within Section 11.6.1.1.1.2; Tables 11-19 and 11-20 present the details of piling parameters for TLP and semi-submersible platforms respectively. Pile installation parameters for OSCPs are found in Table 11-21. These tables indicate both the soft start and ramp up procedures, which we welcome.

However, we note that the from the information provided in Table 11-19 and 11-20, the number of strikes for each stage does not add up to the total number of strikes overall and so we cannot

[15] https://ctprodstorageaccountp.blob.core.windows.net/prod-drupal-files/2024-05/ORJIP%20final%20report.pdf

be sure that the values provided are correct. These values are repeated in the Underwater Noise Modelling Report (Tables 6.77 and 6.88).

In the MMMP, Table 33-9 presents piling scenarios for both FTUs and OSCPs. This table presents the duration, hammer energy and strike rate which appears to be correct and in-line with those provided in the above mentioned tables. As such, we surmise that when calculating the number of strikes an error exists within Tables 11-19, 11-20, 6.7 and 6.88. **We require clarification from the Applicant on whether this inconsistency is a typo within the reports, or whether the incorrect number of strikes may have been carried through to the modelling work upon which much of the impact assessment is based.**

Auditory injury from piling

In Section 11.6.1.1.1.2.1, it is concluded that harbour porpoise and grey seal have a '*low'* sensitivity to auditory injury (Permanent Threshold Shift (PTS)), and that white-beaked dolphin, bottlenose dolphin and minke whale have '*medium'* sensitivity. We disagree with this scoring, which underplays the possible consequences of auditory injury to these species that rely on hearing for a range of functions.

Instead, we advise that the sensitivity scoring should be '*high'* for these species. In addition, we also advise that the magnitude score should be '*low'*, rather than '*negligible'*, to account for both the residual risk of injury remaining after mitigation and the high level of uncertainty around the underwater noise modelling.

As such, the significance of the effect would change to '*minor'*, rather than '*negligible'*, however, this would still result in a conclusion of not significant in EIA terms. Taking into account the proposed mitigation, we consider this to be a more realistic and precautionary conclusion.

For harbour seal, we are content with the magnitude scoring of '*negligible*' as the proposal is located so far offshore. Although, we advise the sensitivity score should be '*high'* instead of '*medium'*. This does not change the significance of the effect, which would remain as '*negligible'*.

Disturbance from piling

Disturbance from pile driving is assessed within Section 11.6.1.1.1.2.2. A dose-response approach has been used to determine the number of animals disturbed by each piling event. The Graham et al. (2019) dose-response curve has been used for all cetacean species, this is appropriate as it is based on data for harbour porpoise and will therefore be precautionary for other cetacean species.

However, the dose-response curve from Graham et al. (2019) has also been used to determine disturbance for grey seals - we do not agree with this approach. We advise that the Whyte et al. (2020) dose-response curve is used for seals. This has been derived from harbour seal data and applied to both species. No justification has been provided regarding why the Graham et al. (2019) dose-response curve has been used rather than Whyte et al. (2020). Despite this, in this instance, we are able to provide our revised sensitivity, magnitude and significance scores for grey seal based on our own assessment. Given the uncertainty that is introduced by use of the incorrect dose-response curve our revised scoring for grey seal is suitably precautionary.

Sensitivity to this impact has been scored as '*low'* for most species, with grey seals scored as '*negligible'* and harbour porpoise scored as '*medium'*. However, as all marine mammals rely

heavily on their hearing for a range of functions, and there is a large degree of uncertainty around the consequences of disturbance, we advise that sensitivity should instead be scored as '*medium'*.

Table 11-30 and Table 11.31 present the numbers of animals that are predicted to be disturbed from FTU piling and OSCPs piling, per day of piling. The percentage of the UK portion of relevant Management Unit (MU), predicted to experience disturbance per day, is also presented, this ranges from 2.63% for white-beaked dolphin in the Celtic and Greater North Sea MU up to 14.48% for offshore bottlenose dolphin in the Greater North Sea MU. For all species, the proportions presented are relatively high, and as such this needs to be taken into account when considering magnitude of effect, in addition to the long-term predictions from iPCoD.

Based on the results of iPCoD modelling, the magnitude score for harbour porpoise has been given as '*low*', magnitude for minke whale and grey seal is scored as '*negligible'*. Given the proportions of the respective management units presented in Tables 11-30 and 11-31 we recommend that the short- to medium-term impacts from each piling event should also be taken into consideration. As such, we advise that the magnitude scoring for minke whale, grey seal and the other species should be scored as '*low'* rather than '*negligible'*. This results in the significance of effect changing from '*negligible'* to '*minor'*, this would still result in the conclusion of not significant in EIA terms.

White-beaked dolphin and offshore bottlenose dolphin do not have parameters for iPCoD, and therefore the assessment is based on the proportion of the respective management units only. As relatively high proportions of the MUs are predicted to be disturbed during each piling event, magnitude has been scored as '*medium'* for white-beaked dolphins and '*high'* for offshore bottlenose dolphins. Combined with our revised '*medium'* sensitivity scoring, this give a significance of '*moderate'* for both white-beaked dolphin and bottlenose dolphin, which is **significant in EIA terms.**

As such, the Applicant will need to consider the implications further, through the development of the Piling Strategy and Marine Mammal Mitigation Protocol (MMMP) post-consent, if approval for this development is granted. The general high level of uncertainty in the assessment will also need to be taken into account and we advise that monitoring to validate the EIA Report predictions and/or Piling Strategy may be required to better understand the likelihood of these impacts.

Auditory injury from UXO clearance

As set out in Section 11.6.1.1.2 it is anticipated that UXO will mainly be avoided by micro-siting and micro-routing, and with a preference for low order methods removal (including deflagration). As stated in the updated policy in relation to UXO clearance[16], low noise methods of clearance should be the default method used to clear any type of UXO in the marine environment, particularly as low order deflagration has been successfully carried out in Scottish waters. If there are extraordinary circumstances which means that low noise clearance cannot be undertaken, Applicants should engage with MD-LOT at the earliest opportunity. We note that high order detonation has also been assessed as a worst-case scenario.

The assessment of auditory injury indicates that sensitivity to high order detonation is '*low'* for all species assessed, except for minke whale and humpback whale which are scored as '*medium'*. This

[16] https://www.gov.uk/government/publications/marine-environment-unexploded-ordnance-clearance-joint-position-statement/marine-environment-unexploded-ordnance-clearance-joint-position-statement

score is assigned because the Applicant considers most of the energy to be low frequency. We do not agree with this rationale, as broadband noise will be produced by UXO high order detonation and this can affect all of the species assessed. As such, we revise the sensitivity scoring to '*high'*. Magnitude has been scored as '*low'*, which we are content with given the small number of possible detonations. As such, the significance of the effect would remain as '*minor'*.

Table 11-41 provides a summary of potential effects. We note that within this table, the significance of effect for injury due to UXO clearance has been incorrectly assigned as '*negligible'* (based on the '*low'* sensitivity and '*low'* magnitude combination, which we have revised as set out in Table B1). According to the significance matrix, this should be '*minor*' significance.

Auditory injury from geophysical and geotechnical surveys

Geophysical and geotechnical surveys are discussed in Section 11.6.1.1.3, and potential for auditory injury from construction / pre-construction surveys is assessed in Section 11.6.1.1.3.1.1.

The sensitivity of marine mammals to auditory injury (PTS) from geophysical and geotechnical surveys, all of which have been considered together, has been scored as '*medium'* for SBP, 2D and 3D seismic surveys, CPT, borehole drilling and vibro-coring. We are content with the sensitivity score of '*medium'*, the magnitude score of '*negligible'* and the resulting effect significance of '*negligible'* and therefore not significant in EIA terms.

However, we note that the '*medium'* sensitivity score given to pre-construction surveys appears to be inconsistent with the Applicants scoring for both piling and UXO clearance (i.e. low for some species), in our view this further supports the revised scoring of these potential effects, as presented in Table B1.

Disturbance from geophysical and geotechnical surveys

We note an inconsistency between the scoring of disturbance from underwater noise generated by geophysical and geotechnical surveys during construction (Section 11.6.1.1.3.1.2) and geophysical and geotechnical surveys during the operation and maintenance phase (Section 11.6.2.1.1). Sensitivity has been scored as '*negligible'* for pre-construction surveys but '*low'* for surveys in the operation and maintenance phase.

Section 11.6.2.1.1 provides rationale for the scoring given to the operation and maintenance phase surveys, however there is no justification for the differences in scoring that has been presented between the two phases. As it is likely that the same (or similar) equipment will be used in each phase, we advise that the scoring should be the same, and therefore we have revised the sensitivity score to '*low'* for both phases. This makes no difference to the overall significance score, which would remain as '*negligible'* and therefore not significant in EIA terms.

Operational noise

Operational noise is assessed in Section 11.6.2.1.2. We consider there to be a risk of disturbance from this noise source; however, little is currently known about the level of risk or the extent of potential impacts. Evidence to date has come only from small-scale arrays. Due to this uncertainty, we advise that the magnitude should be revised to '*low'* rather than '*negligible'* for all species.

As such, the significance of effect would change to '*minor'*, although this is still considered not significant in EIA terms. However, given the uncertainties associated with this potential impact, we

advise that **monitoring to validate the EIA Report predictions and better understand the likelihood of these impacts will be required.**

Secondary entanglement

Potential for secondary entanglement is considered in Section 11.6.2.3. We note that little is currently known about the level of risk from secondary entanglement, especially around a floating wind farm at the scale of the proposed development.

Given the lack of evidence, the size of the proposed array and the general high level of uncertainty, we advise that the magnitude score should be '*low'* rather than '*negligible'*. We are content with the sensitivity score of '*high'*. As such, the significance of the effect would remain as '*minor'* and therefore is considered not significant in EIA terms. **However, we advise that monitoring should be considered to validate these predictions and better understand the likelihood of these impacts.**

Barrier effects

As stated in Table 11-2, barrier effects (*Presence of offshore structures creating a physical barrier effect*) has been scoped out of the assessment. We generally advise that barrier effects should be scoped in for further consideration.

The justification provided for scoping out this potential impact is based on the target spacing between turbine structures at the sea surface and spacing between the mooring lines of each FTU. It is stated that there will be a maximum of six mooring lines per FTU. However, this is inconsistent with the parameters presented within Table 5-4 of the Project Description (Chapter 5), which states that up to nine mooring lines may be required as part of the TLP Design Envelope. We consider this discrepancy to underplay the potential risk and uncertainty around barrier effect.

Due to uncertainty around this potential impact, and the scale of the proposed development, we would have preferred barrier effects to have been included within the impact assessment. However, based on our experience of casework to date and the location of this proposal, we can conclude that the assigned sensitivity score would be '*low',* and magnitude would be '*medium'* or '*low'*, depending on the species. This would give a significance of '*minor'* which is not considered significant in EIA terms. We have included barrier effects within Table B1.

Decommissioning

Potential effects during decommissioning are briefly discussed within Section 11.6.3, however impacts have not been considered in sufficient detail. The Applicant states their assumption that impacts will be "*analogous with, or likely less than, those of the construction phase*" and further consideration is deferred until the Decommissioning Programme, to be developed post-consent. **We require clarification from the Applicant on their reasoning and justification for this assumption.**

Proposal alone summary

For the impacts where we disagree with the EIA Report conclusions, as detailed above, a summary of our revised scores is provided below in Table B1 (for the proposal alone).

*Table B27. Cenos EIA Report conclusions and NatureScot revised scores based on our assessment of the proposal alone. Cells shaded in red indicate where our conclusions differ. Receptor codes are as follows: HP – harbour porpoise; BND – bottlenose dolphin; WBD – white-beaked dolphin; RD – Risso's dolphin; Atlantic white-sided dolphin – AWSD; Short-beaked common dolphin – SBCD; Long-finned pilot whale – LFPW; KW – killer whale; MW – minke whale; HW – humpback whale; HS – harbour seal; GS – grey seal. * Dependent on species. ^ Significant under EIA.*

		Cenos EIA Report conclusions			NatureScot Advice		
Effect	**Receptor**	**Sensitivity**	**Magnitude**	**Significance**	**Sensitivity**	**Magnitude**	**Significance**
Auditory injury from piling	HP, GS	Low	Negligible	Negligible	High	Low	Minor
	HS	Medium	Negligible	Negligible	High	Negligible	Negligible
	All others [BND, WBD, RD, AWSD, SBCD, LFPW, KW, MW, HW]	Medium	Negligible	Negligible	High	Low	Minor
Disturbance from piling	HP	Medium	Low	Minor	Medium	Low	Minor
	WBD	Low	Medium	Minor	Medium	Medium	**Moderate ^**
	BND	Low	High	Minor	Medium	High	**Moderate ^**
	GS	Negligible	Negligible	Negligible	Medium	Low	Minor
	HS	Low	Negligible	Negligible	Medium	Negligible	Negligible
	All others [RD, AWSD, SBCD, LFPW, KW, MW, HW]	Low	Negligible	Negligible	Medium	Low	Minor
Auditory injury from UXO clearance	MW, HW	Medium	Low	Minor	High	Low	Minor
	All others [HP, BND, WBD, RD, AWSD, SBCD, LFPW, KW, GS, HS]	Low	Low	Negligible	High	Low	Minor
Disturbance from UXO clearance	All	Negligible	Negligible	Negligible	Negligible	Negligible	Negligible
Auditory Injury from geophysical	All	Medium	Negligible	Negligible	Medium	Negligible	Negligible

and geotechnical surveys – construction							
Disturbance from geophysical and geotechnical surveys – construction	All	Negligible	Negligible	Negligible	Low	Negligible	Negligible
Construction vessels	All	Low	Negligible	Negligible	Low	Negligible	Negligible
Prey distribution – construction	All	Low	Negligible	Negligible	Low	Negligible	Negligible
Geophysical and geotechnical surveys – operational	All	Low	Negligible	Negligible	Low	Negligible	Negligible
Operational noise	All	Low	Negligible	Negligible	Low	Low	Minor
Operational vessels	All	Low	Negligible	Negligible	Low	Negligible	Negligible
Prey distribution – operational	All	Low	Low	Minor	Low	Low	Minor
Secondary entanglement	All	High	Negligible	Minor	High	Low	Minor
Barrier effects	All	-	-	-	Low	Low or Medium *	Minor

Cumulative impacts

We are content with the approach taken for cumulative assessment. We broadly agree with the impacts that have been screened in and out for cumulative assessment, with the exception of barrier effects which we advise should have been screened in (as above for the proposal alone).

As for the proposal alone assessments, we disagree with some of the scoring assigned for cumulative effects which we consider to be underplaying the potential risks.

Furthermore, and as highlighted above, we consider the results presented for the impact ranges for cumulative PTS (SELcum) within the underwater noise modelling report to be somewhat unexpected. These are very small and in some cases are smaller than the SPLpeak ranges. We also note that the ranges predicted are considerably different (on occasion different by orders of magnitude) to those predicted by proprietary models for other offshore wind farms that have been either consented or proposed in Scottish waters.

We provide revised scores, as presented below in Table B2, which we consider to better reflect the risks and uncertainties around potential cumulative impacts. In most cases, our revised scores result in the significance of effect remaining as either '*negligible'* or '*minor'* and therefore insignificant in EIA terms.

For injury and disturbance from underwater noise during the operation and maintenance phase, we note that in text within Section 11.7.3.1 for the cumulative magnitude is considered to be '*low'*. However, in both the evaluation of significance and Table 11-47 this has been assigned a magnitude score of '*medium'*. We are in agreement with the conclusion of minor significance, which is not significant in EIA terms.

However, for disturbance during the construction phase (as per our advice above regarding the proposal alone assessment) we advise that for all species the assigned sensitivity score should be revised to '*medium'*. When combined with the assigned magnitude scoring, this results in **a significance of moderate for both white-beaked dolphin and bottlenose dolphin, which is significant in EIA terms.**

As such, the Applicant will need to consider the implications further, through the development of the piling strategy and Marine Mammal Mitigation Protocol (MMMP) post-consent. Given these predicted impacts, we advise that monitoring to validate the EIA Report predictions and/or Piling Strategy may be required to better understand the likelihood of these impacts.

Furthermore, we are mindful of the ScotMER project proposal *"Validating and updating parameters for cumulative impact assessment frameworks for Marine Mammals"* which is currently underway. It may be useful to consider further when designing monitoring, should the proposal be granted consent.

*Table B28. Cenos EIA Report conclusions and NatureScot revised scores based on our assessment for the proposal cumulatively. Cells shaded in red indicate where our conclusions differ. Receptor codes are as follows: HP – harbour porpoise; BND – bottlenose dolphin; WBD – white-beaked dolphin; RD – Risso's dolphin; Atlantic white-sided dolphin – AWSD; Short-beaked common dolphin – SBCD; Long-finned pilot whale – LFPW; KW – killer whale; MW – minke whale; HW – humpback whale; HS – harbour seal; GS – grey seal. * Dependent on species. ^ Significant under EIA.*

		Cenos EIA Report conclusions			NatureScot Advice		
Effect	**Receptor**	**Sensitivity**	**Magnitude**	**Significance**	**Sensitivity**	**Magnitude**	**Significance**
Auditory injury - construction	HP, GS, HS	Low	Negligible	Negligible	High	Low	Minor
	All others [BND, WBD, RD, AWSD, SBCD, LFPW, KW, MW, HW]	Medium	Negligible	Negligible	High	Low	Minor
Disturbance - construction	HP	Medium	Low	Minor	Medium	Low	Minor
	WBD	Low	Medium	Minor	Medium	Medium	**Moderate ^**
	BND	Low	High	Minor	Medium	High	**Moderate ^**
	GS	Negligible	Low	Negligible	Medium	Low	Minor
	HS	Medium	Negligible	Negligible	Medium	Negligible	Negligible
	All others [RD, AWSD, SBCD, LFPW, KW, MW, HW]	Low	Negligible	Negligible	Medium	Low	Minor
Changes to prey distribution – construction	All	Low	Negligible	Negligible	Low	Negligible	Negligible
Auditory injury and disturbance– operational	All	Low	Medium	Minor	Low	Medium	Minor
Prey resources - operational	All	Low	Low	Minor	Low	Low	Minor
Secondary entanglement	All	High	Negligible	Minor	High	Low	Minor
Barrier effects	All		-	-	Low	Low or Medium *	Minor

Mitigation

Embedded mitigation

Embedded mitigation is set out in Section 11.5.4, Table 11-15. Proposed mitigation and monitoring are further outlined in Chapter 23 (Summary of Mitigation and Monitoring), which provides an overarching summary of embedded mitigation within Table 22-2. These measures include the development of and adherence to several Plans which are to be finalised post-consent. We note that Plans and Programmes themselves do not strictly constitute mitigation – it is the measures contained within the plan that will mitigate impacts.

The identified embedded mitigation measures relevant to marine mammals include:

- Minimum spacing between FTUs (MM-016), relevant to barrier effect. Final layout will be detailed within the Development Specification and Layout Plan (DSLP).
- Mooring lines will be sufficiently taut and rigid to prevent formation of loops, preventing primary entanglement (MM-017). Final mooring design will also be detailed within the DSLP.
- UXO clearance approach (MM-018). A hierarchy of mitigation is set out and the need for further consents regarding clearance activities is acknowledged.
- Piling Strategy (MM-019) which will be provided if impact piling is required. Linkages are made to the outline Marine Mammal Mitigation Protocol (MMMP).
- Marine Mammal Mitigation Protocol MMMP (MM-020), an outline MMMP has been included, and we provide comment on this below.
- Vessel Management Plan (MM-021).
- Removal of debris from floating lines and cables to minimise potential for secondary entanglement (MM-022), see further advice below.

As described in Table 11-15, the removal of debris from floating lines and cables to minimise potential for secondary entanglement is proposed as an embedded mitigation measure. Should Scottish Ministers be minded to grant consent, we advise:

- **Development of and adherence to an Entanglement Management Plan, to be agreed post-consent**, to ensure that an agreed approach is taken, with regular inspection and reporting requirements.

Outline Marine Mammal Mitigation Protocol

The outline Marine Mammal Mitigation Protocol, provided in Appendix 33, is relatively high-level; however, this is expected to be a live document and will be subject to review and revision. We are generally content with this approach and with the proposed measures that have been outlined in the protocol. As the protocol develops, we advise that new data and techniques should be incorporated to further improve the protocol and help minimise impacts, particularly those which we have identified above as potentially have significant impacts (see Table B1 and B2).

For geophysical surveys, as set out in Section 33.4, the full mitigation measures will be confirmed at a later stage through separate Marine Licence and EPS Licence applications. Some indicative survey equipment has been listed, and this will be confirmed at the time of survey applications. We highlight that all equipment capable of producing noise at frequencies within the generalised hearing range of the species (and not just the range of best hearing) will need to be included in the necessary risk assessments.

Mitigation for UXO will involve Marine Mammal Observers (MMO), Passive Acoustic Monitoring (PAM) and ADDs; these measures are outlined within Section 33.5.3. The approach regarding use of ADDs in order to reduce risk of auditory injury, from both high and low order detonations, is set out in 33.5.3.2. Please note our preference is for any UXO to be removed through low order methods. The duration of ADD use is linked to the size of the expected charges or UXO size, and will be determined once the UXOs are identified; we agree that this is a reasonable approach. However, we note that the maximum duration of ADD use is restricted to 60 minutes. We do not recommend using ADDs for this length of time, as it adds considerable disturbance and animals are unlikely to continue fleeing once they get to a certain distance from the noise source. ADDs should be used for the minimum time required. We highlight this point for the Applicant to address within future revisions of the MMMP, which should be undertaken once parameters are better known. We anticipate that there will be further opportunity to input into subsequent iterations of the MMMP at a later stage.

For piling, the outline MMMP proposes following the JNCC (2010) guidance in order to minimise potential impacts of PTS. Section 33.6.3.2 states that ADDs will also be used to mitigate the risk of auditory injury from piling, in combination with MMO/PAM operatives. It is proposed that ADDs will be used for 15 minutes prior to the soft-start procedure. This approach has been used elsewhere, so we are content to accept it at this stage, but highlight that this is subject to further discussion if consented.

In addition, we note that the noise modelling included 30 minutes of ADD use, rather than the 15 minutes suggested within the MMMP. However, we are content that this is unlikely to affect conclusions on the significance of the effect.

Secondary mitigation

No secondary mitigation has been proposed for marine mammals. At this stage we are content to accept this. However, given our advice above regarding revised significance scoring, we advise that further mitigation may need to be considered further if consented and once the project design envelope has been finalised.

Monitoring

No monitoring has been proposed for marine mammal interests.

As above, we advise that **monitoring to validate the EIA Report predictions and better understand the likelihood of the impacts of disturbance from piling** may be required depending on an agreed Piling Strategy, if consented. Furthermore, to validate the predictions of the EIA noise modelling, and to help inform future development of the models, we advise that **monitoring of underwater noise received levels during UXO clearance may also be required** depending on number and technique of disposal.

If site-specific noise monitoring is required, we recommend that the NPL Good Practice Guide (2014)[17] is followed. We recommend that **monitoring of operational noise (i.e. transient noises from mooring lines and cables) will be required** due to the lack of understanding of this potential impact.

[17] Good Practice Guide for Underwater Noise Measurement, National Measurement Office, Marine Scotland, The Crown Estate, Robinson, S.P., Lepper, P. A. and Hazelwood, R.A., NPL Good Practice Guide No. 133.

Furthermore, the reporting of any incidences of secondary entanglement (as advised above via development of and adherence to an Entanglement Management Plan) would aid wider industry understanding of this impact pathway. Should Scottish Ministers be minded to grant consent, we encourage the Applicant to contribute to future research potentially through avenues such as ScotMER.

MPA Assessment Report – Southern Trench NCMPA

Minke whale are a protected feature of the Southern Trench NCMPA. There is the potential for various activities associated with the proposed development to impact upon the minke whale feature, and as such the Southern Trench NCMPA has been scoped into the MPA Assessment Report.

The MPA Assessment has been carried out using EIA methodology (i.e. this assessment relies on sensitivity and magnitude scoring). However, the Conservation Objectives as detailed in the Conservation and Management Advice[18], and how the proposed activities will impact upon these and the feature attributes has not been specifically addressed.

However, based on the information provided we have undertaken our own MPA appraisal. As such, we advise that the proposal is capable of affecting the minke whale protected feature of the Southern Trench NCMPA. However, we conclude there is no significant risk of hindering the achievement of the Conservation Objectives. In reaching this conclusion we have considered the following:

- Proposed activities within the NCMPA will be short-term and relatively localised, taking place in the southern part of the NCMPA where minke whales have to date been found at lower densities.
- Activities with the potential to cause auditory injury (UXO clearance, geophysical surveys) will be mitigated to minimise these impacts, through an MMMP, to be agreed post-consent. In addition, these activities will take place away from the key areas of high minke whale density within the northern part of the NCMPA. Piling will take place further offshore. As such, there is no significant risk of injury and/or killing to minke whale within the Southern Trench NCMPA.
- Access to resources will not be restricted or limited by the activities, especially in the key area used by minke whales for foraging. The activities are unlikely to cause disturbance within the key area of the site used by minke whales, or to affect their prey within the key foraging area and so are unlikely to change the distribution of minke whales using the site.
- Any impacts are expected to be short-term and localised in the southern part of the MPA and will not affect the extent or distribution of supporting features.

We are aware of collaboration across some of the developers to fund monitoring of minke whale in the Southern Trench NCMPA. We encourage all developers to participate in the research project where they have development activities within the MPA.

European Protected Species (EPS) considerations

There is no consideration of potential risks under EPS legislation. We acknowledge that, if the proposal is consented, EPS licensing will come at a later stage. However, we expect to see some

[18] NatureScot (2024) *Conservation and Management Advice Southern Trench MPA*. Available at: https://sitelink.nature.scot/site/10477 (Accessed 25 March 2025)

consideration of underwater noise impacts to cetaceans within a European Protected Species context within the assessment. This enables a greater understanding of what the implications might be for cetaceans under the Inshore[19] and Offshore[20] Regulations. This also facilitates earlier insight and discussion on how the risk of injury and / or disturbance at an individual animal and /or population level, can be mitigated. **Should Scottish Ministers be minded to grant consent, we advise that within the MMMP, the predicted number of disturbed animals should be updated in line with the final Project Design Envelope to inform the EPS licencing requirements.**

Report to Inform the Appropriate Assessment (RIAA)

As set out in our advice on the Cenos HRA Screening Report (advice issued 24 June 2024), we advised that although there is no direct overlap between the Export/Import Cable Corridor (EICC) and the Moray Firth SAC, there was potential for connectivity with the bottlenose dolphin qualifying species. This was based on the potential for underwater noise and vessel disturbance impacts and information available at that time, as such it was proposed that the Moray Firth SAC should be screened into the RIAA. No other European Sites designated for marine mammal qualifying species were proposed to be taken through for further assessment in the RIAA.

Moray Firth SAC – bottlenose dolphin

On the basis of the information now provided, we advise there to be potential for LSE from UXO clearance, geophysical activities and vessel presence on the bottlenose dolphin feature of the Moray Firth SAC in respect of the export cable corridor only.

Consequently, Marine Directorate, as competent authority, is required to carry out an Appropriate Assessment in view of the site's Conservation Objectives for this qualifying species.

Table 6-2 sets out a series of mitigation measures, including the UXO clearance approach and the development of and adherence to a Marine Mammal Mitigation Protocol (MMMP) and Vessel Management Plan (VMP). Outline details of these plans are also provided in Table 6-2. We note that the MMMP includes commitments to use of ADDs, MMOs and PAM. The VMP includes reference to requirements under the Scottish Marine Wildlife Watching Code and a commitment to adhere to these.

Given the embedded mitigation set out above, we are able to conclude **No AEOSI for bottlenose dolphin** as a qualifying species of the Moray Firth SAC.

[19] Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)
[20] Conservation of Offshore Marine Habitats and Species Regulation 2017

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Appendix C – Fish and Shellfish Ecology

Fish and shellfish interests are considered in Chapter 13 of the Cenos EIA Report, with other relevant material presented in the following Appendices:

- Appendix 8: Habitat Assessment Report – OWF
- Appendix 9: Habitat Assessment Report – EICC
- Appendix 10: Environmental Baseline and Habitat Assessment Report – Inshore EICC
- Appendix 11: Environmental Baseline Report – OWF
- Appendix 12: Environmental Baseline Report – EICC
- Appendix 14A-C: EMF Assessment Report
- Appendix 15: Underwater Noise Modelling Report

Assessments are generally well thought out, and we have provided comments below on areas that require further consideration.

Our interest in fish and shellfish species largely relates to those species that are Priority Marine Features (PMFs) as well as key prey species (such as herring, sandeels etc.) noting that many of these are also PMFs.

No significant effects are anticipated to fish and shellfish ecology receptors as a result of the proposal, for both Project alone and cumulatively. Overall, we agree with this conclusion.

We provide comments and advice below which address elements of the assessment process but do not affect the outcome of the assessment or our overall conclusion. It does highlight areas where we view further action is required, should Scottish Ministers grant consent.

Study area

The study area has been defined as a 60 km buffer around the Array Area as determined by the modelled maximum range of disturbance to fish due to underwater noise from impact piling. There may have been benefit in defining the study area based on more localised impacts such as suspended sediment concentrations (SSC), sediment deposition and impacts to the seabed. Representing this on a Figure(s) would also have aided in visualising spatial ranges of potential impacts to sensitive and designated areas. Overall, we are content with the study area used and the adoption of a wider zone of influence based on underwater noise modelling provides a realistic worst case scenario.

Baseline characterisation

The data collection methods used for the baseline characterisation are appropriate, and we are largely content with the data sources and methods used to characterise the Array Area, EICC and study areas. At Scoping, the use of eDNA to support baseline characterisation was recommended, and while we are pleased to see that sediment samples for eDNA were collected, it is disappointing that these were not analysed further. As a result, it provides little to no additional contextual information with respect to the fish and shellfish ecology baseline.

The baseline characterisation of the inshore portion of the EICC (MHWS to 12nm) incorporates survey results from the already consented NorthConnect interconnector project. The 2018 NorthConnect inshore survey results have been supplemented by site specific surveys conducted

in 2024 which encompass geophysical, drop-down video (DDV) and water sampling methods. However, no project specific inshore sediment sampling was conducted for the windfarm proposal, which instead relies on the results obtained as part of the NorthConnect 2018 EIA. It is unclear why grab sampling was not extended into the inshore portion of the EICC as part of the contemporary survey effort. If this was related to fishing activity, then it would be helpful to have this explanation.

Basking shark

It is unclear whether DAS data has been analysed for the presence / absence of basking shark as neither Chapter 13 or the Year 2 DAS report (received 4th March 2024) explicitly mention basking shark in the context of site-specific surveys. Despite this we are content that the likelihood of basking shark being present is low.

Herring

The Array Area and EICC are within the spawning grounds for the Buchan herring stocks spawning in August and September.

Areas of 'preferred' substrates of coarse sand and gravel for herring were identified by the NorthConnect survey campaign, yet these have not been represented on Figure 13-7 and we are therefore unclear if this has been fully considered as part of the baseline context.

Additionally, whilst the North Sea International Herring Larval Study (IHLS) data is referenced in Table 13-3 it has not been explicitly used to inform the baseline with regard to densities of herring larvae in the study area. The IHLS data provides a proxy for actively spawning herring and would have provided useful additional context. The IHLS data demonstrates areas of higher density larval abundance in proximity to the EICC. Based on this and the points above, we consider that the context of spawning herring within the baseline have been underplayed. However, overall, we agree that suitable herring spawning habitat are unlikely to be widespread throughout the study area and our assessment conclusions remain unchanged.

Sandeel

Similarly, based on the results of the project specific PSA and grab samples, collected as part of the NorthConnect survey campaign, we consider that the presence of spawning sandeel and sandeel suitable habitat has also been underplayed. Furthermore, no quantification of potential buried sandeel in the context of the study area has been presented, instead sandeel are simply referred to as being 'patchily' present. As above, the sandeel sediment classification results for the inshore portion of the EICC should also be represented on Figure 13-9.

Overall, this does not change our assessment conclusions and we are largely satisfied that the density and probability of buried sandeel is likely to be low for the majority of the study area – however with further data collection, avoidance of sandeel suitable habitats through micro siting should be considered further, if the proposal is consented.

Impact assessment

We are satisfied that all impact pathways have been accounted for. All conclusions on proposal alone impacts are either '*minor*' or '*negligible*' for all phases of the proposal and therefore are considered **not significant in EIA terms**, which we agree with. We have provided comments below

on specific elements of the assessment and noted where we disagree with sensitivity or magnitude scoring.

Temporary habitat loss and disturbance

We disagree with the '*negligible'* impact magnitude scoring for spawning herring and sandeel on the basis that whilst potentially limited in extent, discrete areas of suitable herring and sandeel habitat have been identified in both the NorthConnect survey campaign and contemporary surveys. Given data deficiencies and the large spatial extent of construction activities, impacts are unlikely to be 'highly localised'. We consider a '*low'* magnitude scoring is more appropriate.

Temporary short-term disturbance is considered as not significant for sandeel, however, disturbance during key life history stages (spawning / winter hibernation) for sandeel should have been considered further. Despite this, we accept the overall conclusion of not significant for this species and this impact pathway.

The EICC and Array Area overlaps with recurrent spawning grounds for cod, considered to be especially vulnerable while spawning as they are focussed on mating close to the seabed and unwilling to leave their leks. Disturbance during key life history stages (spawning) for cod should have been considered further. We advise this should be addressed through micro-siting and timing of construction activity if this proposal is consented.

Underwater Noise Modelling Report (Volume 4, Appendix 15)

This Report was difficult to follow in terms of its content, narrative and structure and contained a number of errors and inconsistencies, including:

- Presentational errors including uncompleted sentences, incorrectly labelled figures and sections.
- Tables 6.66 – 6.88 - incorrect values for the number of strikes at each phase of the piling sequence.

However, we welcome that the report included consideration of particle motion, although predictive assessments were not possible. We agree with the worst-case scenarios modelled for the UWN impacts of floating turbine unit (FTU) anchor piling; offshore substation converter platform (OSCP) piling; and UXO detonation. UXO clearance methods have been provided, with both high and low order were assessed.

Mortality, injury, behavioural impacts, and auditory masking arising from noise and vibration from construction

No indication of piling times was provided and as a result it is not possible to ascertain whether piling operations will interact with the spawning season of sandeel. However, we agree with the sensitivity scoring of *'medium'* given their relative immobility during burial and PMF status.

Temporary Threshold Shift (TTS), masking and behavioural disturbance arising from underwater noise

The potential for TTS for all static fish (group 1, 2, 3 and 4) is modelled as 39.5 km. It is disappointing that the EIA Report has not illustrated the modelled worst case impact ranges / underwater noise contours on supporting Figures. This would have aided in understanding potential impacts to sensitive sites, designated features and spawning / nursery grounds.

The EIA Report notes that herring are present and will spawn during the autumn months, which is "*unlikely to overlap with the piling season*". Given no indication of piling times have been provided, it is not possible to suggest impacts will be avoided on the basis that herring spawning will likely not overlap with the piling season. However, given that TTS impact ranges are unlikely to overlap with herring spawning grounds, we agree with the '*minor'* significance that has been assigned.

Noise and vibration arising from UXO clearance

Section 13.6.1.2.5 states that there is only a "small probability" of locating UXO. It is unclear what this statement is based on given that the findings of the UXO Risk Assessment state the risk of UXO as being '*medium'* toward the western end of the EICC.

We disagree with the conclusion that UXO clearance will be highly localised and of a short-duration and reversible and therefore of '*negligible'* magnitude to fish and shellfish receptors - given the uncertainty regarding the need for UXO clearance operations. Furthermore, there is a risk these may overlap with key spawning periods (particularly for herring which may be present in greater densities toward the western end of the EICC where there is a greater risk of UXO). Given the uncertainty, we consider a '*low*' magnitude is more appropriate, resulting in a **'***minor'* rather than *'negligible'* effect.

Electromagnetic fields (EMF)

We are pleased to see EMF modelling completed and presented for the Project as noted in Appendix 14A-B: EMF Assessment Report. It is beneficial to see the supporting evidence regarding predicted EMF emissions and decay distances from buried HVDC EICC cables as well as the buried and dynamic HVAC/HVDC IAC cables.

Our collective understanding of EMF effects remains poor, particularly in relation to in-field measurements of EMF. Further details on monitoring are provided below.

Cumulative Assessment

The approach to the cumulative assessment is in line with our advice, and all cumulative impact pathways have been correctly identified. Overall, we agree with the conclusions of the cumulative assessment for the impact pathways.

Mitigation

Proposed (embedded) mitigation measures specific to fish and shellfish are detailed in Table 13-16, which will indirectly reduce impacts to fish and shellfish receptors. These include but are not limited to:

- Development of Cable Burial Risk Assessment (CBRA) and Target Depth of Lowering (DoL) – noting that burial does not necessarily fully mitigate the risks from EMF. As a result, further monitoring of EMF is recommended and discussed below.
- Development of an Environmental Management Plan (EMP).
- Development of a Cable Plan (CaP) – this should include consideration of micro-siting and timing of construction activity to account for key spawning locations and periods for sandeel and herring.
- Development of a Marine Pollution Contingency Plan (MPCP).

- Adherence to a UXO clearance approach. Updated policy in relation to UXO clearance[21] states that low noise methods should be the default method used to clear any type of UXO in the marine environment. If there are extraordinary circumstances which means that low noise clearance cannot be undertaken, Applicants should engage with MD-LOT at the earliest opportunity.
- Development of and adherence to a Piling Strategy should piling for FTU moorings be required.
- Inspection of mooring lines and removal of ghost fishing gear, if required.

To further limit any impacts to sandeel we recommend that mitigation measures to minimise plume-generating activities during the summer period are explored.

As part of the Piling Strategy and Cable Plan, should Scottish Ministers be minded to grant consent, we advise:

- **Consideration be given to diadromous fish interests, particularly in the nearshore area where the export cable landfall is proposed. The route and construction of the export cable should consider key migration periods, duration and construction methods.**
- **Consideration should be given to reducing and monitoring EMF effects of the dynamic cables within the array area.**

Overall, noting the points above we are content with the proposed embedded mitigation measures which will indirectly reduce impacts to fish and shellfish receptors.

Monitoring

A noted above and in-line with other recently consented offshore floating wind farm proposals, we advise that monitoring of EMF should be conducted to validate EIA predictions. As such, should Scottish Ministers grant consent, we advise that:

- **Monitoring of EMF either alone or in collaboration via strategic measures to contribute to the evidence gap in relation to EMF impacts and dynamic cables associated with a floating offshore wind farm (e.g., via ScotMER research campaign).**

Turbot Bank NCMPA

Based on the distance from the EICC (approximately 6km) and the modelled ranges of sediment deposition (analogous to baseline beyond 500m) we are content with the EIA conclusion of '*minor*' effect significance to the Turbot Bank NCMPA from increases in SSC. The only impact pathway considered in the MPA Assessment for the Turbot Bank NCMPA is underwater noise arising from UXO clearance – which we accept.

Based on the information presented, we conclude that the proposal is **capable of affecting, but insignificantly**, the sandeel feature of the Turbot Bank NCMPA. As a result, we agree that potential effects from underwater noise due to UXO clearance do not present a significant risk of hindering the achievement of the Conservation Objectives.

[21] https://www.gov.uk/government/publications/marine-environment-unexploded-ordnance-clearance-joint-position-statement/marine-environment-unexploded-ordnance-clearance-joint-position-statement

Report to Inform the Appropriate Assessment (RIAA)

At the EIA Scoping stage, we provided our position on diadromous fish whereby impacts should be assessed through the EIA process and not through HRA. This position reflects:

- Limited knowledge of spatial and temporal distribution and behaviour of these species in the marine environment,
- Lack of evidence to inform impact pathways, and,
- Lack of reference population figures which prevents impact apportioning to SACs.

We note that diadromous fish have only been considered through the EIA process as recommended and are content with the assessment conclusions reached.

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Appendix D – Benthic Ecology

Benthic interests are considered in Chapter 10 and the following supporting appendices:

- Appendix 8: Habitat Assessment Report - OWF
- Appendix 9: Habitat Assessment Report - EICC
- Appendix 10: Environmental Baseline and Habitat Assessment Report - Inshore EICC
- Appendix 11: Environmental Baseline Report - OWF
- Appendix 12: Environmental Baseline Report - EICC
- Appendix 13: Benthic eDNA Analysis Report
- Appendix 14 A-C: EMF Assessment Report

The Array Area almost wholly overlaps with the East of Gannet and Montrose Fields nature conservation Marine Protected Area (NCMPA) which is designated for its protected features: offshore deep sea muds and ocean quahog aggregations (including sands and gravels as their supporting habitat). This NCMPA is managed by JNCC, and we are seeking their advice. A separate MPA Assessment has been provided by the Applicant together with an MPA without prejudice shadow derogation case and MPA MEEB and Implementation Strategy.

All advice with respect to this NCMPA and its protected benthic features will be provided separately in due course. As such, our advice as outlined below focuses on key conservation habitats and species.

The EIA assessment for benthic interests concludes **no significant impacts, both alone and cumulatively.** We agree with these conclusions.

In this Appendix we provide comments and advice on aspects of the EIA assessment process which do not affect the outcome of the assessment or the overall conclusion of our advice. It does highlight areas where further action is required should Scottish Ministers be minded to grant consent.

Study area

The Benthic ecology study areas comprise of the following, which we are content with:

- The Array Area and EICC in which the infrastructure will be located
- A 20 km Zone of Influence (ZoI) around the Array Area and EICC which takes into account areas that may be affected by indirect impacts such as sediment suspension and resettlement.

Baseline characterisation

The data collection methods used for the baseline characterisation are appropriate, and we are largely content with the data sources and methods used to characterise the Array Area, EICC and study areas. At Scoping, the use of eDNA to support baseline characterisation was recommended and we are pleased to see this incorporated for benthic interests.

The baseline characterisation of the inshore portion of the EICC (MHWS to 12nm) incorporates survey results from the consented NorthConnect interconnector project. The 2018 NorthConnect inshore survey results have been supplemented by site specific surveys conducted in 2024 which

encompassed geophysical, drop-down video (DDV) and water sampling methods. However, no project specific inshore sediment sampling was conducted for this proposal, which instead relies on the results obtained as part of the NorthConnect 2018 EIA. It is unclear why grab sampling was not extended into the inshore portion of the EICC as part of this survey effort.

Sabellaria spinulosa reef

Findings of the baseline characterisation surveys relevant to biogenic reefs are discussed in Section 3.10.3 of Appendix 12. The presence of *Sabellaria spinulosa* was noted on five camera transects within the offshore EICC (beyond 12nm). *S. spinulosa* was also identified within the inshore EICC as part of the 2018 NorthConnect survey campaign and the Cenos 2024 inshore surveys. Reef assessment results are discussed in Appendix 9 and Appendix 12, with conclusions carried through to Chapter 10 of the EIA Report. The reef assessment for both the offshore and inshore portion of the EICC highlight the presence of *S. spinulosa* with instances of 'low reef' characterised.

Section 10.4.4.4.7 of Chapter 10 concludes that the *S. spinulosa* aggregations do not constitute Annex I reef habitat. However, this conclusion is then contradicted in Section 10.6.1.1.6 when assigning sensitivity: *"[…] some of the S. spinulosa reef patches identified in the EICC could be regarded as Annex I biogenic reef".*

All biogenic reef is likely to be ecologically important, and the low, medium and high classifications do not necessarily correlate with the ecological value of the reef (Pearce and Kimber 2020). Therefore, we advise low reef should be classed as Annex I reef. In addition, Pearce and Kimber (2020) describe the *S. spinulosa* bommies as being topographically distinct and so meeting many of the broader criteria for reef detailed in the Habitats Directive and OSPAR reef definitions. As such, *S. spinulosa* bommies should also be treated as Annex I reef.

We note that the existing Marine Licence(s) for the NorthConnect project specifies the following in consent condition 25:

"*The licensee must ensure that the works do not affect […] Sabellaria reefs, as listed in Annex 1 of Council Directive 92/43/EEC, by maintaining a 50 metre exclusion zone around the habitats."*

Noting section 10.6.1.1.6 which *"acknowledges that the use of the PLGR may lead to the relocation of boulders hosting S. Spinulosa"* we advise that should *S. spinulosa* be identified in the refined cable route, regardless of it's 'reefiness', a similar exclusion zone should be applied. Please see below for further advice under mitigation.

Impact assessment

We agree with the overall EIA project assessment of minor significance of effect for Construction, Operation and Maintenance (O&M) and Decommissioning phases, which are **not significant in EIA terms**. We are broadly satisfied with the sensitivity and magnitude evaluations within the EIA and agree with the significance conclusions. As previously noted, our joint advice with JNCC as it relates to the impact assessment for the East of Gannet and Montrose Fields NCMPA and its benthic features will be provided separately in due course.

Scoping of impacts

The mobilisation or release of sediment contaminants has been considered in Chapter 9 (Marine Water and Sediment Quality) as well as the MPA Assessment but has not been considered within

Chapter 10. Section 9.6.1.2 of Chapter 9 indicates that nine metals that were recorded above their reference values, and there is reference to elevated hydrocarbon levels although we note the conclusion of Not Significant in EIA terms for this pathway.

Introduction of hard substrates in a predominantly sedimentary environment

Section 10.6.2.3 outlines the potential positive effects of renewable structures (rock protection/infrastructure) on productivity and diversity for colonising organisms. Whilst the impact pathway is termed "*Introduction of hard substrates in a predominantly sedimentary environment"* little consideration is given to the latter part of this pathway regarding the **existing sedimentary environment.** The assessment makes no reference to the fact that the Array Area is dominated by deep-sea muds, as illustrated on Figure 10-2 and instead references the highly localised areas of bedrock and stony reef. As a result, the suggestion of positive effects is misleading.

Mitigation

No additional mitigation measures are proposed beyond the embedded mitigation outlined within in Table 10-13.

We are largely content with the embedded mitigation proposed. We will provide advice regarding micro-siting in the separate advice on the NCMPA in due course.

With respect to *S. spinulosa,* if the proposal is consented, we advise:

- **Potential impacts to Annex I *Sabellaria spinulosa* reef should be minimised by micro-siting of cables and infrastructure, wherever possible. This could be achieved through the use an exclusion zone of 50 metres as reflected in the existing NorthConnect Marine Licence consent condition.**

Monitoring

Table 10-2 states that *"monitoring measures are detailed in Table 10-13 in Section 10.5.4."* although we note no monitoring measures are proposed in either Table 10-13 or Section 10.5.4.

Report to Inform the Appropriate Assessment (RIAA)

No SACs with Annex I habitat features were screened into the RIAA stage. We are content with this conclusion.

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Appendix E – Marine Geology, Oceanography and Coastal Processes

Marine geology, oceanography and coastal processes (MGOCP) are considered in Chapter 8 and supporting Appendix 7: Marine & Physical Processes Modelling Report of the Cenos EIA Report.

The assessment for MGOCP concludes **no significant impacts, both alone and cumulatively**. We agree with these conclusions based on our understanding of the available science, however, **advice should be sought from MD SEDD on mixing and seasonal stratification**.

In this Appendix, we provide comments and advice which addresses elements of the assessment process but does not affect the outcome of the assessment or the overall conclusion of our advice.

We provide further comments and advice in relation to the geodiversity features of the Southern Trench NCMPA, noting potential interactions with the subglacial tunnel valley feature.

Study area

We are content with the study areas used in the assessment. The Zone of Influence (ZoI) for MGOCP receptors has been defined based on:

- A spring tidal excursion ellipse buffer around the Array Area and the Export / Import Cable Corridor (EICC) which ranges from 4.5 km to 12 km.
- The distance from the landfall that littoral processes could be impacted by Project infrastructure, based on Ramsay and Brampton (2000) and Dynamic Coast (2024).
- The distance from the Array Area that wave blockage impacts could be detected – defined as an approximately 50 km buffer around the Array Area.

Baseline characterisation

We are content that the relevant key data sources have been used for the baseline characterisation.

Impact Assessment

Magnitude of effect

We have some concerns about the definitions of magnitude used in the assessment, in particular the definition of '*low*' magnitude as being "restricted to the near-field and immediately adjacent far-field" (Table 8-30). Near-field is defined as the Array Area plus EICC (Section 8.5.3) - this means a noticeable MGOCP change occurring over tens to hundreds of km^2 could be assessed as Not Significant, even if coupled with a receptor of '*high*' sensitivity. However, overall, we are satisfied that changing the magnitude does not alter the overall conclusion of Not Significant for MGOCP receptors.

Advice with respect to MGOCP impacts on the East of Gannet and Montrose Fields NCMPA will be provided in due course.

Cumulative impacts

The approach to the cumulative assessment is in line with our advice, and all cumulative impact pathways have been correctly identified.

Overall, we agree with the conclusions of the cumulative assessment for the impact pathways identified.

We welcome the inclusion within the cumulative assessment of the potential effects of multiple project cabling on the moraine element of the quaternary of Scotland feature of the Southern Trench NCMPA. We agree that without detailed information on whether other cable routes would cross moraines, this impact pathway cannot be properly assessed. Whilst this is an ongoing issue that warrants further monitoring / assessment as more developments progress through detailed design construction to operation, we also note the small scale of cable installations relative to the scale of moraine features.

Mitigation

Proposed primary (embedded) mitigation measures specific to MGOCP receptors are detailed in Table 8-31. These include:

- Use of Horizontal Directional Drilling (HDD) as the landfall cable installation – to be detailed in the Construction Method Statement (CMS)
- Design of scour protection to minimise introduction of hard substrate – informed by scour assessment and included within CMS
- Micro-siting of Floating Turbine Units (FTUs) and other infrastructure – detailed in the Design Specification Layout Plan (DSLP).

It is stated at 8.6.1.1 that micro-siting of cables will avoid any requirement to pre-sweep (remove) bedforms such as sandwaves. Without further detailed information on bedform characteristics such as the orientation of their ridges relative to cable routes, there is little confidence that such micro-siting could actually be achieved, and/or is feasible. Despite this, we are content that should a scenario in which bedform clearance is required, the conclusions regarding the assessment of geodiversity features of the Southern Trench NCMPA would remain valid, as outlined below.

Monitoring

The impact of large-scale floating offshore wind farms on mixing and seasonal stratification is an emerging topic with significant uncertainties. The Cenos proposal provides an early opportunity to contribute towards addressing this evidence gap through pre- and post-construction monitoring linked to findings from the ECOWind 'Physics-to-Ecosystem Level Assessment of Impacts of Offshore Windfarm's (PELAgIO) project and / or the recommendation set out in the Scottish Government "Offshore Wind Sustained Observation Programme (OW-SOP)[22]. Further advice should be sought from MD SEDD on this topic.

Lastly, we are mindful of the ScotMER project proposal for 'Development of marine physical process modelling guidelines for offshore wind farm environmental impact assessments' which has recently reached the ITT stage. While the timeline for this project may not align with the current Application, it may be useful to consider project outputs when designing monitoring, if consented.

[22] https://www.gov.scot/publications/scoping-offshore-wind-sustained-observation-programme-ow-sop/

Southern Trench NCMPA

The only element of the geodiversity features of Southern Trench NCMPA affected by the proposal, and specifically the EICC, is a single subglacial tunnel valley identified in Figure 8-10; section 8.6.1.3; 8.6.2.5) which intercepts this feature.

The subglacial tunnel valley is a broad-scale feature, tens of kilometres long, with detailed topography, likely at least 0.5 – 1km^2 in spatial scale. The cable installation works would be at least two orders of magnitude smaller. Therefore, where cables are surface laid with protection, the landform surfaces would remain sufficiently unobscured to allow extent, distribution and structure to be maintained. If the trench is excavated, most or all would be through post-glacial sediment that drapes the landform surface. For these reasons the extent, component elements, integrity and structure of the landform would be maintained. We conclude that the proposal **is capable of affecting, but insignificantly**, the geodiversity features of the Southern Trench NCMPA. Therefore, we conclude that the proposed wind farm would not hinder the achievement of the conservation objectives of this NCMPA for this feature.

Appendix F – Blue Carbon

Blue carbon is considered in Chapter 20 – Carbon and Greenhouse Gases of the EIA Report and includes assessment of impacts to blue carbon stocks, as requested during pre-application.

The overall assessment for Blue carbon stocks concludes **no significant impacts, both alone and cumulatively.** We agree with this conclusion.

A quantitative assessment has not been presented – impacts to blue carbon stocks have instead been assessed qualitatively. Whilst we acknowledge that Blue Carbon Assessment is a relatively new element of marine energy EIA Reports and agree in principle with the qualitative assessment in this Application, we note that other Applications have made efforts to present quantitative assessments by estimating the surficial organic carbon stock and assuming 100% of disturbed sediment results in CO2 emissions (worst-case scenario).

In this Appendix we provide comments and advice on aspects of the assessment process which do not affect the outcome of the assessment or the overall conclusion of our advice, however we hope they will be of benefit to future Blue Carbon Assessments.

Baseline characterisation

Generally, there is a good understanding of blue carbon science and relevant literature has been used; however, some references (e.g. Burrows et al. 2014; Porter et al. 2020) are now outdated. The EIA Report uses an outdated definition of blue carbon (Porter et al. 2020) as this reference still considers the contribution of inorganic carbon. While the assessment refers to the presence of inorganic carbon within sediments, it does not feature further within the impact assessment, which is correct. Inorganic carbon has a low sensitivity to disturbance and is not relevant for climate mitigation.

Additional habitats – other than sedimentary stores of carbon – have been considered as blue carbon receptors which is welcomed. We agree with the assertion that there is a lack of kelp beds or coastal blue carbon habitats such as seagrass beds within the Project Area. The assessment also considers terrestrial carbon habitats that might be impacted by the Proposal at the point of landfall, which is welcome and should be considered in future assessments as an example of good practice.

It is noted and welcomed that the habitats and sediment types recorded during the Project site-specific surveys have been used to understand the distribution of potential blue carbon habitats and sediments across the Project Area. It is beneficial to see a clear alignment between sediment type and Total Organic Carbon (TOC) recorded as part of baseline surveys and supporting literature (Section 20.6.3, Paragraph 2). This alignment provides confidence to the qualitative assessment presented. In addition to using relevant literature and seabed sedimentary organic carbon maps there is potential for a detailed and bespoke sedimentary organic carbon map to be created given the baseline data collected through the survey campaigns (i.e., MBES and grab sampling) using the method outlined in Hunt et al. (2020).

Impact assessment

Sensitivity and magnitude scoring

We consider that the assigned sensitivity of the blue carbon receptors may underplay the risks to sedimentary organic carbon stores. The assessment determines a sensitivity of blue carbon receptors within the Study Area as being of a '*medium'* sensitivity. However, we believe this is under-precautionary and recommend an amended sensitivity score of '*high'* based on the following:

- *Accumulation rates*

Seabed sediments are geological stores of carbon that accumulate over thousands of years, therefore losses can be significant in the timescales of the windfarm proposal (i.e. the loss is highly unlikely to restore itself in the Project timeframe, even with the possibility of enhanced deposition due to the modification of current speed around the array (Diesing, Thorsnes, and Rún Bjarnadóttir 2021; Daewel et al. 2022; Heinatz and Scheffold 2023).

- *Sub-surface sediments*

The assessment has only considered disturbance to surficial sediments and not the additional disturbance to deeper layers through the suction piling anchors or potential indirect effects of scour (see advice contained in Appendix E) from modified flow. Activities that disturb sediment below the surface will likely have an impact on the long-term carbon store and should also be acknowledged in assessment of impacts, even if it is currently difficult to calculate the extent / significance of that impact. Disturbance to deeper sediments can disturb long-term buried carbon by potentially introducing oxygen into anoxic layers, which could stimulate remineralisation and a potential turnover of otherwise stable organic carbon (Macreadie, et al. 2019)[23]. We recommend that future Blue Carbon Assessments should include disturbance to sub-surface sediments as an impact pathway.

- *Deep-sea muds*

The array will be situated in an area of predominantly muddier sediments. Deep-sea mud sediments are more sensitive to disturbance and hold relatively more carbon and should therefore be considered to be of high vulnerability, low recoverability and high value.

Despite our recommendation to increase the category of sensitivity, the overall significance of effect for EIA will not change, because the magnitude of effects are assessed as '*negligible'* given the localised nature of temporary or permanent disturbance or loss of blue carbon habitats, and relatively small area of direct area compared to the wider Exclusive Economic Zone (EEZ).

Our advice with respect to Blue carbon as a component part of the deep-sea mud feature of the East of Gannet and Montrose Fields NCMPA will be included within the MPA advice response to be provided in due course.

[23] Macreadie, P. I., Atwood, T. B., Seymour, J. R., Fontes, M. L. S., Sanderman, J., Nielsen, D. A., & Connolly, R. M. (2019). Vulnerability of seagrass blue carbon to microbial attack following exposure to warming and oxygen. Science of the Total Environment, 686, 264–275. https://doi.org/10.1016/j.scitotenv.2019.05.462

Cumulative assessment

We welcome that an assessment of cumulative effects has been attempted. The identification of projects which overlap the Project Area (Eastern Green Link 3, Muir Mhor and MarramWind) is a sensible approach for Blue carbon which we broadly agree with. However, we note that impacts to nationwide stocks of blue carbon from other developments will be wider than just other projects which overlap the Project Area. The challenges of conducting a detailed cumulative assessment due to limited information on the other cumulative developments considered are recognised.

The cumulative assessment concludes that cumulatively, the Project:

"[…] *will not substantially increase those impacts to the seabed associated with the Project. Therefore, the effect remains as being at a negligible magnitude for blue carbon stores. Therefore, the overall impact on blue carbon is assessed to remain as minor and not significant in EIA terms.*"

Whilst we broadly agree with this conclusion for a cumulative assessment based on other developments which directly overlap with the Project Area, we note that when considered in the wider context of other nationwide developments which will potentially impact Scottish blue carbon stocks, the magnitude will likely be higher due to the overall loss of habitat to hard structures, moorings, anchors, cables and indirect effects such as scour, carbon loss and sediment displacement. This does not change our conclusion for the cumulative assessment presented as part of this Application, but we raise it to ensure recognition is given to cumulative impacts to blue carbon stores as part of strategic planning as well as individual development considerations.

We advise that future assessments should consider the cumulative impacts of disturbance from other developments, including on longer-term carbon stored buried deeper. While there is a suggestion within the literature, that there may be an increase in accumulation of sedimentary organic carbon as result of the infrastructure on modifying current speeds, it is unlikely that this will compensate for sediment disturbance and loss over the lifetime of the proposal. This may merit further research as part of ScotMER etc.

Mitigation and monitoring

No mitigation or monitoring is proposed for Blue carbon, which is in line with the '*negligible'* magnitude and No Significance of effect conclusion.

NATURESCOT ADVICE ON CENOS OFFSHORE WIND FARM

Appendix G – Derogation

The Applicant has submitted a derogation case alongside the s36 and Marine Licence Applications. This is provided on a without prejudice basis, and comprises:

- Habitats Regulations Appraisal (HRA) – Shadow Without Prejudice Derogation Case
- Habitats Regulations Appraisal (HRA) – Compensation and Implementation Strategy

The second Report focusses on identifying appropriate compensation measures and our advice is based on this second Report.

Summary

Overall, we are concerned about the proposed sharing of compensatory measures with Green Volt, due to a number of factors, including the continuation of baseline monitoring, scheduled for later this year which is required to fully inform the Green Volt measures and confirm whether or not these are sufficient. At present,

- The disturbance reduction measure is likely to be sufficient to compensate for the impact predicted from the Green Volt development on its own, but not for the predicted impact from Cenos alone or from both developments combined.
- Insufficient evidence has been provided to ensure the proposed drainage management measure will derive sufficient benefit for Green Volt on its own and combined with the predicted impact from Cenos.

As well as,

- While evidence to date suggests that disturbance of gannets at Troup Head by visitors is likely, no information has been provided by Cenos on how disturbance reduction will be undertaken.
- The Applicant proposes to provide future funding to continue the work of the SOS Puffin Project, however, we note that commitment was made by Green Volt to fund this measure. No information is provided that outlines what Cenos would fund that is additional to the Green Volt commitment.

Compensation and Implementation Strategy

The Compensation and Implementation Strategy (CIMS) is considered by the Applicant to provide the *Outline Seabird Compensation Strategy* however we note from Section 1.1 that it is not anticipated that this will be the final version.

The Applicant concluded No Adverse Effect on Site Integrity (AEOSI) for any sites or species in their assessment. However, the Applicant has put forward a list of sites and species outlined in Table 1-1 (Section1.2) which, in their view, may require compensatory measures. As outlined above in Appendix A, we disagree and instead advise that the following sites and species will likely require compensatory measures, acknowledging that at this point in time, the Appropriate Assessment has yet to be finalised:

- Kittiwake at Buchan Ness to Collieston Coast, East Caithness Cliffs, Forth Islands, Fowlsheugh, North Caithness Cliffs, St Abb's Head to Fast Castle and Troup, Pennan and Lion's Heads.
- Puffin at Forth Islands.
- Gannet at Forth Islands and Hermaness, Saxa Vord & Valla Field.

The Applicant proposes to use the same compensatory measures as the consented Green Volt offshore windfarm on the basis that the Green Volt *Outline Seabird Compensation Plan* established that the proposed compensatory measures are capable of providing excess levels of compensation. Both projects are being delivered by the same JV partners.

Whilst we understand the rationale put forward by Cenos in proposing to use the same compensatory measures as Green Volt, we have strong concerns that if these measures are not successful, then this means two projects are at risk of needing to consider and apply adaptive management measures. We are also unable to advise on the sufficiency of these measures, based on current levels of evidence, as outlined below**.**

Green Volt's Outline Seabird Compensation Strategy

Green Volt's compensation measures, as described in Section 2.3, are:

- Compensation Measure 1: Drainage management at cliff edge locations to reduce runoff and increase available potential nesting habitat and quality of existing sites, with appropriate monitoring and adaptive management. Implementation is proposed at Ashy Geo and Tod's Gote at East Caithness Cliffs SPA.
- Compensation Measure 2: Disturbance reduction at priority locations for target species, with appropriate monitoring and adaptive management. Implementation is proposed at Troup, Pennan and Lion's Heads SPA, which consists of disturbance reduction management.
- Compensation Measure 3: Habitat management targeted specifically at puffin that will focus on tree mallow removal/maintenance, which has been highly successful at enhancing breeding habitat for this species in the Forth Islands SPA but currently has no committed funding, leading to operational constraints going forward.

In our advice on the Green Volt *Outline Seabird Compensation Plan*, dated 17 April 2024, we concluded that overall, from an ecological feasibility perspective, the proposed measures were likely to compensate for the impacts predicted.

However, site specific baseline monitoring subsequently carried out has identified some issues which are of relevant to this proposal and are discussed below. We also note Green Volt's *Detailed Seabird Compensation Plan* has not, as yet, been approved by Scottish Ministers.

Defining the Compensation Strategy for Cenos

The Applicant considers that within the Green Volt proposed compensation measures that there is sufficient headroom to compensate for the additional potential impacts concluded for relevant species by the Cenos windfarm proposal.

Section 3.1 states that there is no intention to modify the approach presented in the Green Volt *Outline Seabird Compensation Plan*. Reference is made in Section 3.2 to work undertaken by Green Volt to update baseline information to better assess and quantify the level of likely compensation. It is disappointing that the results of this work have not been used to fully inform the compensation strategy for Cenos.

East Caithness Cliffs SPA baseline monitoring summary

Section 3.2 notes that the first year of baseline monitoring undertaken by APEM[24] for Green Volt at East Caithness Cliffs SPA did not provide the expected evidence to establish this as an effective measure. This was due to the very poor 2024 breeding season which made it difficult to monitor breeding behaviour and productivity and compare wet and dry nesting sites effectively.

Furthermore, the evidence collected was deemed inconclusive and a second year of baseline monitoring is required to clearly establish whether nest sites in wetter areas are exerting a pressure on breeding kittiwake at this site.

It was, however, possible through the first year of monitoring to establish that the identified areas of wet cliff do remain wet/damp throughout the breeding season. This supports the premise that the issue of water runoff over the cliffs, could be addressed through drainage management.

Sufficient detail was provided by Green Volt on the mechanism for delivering this measure to ascertain that it should be feasible and we welcome that ground works could be undertaken outwith the East Caithness Cliffs Special Area of Conservation (SAC) and the Craig Hammel to Sgaps Geo Site of Special Scientific Interest (SSSI).

Therefore, on the basis of current evidence, we conclude that while there is potential for this measure to benefit nesting kittiwake at East Caithness Cliffs SPA, further baseline data is required to confirm that it can be fully effective. We note that Green Volt propose to undertake further survey work in 2025.

Collie Head and Troup Head baseline monitoring summary

This measure originally proposed path realignment to avoid informal paths from being used, combined with installation of visitor screens and signage to minimise the anthropogenic impact of visitors on seabirds (in particular gannet) at Collie Head, adjacent to Troup Head.

However, since then, baseline monitoring undertaken by Green Volt in 2024 has focused on disturbance to gannet on Troup not Collie Head. This is because there were no gannets breeding on Collie Head in 2024. Initial findings from this work indicate a link between disturbance and productivity/nest failure at cliff top sites and a positive correlation between disturbance and the ratio of non-breeders to AONs. Which suggests that disturbance could be reducing nest site uptake for breeding birds and may be leaving these areas available for non-breeders. Green Volt acknowledge that a second year of monitoring is needed to confirm these results.

Monitoring of kittiwake on Collie Head was not possible in 2024 because of the very poor breeding season. These colonies are not visible from land, so only water -based disturbance is of concern.

[24] APEM (2024b). Green Volt Seabird Compensation: East Caithness Cliffs Seabird Baseline Monitoring Report P00015327. APEM Scientific Report. Green Volt Offshore Windfarm Ltd., November 2024

Insufficient evidence has been provided, as yet, to support disturbance of these species by water-based activities.

While evidence to date suggests that disturbance of gannets at Troup Head by visitors is likely, no information has been provided by Green Volt or Cenos on how disturbance reduction will be undertaken. It is unclear whether the original plan relating to the Collie Head footpath still applies or whether the measure is now about reducing disturbance on Troup Head itself and, if so, what this will entail. As this is an RSPB reserve, consultation with RSPB will be a key element.

For kittiwake, it is apparent that any path works, signage or screening on Collie Head would not be of benefit to this species, as they cannot be disturbed from land.

While the baseline monitoring carried out to date has provided useful evidence of the impacts of disturbance on nesting seabirds, **without further detail about the disturbance reduction mechanisms, we cannot provide advice on the efficacy of this measure**.

Summary of Compensation Sufficiency

Drainage management at East Caithness Cliffs SPA

The expected level of compensation for kittiwake at Ashy Geo and Tod's Gote, was calculated by Green Volt before any detailed site investigations had been carried out. However, following the recent site investigations (within the 2024 breeding season) additional areas within the Ashy Geo site and the Tod's Gote site have been included, which increases the confidence of sufficiency for the proposed measure. The maximum number of kittiwake predicted to benefit from drainage management over this revised area is presented in Table 4-1 as 201 birds. This may be further refined by the 2025 monitoring.

The Applicant states in Table 4-2 that the maximum compensation required for the Cenos proposal for kittiwake is 8.2 breeding adults. Our assessment of AEOSI indicates that North Caithness Cliffs SPA and St Abb's Head to Fast Castle SPAs would need to be added to the sites listed by the Applicant. This would only add a total of approximately 1 bird/annum, bringing the total to 9.2 breeding adults/annum.

Green Volt have estimated that 74 breeding adults can be compensated for by this compensation measure. This is based on 201 kittiwake pairs producing 165 fledglings of which 74 will survive to breeding age. This is likely to only be approximate as the kittiwake productivity at the specific site may differ from the value used in the calculation (0.82).

However, even allowing for some over-estimation, it would seem reasonable to conclude that the measure has the potential to compensate for the combined predicted mortality from both Green Volt and the Cenos proposal for kittiwake. We acknowledge that the final value for which compensation is required will be established through completion of the Appropriate Assessment.

Disturbance reduction at Troup, Pennan and Lion's Heads SPA

Gannet

The Applicant states that the first year of baseline monitoring undertaken by APEM[25] for Green Volt identified that gannets nesting at potentially disturbed cliff top locations had a reduced average productivity rate of 0.43 compared with the colony average of 0.66, equating this to a reduction of 36%, which the Applicant attributes entirely to disturbance.

We disagree with the interpretation of the monitoring results noting, for example, that the undisturbed control site used in the monitoring also had a low productivity rate of 0.42.

In our view, the results of the baseline monitoring have not been considered in full as part of the Cenos Application. For example, further analysis of the baseline data indicated that a 12% reduction in productivity due to disturbance may be likely. As a result, the use of a 0.43 productivity rate for the deliverable compensation level calculated in Table 4-3 (12 birds/annum) may not be appropriate.

Agreement is required on the productivity rate to be used in the calculation of additional birds that the compensation measure to reduce disturbance would provide.

Further baseline monitoring in 2025 may be able to:

- Refine the estimated % of the gannet population subject to disturbance from land and sea activities. There is currently no data available to quantify the level of at sea disturbance.
- Quantify more accurately the reduction in productivity rate attributed to disturbance.

In the meantime, we do not consider that this measure will provide adequate compensation for impacts on gannet from the project.

Kittiwake

Compensation for kittiwake from this measure is included in Table 4-3 but with no supporting text. **Further information on the productivity rate selected and evidence to support disturbance of kittiwake at this site is required before we are able to advise further.**

Scottish Seabird Centre scheme for puffin

The Applicant proposes to provide future funding to continue the work of the SOS Puffin Project, which has provided control and monitoring of tree mallow within the Forth Islands SPA (Fidra, Craigleith and The Lamb Islands). This measure would support the recovery of puffin nesting habitat.

Tree mallow removal in puffin nesting habitat is an effective compensation measure in terms of ecological feasibility and we consider that the level of compensation required in Table 4-4 could be achieved through the implementation of this measure.

[25] APEM (2024d). Green Volt Seabird Compensation: Troup Head Seabird Baseline Monitoring Report P00015327. APEM Scientific Report. Green Volt Offshore Windfarm Ltd. 20th November 2024.

However, we note that commitment was made by Green Volt to fully fund this measure. No information is provided that outlines what Cenos would fund that is additional to the Green Volt commitment.

Implementation of a Seabird Compensation Strategy

A number of broad implementation steps are outlined in Section 5 which provide an overview of the linkages with Green Volt's compensation strategy. This approach seems generally appropriate however please note:

- Our advice above around the uncertainty that the disturbance reduction measure can compensate adequately for the impact of the project on gannet. This needs to be explored through the 2025 baseline monitoring however Cenos may need to look for alternative measures, if minded to implement this measure rather than plan-level compensation, noting they have a construction start date of 2030.
- Further baseline data is also required for the drainage management measure to provide clearer evidence that wet areas of cliff are a limiting factor for kittiwake.
- In addition, one full breeding season is unlikely to be adequate to demonstrate the effectiveness of the measures – this should be discussed and agreed as the Seabird Compensation Plan is developed, if the proposal is consented.

Northern Lighthouse Board

Northern Lighthouse Board

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Your Ref: Cenos OWF – S36 Consent & ML Application
Our Ref: AL/OPS/ML/WIND_014_25

Ms Judith Horrill
Licensing Operations Team – Marine Directorate
Scottish Government
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

18 February 2025

ELECTRICITY ACT 1989
The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
The Electricity (Applications for Consent) Regulations 1990

MARINE (SCOTLAND) ACT 2010
The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017

MARINE AND COASTAL ACCESS ACT 2009
The Marine Works (Environmental Impact Assessment) Regulations 2007

Application for Consent Under Section 36 of the Electricity Act 1989 and Marine Licences Under Part 4 of the Marine (Scotland) Act 2010 and Part 4 of the Marine & Coastal Access Act 2009 to Construct and Operate the Cenos Offshore Wind Farm, Approximately 200km East of Aberdeen

Thank you for your e-mail correspondence dated 13th February 2025 relating to the application submitted by **Cenos Offshore Windfarm Ltd** for consent to construct and operate the Cenos Offshore Windfarm, located approximately 200km East of Aberdeen.

Northern Lighthouse Board note that the Cenos OWF will consist of up to 95 floating Wind Turbine Units (WTU) with an approximate export capacity of up to 1.35GW. Up to two Offshore Substation Convertor Platforms (OSCP) will be installed within the array.

An Export/Import Cable bundle comprising two High Voltage Direct Current (HVDC) cables and a fibre optic cable bundled in a single trench has a proposed landfall location at Longhaven, Aberdeenshire. In addition to the National Grid connection, In addition, it is proposed for the Project to connect to nearby offshore oil and gas platforms to enable electrification.

NLB have reviewed the documentation associated with the application, with particular reference to the navigational safety elements of the application contained within Chapter 15 (Shipping & Navigation), Chapter 17 (Marine Infrastructure & Other Sea Users), and their associated Appendices.

NLB note the hazards identified through the Navigational Risk Assessment (NRA) process, and the associated mitigations detailed throughout Chapter 15. NLB welcome the commitments to develop Post-Consent documentation, including a Lighting & Marking Plan (LMP), Navigation Safety Plan (NSP) and a Development Specification & Layout Plan (DSLP).

NLB welcome the commitment that a Lighting and Marking solution will be included within the LMP for circumstances when a Significant Peripheral Structure (SPS), which is used to host Aids to Navigation, is removed from site for maintenance. The inclusion within Chapter 21 (Major Accidents & Disasters) of an assessment of FTU Loss of Station / Towline Failure is acknowledged.

NLB also note that wet storage of Wind Turbine Units prior to deployment is not considered within the EIA, but will be assessed separately. NLB are willing to work with both the applicant, and any relevant Local Harbour Authority, with regard to this assessment process.

The establishment, alteration and discontinuation of any Aid to Navigation is subject to the Statutory Sanction of the Commissioners of Northern Lighthouses. An application form can be obtained on request from the NLB Navigation Department (navigation@nlb.org.uk).

Northern Lighthouse Board have no objection to the proposed Cenos OWF, and will continue to engage with the applicant with regard to the development of post-consent navigational safety documentation.

Yours sincerely

[Redacted]

Peter Douglas
Navigation Manager

North Sea Transition Authority

From: Stuart Walters (North Sea Transition Authority) [Redacted]
Sent: 04 April 2025 15:17
To: MD Marine Renewables
Subject: Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation – Response Required by 4 April 2025

Objective: -1

Good Afternoon,

Thank you for the opportunity for NSTA to provide comments on the Cenos Offshore Wind Farm Section 36 and Marine Licence Application. The NSTA has no substantial comments on the applications aside from one minor correction below:

- Figure 17-2 under the Marine Infrastructure and Other Sea Users section appears to display incorrect oil and gas Licence areas. This may include licence areas which were open to application as part of the 33rd Round and not awarded. The developer should check the latest active licence information from the NSTA Open Data - Data and insights - Data to ensure the latest licence data is referred to and update the potential crossings from the EICC if required.

Many Thanks,

North Sea Transition Authority

Stuart Walters
Senior Policy Manager – Energy Transition
Strategy Directorate
NSTA, Lower Ground Floor, Sanctuary Buildings, 20 Great Smith Street, London, SW1P 3BT
[Redacted] [Redacted]
[Redacted]
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Royal Society for the Protection of Birds

Judith Horrill

From: Andrew Tait [Redacted]
Sent: 02 June 2025 15:55
To: Judith Horrill
Cc: MD Marine Renewables
Subject: RE: Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation – Response Required by 4 April 2025
Attachments: Cenos RSPB Representation.pdf; Cenos Appendix 1.pdf; Cenos Compensation Appendix 2 (2).pdf

Objective: -1

Dear Judith,

Once again thank you for your patience.

The response is more generic than we would have anticipated as our team is quite depleted at the moment. We will continue to try to respond to applications as they come in but will be prioritising our response to the Sectoral Marine Plan for Offshore Wind consultation that went live last Friday.

Once again thank you.

Best wishes

Andrew

Andrew Tait
Senior Conservation Planner
[Redacted]

[Redacted]

Home based and SHQ- normal working days are Mon-Thu

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Protecting habitats, saving species and helping to end the nature and climate emergency.

Nature is in crisis. Together we can save it.

Judith Horrill
Consenting and Licensing Casework Officer
Licensing Operations Team – Marine Directorate
Scottish Government
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By email: MS.MarineRenewables@gov.scot

2 June 2025

Dear Judith

Cenos Offshore Wind Farm Limited – EIA, Section 36 consent and Marine Licence Applications - to construct and operate an offshore wind farm in the North Sea, approximately200 km east of Aberdeen

Thank you for consulting RSPB Scotland on the above application to construct and operate an offshore windfarm (OWF) off the east Aberdeenshire coastline, and for allowing RSPB Scotland a significant extension of time in which to submit our response – we are extremely grateful for this.

RSPB Scotland recognises that climate change is the greatest threat to nature, and we support the transition to renewable energy. We consider that offshore wind has a part to play in a just transition from Scotland's dependence on fossil fuels. We support the principle of offshore wind development and agree that renewable electricity generation offshore has strong policy support.

General Comments

We understand that the development consists of:

- Up to 95 wind turbines generating up to 1.35 GW
- Offshore electrical platforms
- Associated inter-array and inter-connector cables
- Approximate development lifespan of 35 years

It is important to recognise the continued use of models for all OWF ecological assessments and that these are theoretical models that do not always correspond to reality. These models are not able to fully capture the nuances of our dynamic natural environment, the complex behaviours of seabirds or the interlinkages between the two. Therefore, models are not able to evaluate fully the possible risks windfarms pose to seabirds. This fact, combined with the sensitivities of seabird populations to e.g. small changes in adult mortality, availability of food, makes them particularly vulnerable. The requirements of the Habitats Regulations are clear on the requirement to take a precautionary approach when assessing all possible effects of a proposed development.

There are also numerous SPAs in the vicinity, supporting one or more rare, threatened, or vulnerable species and/or regularly occurring migratory species that the turbines will be within the foraging range of (See Appendix 1).

Seabirds are relatively long-lived, tend to breed later in their life cycle and have fewer young than other birds and, as a result, their populations are sensitive to even the smallest increases in adult mortality. Their survival and productivity rates can be impacted by offshore windfarms directly (i.e. collision) and indirectly (e.g. displacement from key foraging areas with additional energy needing to be used to avoid and the additional flying distances to alternative foraging areas). They are also already under severe pressure. In Scotland, the number of breeding seabirds has declined by 49% since the 1980s, according to the Scottish biodiversity indicator[1]. Kittiwake and Puffin are red listed in the Birds of Conservation Concern while Northern Gannet, Razorbill and Guillemot are amber listed. In addition, in 2019 they were assessed as moving away from target to achieve Good Environmental Status[2].

Detailed Comments

RSPB Scotland notes the Applicant's finding of no Adverse Effects on Site Integrity (AEoSI) arising from the project alone or in combination with other North Sea wind farms. We also note that on the basis of discussions with MD-LOT and NatureScot a 'without prejudice' case is offered on the potential for AEoSI on the following SPA sites:

- Black-legged Kittiwake/Northern Gannet from the following SPAs:
  - Buchan Ness to Collieston Coast SPA
  - East Caithness Cliffs SPA
  - Troup, Pennan and Lion's Head SPA
  - Fowlsheugh SPA
  - Forth Islands SPA
- Atlantic Puffin from the Forth Islands SPA

Potential Effects

For several SPAs, the potential effects for their species of the project in-combination with other North Sea developments are significant. These impacts are additional to existing population declines and events such as Highly Pathogenic Avian Influenza (HPAI). Without exception, the impacts would add pressure to SPA species already struggling, and according to the latest Seabird Population Kittiwake and Puffin Seabird Population Trends and Causes of Change 1986- 2023 (BTO November 2024) their numbers are plummeting.

Habitats Regulations and Sectoral Marine Plan

SPAs are designated due to supporting the most important bird species within the UK and therefore their protection is of paramount importance. However, the Regulations do include exceptions to this protection so that urgently needed public interest projects can proceed, despite it not being possible to ascertain for the lifetime of the project, that there will not be AEoSIs in-combination with other projects. These further requirements (derogations) are:

- it can be demonstrated that there are no lesser damaging alternative solutions,
- there are imperative reasons of overriding public interest (IROPI) for the project to go ahead, and
- compensation measures to maintain the coherence of the UK/National Sites Network are provided.

Whilst RSPB Scotland recognise the inclusion of the Application site within the Sectoral Marine Plan for Offshore Wind Energy, due to the potential AEoSI, derogations are required, and the Scottish Ministers must

1 The Marine Strategy Regulations 2010 (legislation.gov.uk)

2 Scottish Biodiversity Indicator – The Numbers and Breeding Success of Seabirds (1986 to 2019)

ensure the requirements of Regulations 29 and 36 of the Offshore Habitats Regulations[3] are passed before it can grant permission for the Application.

RSPB Scotland of course recognises the importance of achieving the renewable energy targets. It may be determined the development must be consented for Imperative Reasons of Overriding Public Interest, but it is vital Scottish Ministers undertake the most rigorous assessment of the suitability and efficacy of the compensation measures proposed, and that the Scottish Government requires rigorous application of any agreed compensation in the interests of ensuring the overall coherence of the UK Sites Network (Natura 2000 Network). Nothing less would be acceptable.

The Applicant's proposed compensation measures as outlined in the submitted HRA Compensation Strategy (referencing the Green Volt Outline Seabird Compensation Plan) and Derogation Case submitted with the Application, comprise:

i. Drainage measures - East Caithness cliffs for Kittiwake;
ii. Disturbance reduction measures - Troup, Pennan and Lion's Heads for Kittiwake; and
iii. Support for Scottish Seabird Centre 'SOS Puffin' Scheme (Forth Islands) for Puffin

Commentary on and analysis of, these proposed compensation measures is attached to this letter at Appendix 2.

Several measures are proposed that would require the consents of other landowners in terms of access and any physical works. While the applicant is confident these measures can be secured, we note consents and permissions are yet to be finalised, though discussions on Puffin with the Scottish Seabird Centre are more advanced. There should at least at this stage be evidence of any consents or permissions being securable.

However, in the absence of a Detailed Seabird Compensation Plan, we have concerns about how these measures will effectively ensure disturbance is reduced and there is currently a lack of information re implementation and future monitoring requirements.

Overall, we welcome the opportunity to engage in ongoing dialogue with the Applicant, the Marine Directorate and NatureScot on the elements of the strategy that are linked to Green Volt. However, in general terms we are encouraging a more strategic approach to compensation (and we simply don't have the capacity to engage in project level compensation going forward unless there are very specific circumstances). We believe that a strategic approach will help shape and improve the proposed compensation measures and ensure they (together with measures from other projects) are deliverable and effective (ecologically, financially and legally), thus ensuring the coherence if the UK/National Sites Network.

<u>Summary</u>
RSPB Scotland's position is that we **object** to the application because of concerns in relation to scale of the potential cumulative effects, given that there are likely to be significant effects on several SPA species. In particular the difficulty is around being unable to fully assess the in-combination impacts with other wind farms and Berwick Bank in particular. If Berwick Bank were not on the table, it is likely that a supportive response to the in-combination effects could be provided.

Should you require any further information or clarification, please do not hesitate to get in contact.

Yours sincerely

[Redacted]

[3] https://www.legislation.gov.uk/uksi/2017/1013/contents

Andrew Tait
Senior Conservation Planner, RSPB Scotland

Appendix 1
Cenos Offshore Windfarm Application
Detailed Response by the Royal Society for the Protection of Birds

Introduction

1. This appendix sets out the steps for the habitat regulations with the legal steps that must be taken, together with the wider legal context and the policy landscape for offshore wind development. This is followed by a summary of the most relevant seabird colonies and their current status.

Offshore ornithology assessment

2. RSPB Scotland recognise that the Applicant invested a great amount of time and resource into the ornithological re-assessment process and wish to formally express that we welcome and appreciate this work.

3. We consider the approach advised by NatureScot and detailed in their online guidance to be the best reflection of the likely impact of the proposed OWF development.

4. As set out in Searle et al (2023a)1, assessing impacts of offshore windfarms and other renewables developments is inherently uncertain. This uncertainty is propagated throughout the impact assessments, as there are not only direct impacts, but ecosystem wide impacts that can change, for example, the abundance and availability of prey. Multiple data sources and modelling techniques are used to capture a simplified version of reality. They do not fully capture the complexity of seabird behavioural or demographic processes in an inherently dynamic marine environment.

5. It is therefore vital that the precautionary approach required by the Habitats Regulations is taken. This means if scientific data is incomplete or hard to get and it is not possible to complete a full evaluation of all possible or potential risks an activity/development may cause, account should be taken of all possible harm. Potential harm should not be dismissed due to the lack of scientific data.

6. Importantly, the precautionary principle requires the Applicant to demonstrate with scientific certainty that something would not be harmful. The concept of something being overly precautionary dismisses the inherent uncertainty in modelling and overlooks the simplistic version of reality that the modelling captures.

7. Not recognising these uncertainties risks poorly informed decisions being made. Furthermore, an underestimation of impacts will have repercussions when consenting later offshore wind development. If a precautionary approach is taken from the beginning, the likelihood of irreversible damage occurring is reduced even whilst our knowledge base is incomplete and modelling improves.

The Habitats Regulations

8. The Habitats Regulations seek to conserve particular habitats and species across the UK. The overall aim of these Regulations is to ensure the long-term survival of viable populations of the UK's most valuable and threatened species and habitats, throughout their natural range and to maintain and promote biodiversity.

9. These Regulations relevant to this application are:

   9.1. *The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) ("the 1994 Regulations")* - applies on land in Scotland, and in Scottish inshore waters (the area of sea adjacent to Scotland from 0 to 12 nautical miles);

   9.2. *The Conservation of Habitats and Species Regulations 2017* - applies to specific reserved and devolved activities on land in Scotland, and in Scottish inshore waters, including for consents under sections 36 and 37 of the Electricity Act 1989; and

   9.3. *The Conservation of Offshore Marine Habitats and Species Regulations 2017* - applies to all UK offshore waters (the area of sea beyond 12 nautical miles).

10. These are referred to as "the Habitats Regulations" in this submission.

11. In Scotland, 162 Special Protection Areas (SPAs) have been classified. These have been specifically identified and protected due to supporting one or more rare, threatened, or vulnerable bird species as listed in Annex I of the Birds Directive, or regularly occurring migratory species.

12. Although the UK has withdrawn from the EU, the aims and objectives (as set out in the Habitats and Birds Directives recitals/preambles) remains relevant and important as discussed below. SPAs are protected in Scotland and the rest of the UK, and the standard of protection and requirements has not changed.

13. There have however been some changes to terminology and process due to Brexit. Of relevance to this submission is that the EU-wide network of SPAs and SACs known as "Natura 2000" Network post Brexit, no longer is of legal relevance. However, the UK-wide network of protected sites is, and is referred to as the "UK site network". In addition, references in the Habitats Regulations to the "coherence of Natura 2000" must now be read as references to the coherence of the UK/National site network.

14. Using *the Conservation of Habitats and Species Regulations 2017* (since all Habitats Regulations have identical requirements), the Regulations set out the sequence of steps to be taken by the competent authority (here the Scottish Ministers) when considering authorisation for a project that may have an impact on a European site and its species before deciding to authorise that project. These are as follows:

- Step 1: consider whether the project is directly connected with or necessary to the management of the SPA and its species (regulation 63(1)). If not –

- Step 2: consider, on a precautionary basis, whether the project is likely to have a significant effect on the SPA and its species, either alone or in combination with other plans or projects (the Likely Significance Test) (regulation 63(1)).

- Step 3: make an appropriate assessment of the implications for the SPA and its species in view of its conservation objectives. There is no requirement or ability at this stage to consider extraneous (non-conservation e.g. economics, renewable targets, public safety etc) matters in the appropriate assessment (regulation 63(1)).

- Step 4: consider whether it can be ascertained that the project will not, alone or in combination with other plans or projects, adversely affect the integrity of the SPA and its species, having regard to the manner in which it is proposed to be carried out, and any conditions or restrictions subject to which that authorisation might be given (the Integrity Test) (regulation 63(6)).

- Step 5: In light of the conclusions of the assessment, the competent authority shall agree to the project only after having ascertained that it will not adversely affect the integrity of the SPA, alone or in combination with other plans or projects (regulation 63(5)).

- Step 6: only if the competent authority is satisfied that, there being no alternative solutions and the plan or project must be carried out for imperative reasons of overriding public interest (which, subject to (regulation 64(2)), may be of a social or economic nature), they may agree to the plan or project notwithstanding a negative assessment of the implications for the European site (regulation 64(1)).

- Step 7: in the event of the no alternative solutions and imperative reasons of overriding public interest tests being satisfied, the Scottish Ministers must secure that any necessary compensatory measures are taken to ensure that the overall coherence of the Natura 2000 network is protected (regulation 68).

15. It is important to add that in addition to the requirements set out above, in relation to both inshore area and the offshore marine area, any competent authority must exercise its functions so as to secure compliance with the requirements of the Habitats Directive and the Birds Directive; and in particular to take such steps as it considers appropriate to secure the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds, having regard to the requirements of Article 2 of the Birds Directive.[7] And for offshore SPAs regulation 26, Offshore Regulations requires competent authorities to exercise their functions (as far as possible) to secure steps to avoid the disturbance of species and the deterioration of habitats or habitats of species within those sites.

Appropriate assessment

16. As part of the assessment requirements, regulation 63, Habitats Regulations (regulation 28, Offshore Regulations) require the application of the precautionary principle. Meaning that if it cannot be excluded, on the basis of objective scientific information, that it is likely to have a significant effect on a SPA and its species, an appropriate assessment will be required: see *Waddenzee*.

17. Following that appropriate assessment, a project may only be granted consent if the competent authority is convinced that it will not have an adverse effect on the integrity of the European site(s) and their species of concern, having applied the precautionary principle and taken account of the conservation objectives for those sites and their habitats and species. *Waddenzee* confirmed that where doubt remains as to the absence of adverse effects on the integrity of the site, approval should be refused (subject to the considerations of alternative solutions, imperative reasons of overriding public interest and the provision of compensatory measures as set out in regulations 64 & 68).

18. An appropriate assessment requires all aspects of the project which could affect the site, its species and its conservation objectives to be identified in the light of the best scientific knowledge in the field. The competent authority,

> *"taking account of the conclusions of the appropriate assessment of the implications…for the site concerned, in the light of the conservation objectives, are to authorise such activity only if they have made certain that it will not adversely affect the integrity of the site. That is the case where no reasonable scientific doubt remains as to the absence of such effects".*

19. Integrity of the SPA should be considered as the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is classified. A site can be described as having a high degree of integrity where the inherent potential for meeting site conservation objectives is realised, the capacity for self-repair and self-renewal under dynamic conditions is maintained, and a minimum of external management support is required. When looking at the 'integrity of the site', it is therefore important to take into account a range of factors, including the possibility of effects manifesting themselves in the short, medium and long-term.

20. As is clear from the requirements of the Habitats and Offshore Regulations, the assessment of integrity is to be considered by reference to the impact of the project alone and in-combination with other plans and projects, taking account of the site(s) conservation objectives. As clearly set out in *Waddenzee*, para 61:

> *"**61** In view of the foregoing, the answer to the fourth question must be that, under Article 6(3) of the Habitats Directive, **an appropriate assessment of the implications for the site concerned of the plan or project implies that, prior to its approval, all the aspects of the plan or project which can, by themselves or in combination with other plans or projects, affect the site's conservation objectives must be identified in the light of the best scientific knowledge in the field.** The competent national authorities, taking account of the appropriate assessment of the implications of mechanical cockle fishing for the site concerned in the light of the site's conservation objectives, are to authorise such an activity only if they have made certain that it will not adversely affect the integrity of that site. That is the case where no reasonable scientific doubt remains as to the absence of such effects."* (emphasis added)

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017

21. These EIA requirements state that consent cannot be granted for Environmental Impact Assessment (EIA) development unless the decision-maker has taken into account environmental information including an environmental statement which describes the significant effects, including cumulative effects, of the development on the environment. This will include effects on all wild bird species whether SPA species or not.

22. Offshore wind farms have the potential to impact on birds through collision with rotating blades, direct habitat loss, disturbance from construction activities, displacement during the operational phase (resulting in loss of foraging/roosting area) and impact on bird flight lines (i.e. barrier effect) and associated increased energy use by birds for commuting flights between roosting and foraging areas. These additional potential impacts must be taken into account.

The UK Marine Strategy Regulations and Good Environmental Status

23. Also of relevance to achieving sustainable development in our seas is the Marine Strategy Framework Directive[13]. This was developed in response to concerns that although existing legislation protected the sea from some specific impacts, it was sectoral and fragmented. To overcome this, the directive seeks to reduce impacts on marine waters regardless of where impacts occur by applying an ecosystem approach.

24. Applying an ecosystem approach is important. Our natural environment is complicated, and the outcome of an impact may manifest elsewhere. It also feeds into the concept of sustainable development and the vision for clean, healthy, safe, productive, and diverse seas; managed to meet the long-term needs of nature and people as set out Scotland's National Marine Plan.

25. The Marine Strategy Framework Directive was transposed into UK law by the Marine Strategy Regulations 2010. It requires the UK to put in place the necessary management measures to achieve 'Good Environmental Status' (GES) in UK seas by 2020. This involves protecting the marine environment, preventing its deterioration, and restoring it where practical alongside using marine resources sustainably. As with the Habitats Regulations, although the UK has withdrawn from the EU, the legislative requirement for GES remains in place.

26. Governments of the UK have collectively failed to meet 11 out of the 15 indicators of Good Environmental Status (GES) for our seas with the marine bird indicator moving away from target. For breeding seabirds, more species, especially surface feeders who depend on small fish at the surface (35% in the Greater North Sea), are now experiencing frequent, widespread breeding failures. The reduced availability of small fish is largely responsible for these declines and impacts on breeding success.

Section summary

27. Taken together, there is a clear legal and policy requirement to protect the marine environment and deliver sustainable development. The UK Marine Strategy is clear in its aims of improving the state of the marine environment through taking a large scale, holistic approach. Therefore, proposals which further impact the ability of the UK to achieve GES should be considered carefully. The ability of an application to comply with the vital requirements of the Habitats Regulations which seek the long-term survival of viable populations of Europe's most valuable and threatened species and habitats, must also be scrutinised and considered in detail.

Policy Position

28. In accordance with the requirements of the Marine (Scotland) Act 2010 when considering an application and making a recommendation to Ministers, MD-LOT must consider the extent to which the proposed activity accords with any marine plan for an area and the impact that it would have on the environment, human health, and other legitimate users of the sea as well as other matters considered relevant.

29. Scotland's National Marine Plan[2] (NMP) (adopted 2015) sets out the strategic policies for sustainable development in both the Scotland inshore region (0 to 12 nautical miles) and within the Scottish Offshore region (12 to 200 nautical miles).

30. A core aim of marine planning, as set out by the NMP, is to manage human impact on the marine environment. The plan therefore seeks to put the marine environment at the heart of the planning process and adopt the principles of sustainable development. The environmental, social, and economic policies of the plan are intended to be complementary with one another as elements of sustainability.

31. Through policy GEN 9 (Natural Heritage), the NMP requires that development and use of the marine environment complies with legal requirements for protected areas and protected species, not result in significant impact on the national status of priority marine features, and protect, and where appropriate, enhance the health of the marine area. It also encourages a strategic approach to mitigation of potential and cumulative impacts, stating that these form an integral part of marine planning and decision making.

32. Renewables specific policies within the NMP direct commercial scale development to the plan options areas (as identified in the Sectoral Marine Plan) and require applications to demonstrate compliance with the Environmental Impact Assessment (EIA) and Habitat Regulations Appraisal (HRA) legislative requirements.

33. Since the adoption of the NMP, Scottish Government have further recognised that net zero and energy goals will have impacts on the environment, specifically marine biodiversity, as well as other users of sea. In particular, the draft Energy Strategy and Just Transition Plan (2023), recognises the potential impacts on biodiversity arising from the major expansion in offshore wind. It contains a commitment to work in a way that recognises this reality and ensures appropriate protection of the natural environment as part of a joined-up approach to tackling the climate and nature crisis.

34. This follows the approach of the National Planning Framework 4 which, in policy 1 clearly sets the expectation that significant weight will be given to the global climate and nature crises when considering all development proposals. Although this document is not directly applicable to marine development, it is applicable to onshore elements and RSPB Scotland believe it is a relevant consideration, albeit one with limited weight, for development offshore. Although in early stages of development, RSPB Scotland understands that consideration is being given as to how National Marine Plan 2 can follow the approach in NPF4.

Ornithological interest of the Application site

35. The UK is of outstanding international importance for its breeding seabirds and wintering marine birds. As with all Annex I and regularly migratory species, the UK has a particular responsibility under the Birds Directive to secure their conservation.

36. Seabirds are relatively long-lived, and as a result, their populations are sensitive to small increases in adult mortality. Their survival and productivity rates can be impacted by offshore windfarms directly (i.e. collision) and indirectly (e.g. displacement from foraging areas, additional energy expenditure, potential impacts on forage fish and wider ecosystem impacts such as changes in stratification).

37. The probability of seabirds being impacted by an application relates to whether they are likely to be in the area of the development, and their behaviour in the vicinity of the development. This will depend on a number of factors, including the application's proximity to seabird colonies, the species within those colonies, the species behaviours (including their foraging range, food preferences and flight behaviour), the attraction of the application array itself as a foraging area, and the attraction of areas beyond the application array for foraging (which would require birds to transition through the development array or detour around it).

Species of interest

38. The **key species of** interest **in relation to the application are** Black-legged Kittiwake (*Rissa tridactyla*), Northern Gannet (*Morus bassanus*), and Atlantic Puffin (*Fratercula artica*). While the following three species are of interest to a lesser extent regarding this site we understand that research is underway to assess their distributions through literature research and tracking. The three species of interest are: Manx Shearwater (*Puffinus puffinus*), European Storm-petrel (*Hydrobates pelagicus*) and Leach's Storm-petrel (*Hydrobates leucorhous*).

39. A summary of their population status within the Britain, Isle of Man and Channel Islands is provided in Table 1 below.

Species	% World Population	UK Colony Trends 1986 to 2021
Black-legged Kittiwake	5.3	Declining
Northern Gannet	59.1	Mostly increasing but a few declining colonies *(N.B. Gannets were badly impacted by HPAI in 2021-22)*
Atlantic Puffin	3.3-3.9	Declining
Manx Shearwater	81.0	Increasing
European Storm-petrel	6.8	Increasing
Leach's Storm-petrel	0.1	Declining

Table 1

Northern Gannet

40. Northern Gannet are endemic to the North Atlantic although the majority breed in Britain and Ireland. They tend to breed on offshore islands and stacks. Gannets are typically long-lived seabirds, living to an average age of 17 years and not breeding until the age of 5 years. During the breeding season, adults will take it in turn to incubate the single egg for approximately 42-46 days with the chick fledging unaccompanied by its parents after approximately 90 days. Some colonies, such as that on the Bass Rock in the Firth of Forth – the largest Gannetry in the world - are particularly large and conspicuous. Gannet can catch fish at depths of 20 metres but also feed from the surface on small shoaling fish such as sandeel.

41. During the breeding season Gannets are central-place foragers meaning they are constrained to return to the nest after foraging to maintain territories and raise their young. Foraging trip durations are dependent on colony size with birds from larger colonies making longer foraging trips (both in distance and duration).

42. Gannet were particularly badly impacted by Highly Pathogenic Avian Influenza (HPAI) during the 2022 breeding season with large numbers of deaths reported. On the Bass Rock a catastrophic breeding failure was reported which is likely to vastly impact their future population numbers and the robustness of those populations to additional mortality.

43. They are amber listed in the Birds of Conservation Concern.

44. Northern Gannet have been assessed as having a high vulnerability to collisions with rotating turbine blades (Furness *et al.,* 2013, Wade *et al.,* 2016), partly due to their flight altitude and manoeuvrability. Breeding Gannets tracked with GPS from Helgoland in the eastern North Sea travelled around and through operational wind farms.

45. There is a need to assess the possible impacts to Gannets throughout the year as behavioural constraints change; starting when they arrive back at the colony for the breeding season until they leave on migration, and then throughout the winter. During autumn and winter potential interaction with turbines will not be limited to birds from the closest breeding colony but birds from across the breeding range as they disperse and travel south.

46. There is consistent evidence of wind farm avoidance by non-breeding Gannets and Gannets on migration. But little is known about the behavioural responses of breeding Gannets to offshore turbines resulting from a lack of operational turbines within foraging range of breeding colonies.

Black-legged Kittiwake

47. Black-legged Kittiwake are members of the gull family. They tend to nest on vertical rocky-sea cliffs and during the breeding season feed on energy rich pelagic shoaling fish, such as sandeel, sprat and juvenile herring. Kittiwakes are surface feeders and are highly dependent on sandeels in the breeding season, as such they are particularly vulnerable to food shortage. During the breeding season Kittiwakes are central-place foragers meaning they are constrained to return to the nest after foraging to maintain territories and raise their young. When not in attendance at the nest or away on a foraging trip, Kittiwakes use the sea below the cliffs for maintenance behaviours such as loafing (spending time on the water to preen or rest, not related to feeding), preening and bathing. During the breeding season the highest densities of Kittiwakes at sea are within 1km of the colony.

48. Kittiwake are red listed in the Birds of Conservation Concern and on the OSPAR list of threatened and/or declining species and have been assessed by the IUCN as vulnerable to global extinction. They are particularly susceptible to collision risk but are also vulnerable to distributional changes as a result of the presence of turbines.

Common Guillemot

49. Common Guillemot are member of the auk family along with Puffin and Razorbill. They typically form highly dense colonies and lay a single egg (without a nest) on a cliff, narrow ledges, or other inaccessible areas. They tend to eat fish and crustaceans. Guillemots are typically long-lived seabirds, living to an average age of 23 years and not breeding until the age of 5 years. Breeding success is highest where birds are most tightly packed. Adults will incubate the egg for 28-37 days, fledging then taking place when the chick is ~3 weeks old. The chick will then complete its growth at sea accompanied by its male parent.

50. The response of Guillemots to offshore wind farms is mixed although there is a paucity of data for breeding birds. Non-breeding birds have been shown to avoid offshore wind farms, as have breeding birds in the southern North Sea, whereas in the Irish Sea, Guillemots have shown no changes in abundance post construction and at another site, increased in abundance. More recent work has suggested that there may be some habituation over time to the presence of wind farms.

51. While details are still emerging, the 2024 breeding season for Guillemot appears to be extremely poor, with large number of nest sites vacant, birds present but not laying eggs and high degree of breeding asynchronicity. The causes of this are likely to be multifactorial, and may include HPAI, high water temperatures and resultant poor body conditions. The long term, population scale consequences are unclear, but may be severe. As a result, an extremely high level of precaution should be applied in considering the impacts arising from any offshore development on this species.

52. They are amber listed in the Birds of Conservation Concern.

Puffin

53. Puffin are one of the most iconic seabird species around Scotland with their brightly coloured beaks during the breeding season. They tend to nest in burrows and so are susceptible to mammalian predators. There is some evidence their diet changes seasonally but during the breeding season, they typically feed on shoaling fish such as sandeel, sprat and herring which they catch by underwater pursuit.

54. They are vulnerable to displacement which can lead to a loss of feeding grounds and excess energy expenditure as they take less direct routes to reach alternative prey sources.

55. Puffin are red listed in the Birds of Conservation Concern and have been assessed by the IUCN as vulnerable to global extinction.

Manx Shearwater

56. This medium-sized sooty black and white seabird is a skilful navigator of the open ocean, but rarely seen on land. Manx shearwaters are long-lived birds that typically glide on stiff wings low over the sea surface. They are nocturnal at their breeding colonies, which are often located in steep and inaccessible terrain at a few dozen localities, mostly located on our western seaboard.

57. Outside of the breeding season, these migratory birds winter in the South Atlantic, predominantly off Brazil and Argentina.

58. The birds are amber listed as a UK bird of conservation concern.

European Storm-petrel

59. This small petrel, not much larger than a House Martin and very similar in appearance, is extremely pelagic, spending most of its life at sea.

60. The Storm Petrel only comes to land during the summer months, making its breeding attempts on offshore islands and a few isolated headlands. Although it has an estimated breeding population in the UK of around 30,000 pairs, this is an extremely difficult species to see during the breeding season, only coming to land during the hours of darkness often staying at sea on bright moonlit nights.

61. Several Storm Petrel breeding colonies have been the subject of detailed study, with ringing data demonstrating that this is a long-lived bird, with some individuals living for over 30 years.

62. This is the most marine of our breeding birds and a difficult species to see, visiting its underground nests at night and spending the rest of the time at sea.

63. The birds are amber listed as a UK bird of conservation concern.

Leach's storm-petrel

64. Leach's Petrel has a more restricted breeding distribution within Britain & Ireland than the more familiar Storm Petrel, its colonies all located within 70 km of the Atlantic continental shelf. While significant numbers breed at colonies on remote islands far off the coasts of Scotland and Ireland, our population is small compared to those off North America.

65. As with other burrow-nesting seabirds, the species faces a threat from mammalian predators inadvertently introduced to islands. Leach's Petrels may also be taken by avian predators, which is one reason for their nocturnal habits at breeding sites.

66. The birds are red listed as a bird of UK conservation concern.

Proximity of seabird colonies

67. The application array location is close to several SPAs with qualifying features within foraging range of the application array area. This includes the East Caithness Cliffs SPA, North Caithness Cliffs SPA, Outer Firth of Forth and St Andrews Bay Complex SPA, the Forth Islands SPA, Fowlsheugh SPA and St Abb's Head to Fast Castle SPA, Flannan Isles, Foula, North Rona and Sgula

Sgeir, St Kilda, Sule, Skerry and Sule Stack, Auskerry, Mousa, Priest Islands (Summer Isles), Seas of St Kilda, St Kilda, Treshnish Isles, Copeland Islands, Aberdaron Coast and Bardsey Island, Irish Sea Front, Rum, Skomer, Skolkholm and seas off Pembrokeshire.

68. As SPAs, these sites are subject to general duties to protect, conserve and restore the designated features of the site to meet their conservation objectives, to prevent deterioration of the site's habitats and to prevent significant disturbance to the sites. If an application might impact a qualifying feature, as set out in Chapter 1, assessment in accordance with the Habitats Regulations is required.

Forth Islands SPA

69. The Forth Islands SPA consists of a series of islands in the Firth of Forth. The islands of Inchmickery, Isle of May, Fidra, The Lamb, Craigleith and Bass Rock were classified in 1990 and an extension to the site, consisting of Long Craig, was classified in 2004.

70. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- Migratory species including:
  - **Northern Gannet**, representing 8.2% of world's biogeographical population and 13.6% of the Great Britain population); and
  - **Atlantic Puffin,** (representing 1.5% of the total F.a.grabae biogeographic population and 3.1% of the Great Britain population).
- In excess of 20,000 individual seabirds during the breeding season including, in addition to Northern Gannet and Atlantic Puffin:
  - **Razorbill** representing 1.4% of the Great Britain population;
  - **Common Guillemot** representing 2.2% of the Great Britain population; and
  - **Black-legged Kittiwake** representing 1.7% of the Great Britain population.

71. The conservation objectives for the Forth Islands SPA are:

"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- *Population of the species as a viable component of the site*
- *Distribution of the species within site*
- *Distribution and extent of habitats supporting the species*
- *Structure, function and supporting processes of habitats supporting the species*
- *No significant disturbance of the species"*

Fowlsheugh SPA

72. Fowlsheugh SPA is a stretch of sheer cliffs on the east coast of Aberdeenshire plus a two-kilometre extension into the marine environment. The cliffs were designated in 1992 and the marine extension in 2009.

73. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- Migratory species including:
  - **Common Guillemot** representing 5% of the Great Britain population; and

- **Black-legged Kittiwake** representing 7.5% of the Great Britain population.

- In excess of 20,000 individual seabirds during the breeding season including**:**
  - **Razorbill** representing 3.9% of the Great Britain population.

74. The conservation objectives for the Fowlsheugh SPA are:

"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- *Population of the species as a viable component of the site*
- *Distribution of the species within site*
- *Distribution and extent of habitats supporting the species*
- *Structure, function and supporting processes of habitats supporting the species*
- *No significant disturbance of the species"*

St Abb's Head to Fast Castle SPA

75. St Abb's Head to Fast Castle SPA comprises an area of sea cliffs and 1km marine extension stretching over 10km along the Berwickshire Coast. The cliffs were designated in 1997 and the marine extension in 2009.

76. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- In excess of 20,000 individual seabirds during the breeding season including:
  - **Razorbill** representing 1% of the Great Britain population;
  - **Common Guillemot** representing 3% of the Great Britain population; and
  - **Black-legged Kittiwake** representing 4% of the Great Britain population.

77. The conservation objectives for the St Abb's Head to Fast Castle SPA are:

"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- *Population of the species as a viable component of the site*
- *Distribution of the species within site*
- *Distribution and extent of habitats supporting the species*
- *Structure, function and supporting processes of habitats supporting the species*
- *No significant disturbance of the species"*

East Caithness Cliffs

78. The East Caithness Cliffs SPA includes most of the sea-cliff areas between Wick and Helmsdale on the north-east coat of the Scottish mainland and includes an approximate 2km seaward extension. It was designated in 1996 and the marine extension in 2009.

79. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- In excess of 20,000 individual seabirds during the breeding season including:
  - **Razorbill** representing 2% of the Great Britain population;

- **Common Guillemot** representing 3% of the Great Britain population; and
- **Black-legged Kittiwake** representing 1% of the Great Britain population.

80. The conservation objectives for the East Caithness Cliffs SPA are:

"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

• Population of the species as a viable component of the site
• Distribution of the species within site
• Distribution and extent of habitats supporting the species
• Structure, function and supporting processes of habitats supporting the species
• No significant disturbance of the species"

North Caithness Cliffs

81. The North Caithness Cliffs SPA includes sea-cliffs and islands at the north coast of the Scottish mainland. It includes a seaward extension that extends approximately 2km into the marine environment to include the seabed, water column and surface. It was designated in 1996 and the marine extension in 2009.

82. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- In excess of 20,000 individual seabirds during the breeding season including:
  - **Razorbill** representing 3% of the Great Britain population;
  - **Common Guillemot** representing 4% of the Great Britain population; and
  - **Black-legged Kittiwake** representing 3% of the Great Britain population.

83. The conservation objectives for the North Caithness Cliffs SPA are:

"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

• Population of the species as a viable component of the site
• Distribution of the species within site
• Distribution and extent of habitats supporting the species
• Structure, function and supporting processes of habitats supporting the species
• No significant disturbance of the species"

Troup, Pennan and Lion's Heads

84. The Troup, Pennan and Lion's Heads SPA is a 9km stretch of sea cliffs along the Aberdeenshire coast in Scotland. It includes a seaward extension that extends approximately 2km into the marine environment to include the seabed, water column and surface. It was designated in 1997 and the marine extension in 2009.

85. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- In excess of 20,000 individual seabirds during the breeding season including:

- **Black-legged Kittiwake** representing 6% of the Great Britain population;
- **Common Guillemot** representing 4% of the Great Britain population.

86. The conservation objectives for the Troup, Pennan and Lion's Heads SPA are:

"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

• Population of the species as a viable component of the site
• Distribution of the species within site
• Distribution and extent of habitats supporting the species
• Structure, function and supporting processes of habitats supporting the species
• No significant disturbance of the species"

Buchan Ness to Collieston Coast

87. The Buchan Ness to Collieston Coast SPA is a stretch of south-east facing cliff in Aberdeenshire, Scotland. It includes a seaward extension that extends approximately 2km into the marine environment to include the seabed, water column and surface. It was designated in 1998 and the marine extension in 2009.

88. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- In excess of 20,000 individual seabirds during the breeding season including:
  - **Common Guillemot** representing 1% of the Great Britain population; and
  - **Black-legged Kittiwake** representing 6% of the Great Britain population.

89. The conservation objectives for the Buchan Ness to Collieston Coast SPA are:

"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

• Population of the species as a viable component of the site
• Distribution of the species within site
• Distribution and extent of habitats supporting the species
• Structure, function and supporting processes of habitats supporting the species
• No significant disturbance of the species"

Farne Islands

90. The Farne Islands SPA is a group of low-lying islands 2-6km off the coast of Northumberland in north-east England. It includes a seaward extension that extends approximately 2km into the marine environment to include the seabed, water column and surface. It was designated in 1996 and the marine extension in 2009.

91. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- In excess of 20,000 individual seabirds during the breeding season including:
  - **Common Guillemot** representing 2% of the biogeographic population; and

- Seabird assemblage including Black-legged Kittiwake.

92. The conservation objectives for the North Caithness Cliffs SPA are:

"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- *Population of the species as a viable component of the site*
- *Distribution of the species within site*
- *Distribution and extent of habitats supporting the species*
- *Structure, function and supporting processes of habitats supporting the species*
- *No significant disturbance of the species"*

Flamborough and Filey Coast SPA

93. The Flamborough and Filey Coast SPA is a stretch of cliffs running along the Yorkshire coast. It includes a seaward extension that extends approximately 2km into the marine environment to include the seabed, water column and surface. The Flamborough Head and Bempton Cliffs SPA was originally designated in 1993 for its internationally important colony of Kittiwakes. In 2016, the protected area was extended and renamed as the Flamborough and Filey Coast SPA. This extension provided specific protection to another three species, the overall seabird assemblage, and the terrestrial cliff environment of Filey Brigg. The revised SPA also protects the inshore waters around the seabird breeding cliffs, from mean low water to 2km offshore.

94. It qualifies under Article 4(2) of the Birds Directive due to the regular presence of:

- In excess of 20,000 individual breeding seabirds and more than 1% of the biogeographical population of four regularly occurring migratory species;
  - **Black-legged Kittiwake** (2% North Atlantic);
  - **Northern Gannet** (2.6% North Atlantic);
  - **Common Guillemot** (15.6% North Atlantic);
  - **Razorbill** (2.3% North Atlantic); and
  - **Seabird assemblage** including over 2,000 individual **Northern Fulmar**

95. The conservation objectives for the Flamborough and Filey Coast SPA are:

"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- *Population of the species as a viable component of the site*
- *Distribution of the species within site*
- *Distribution and extent of habitats supporting the species*
- *Structure, function and supporting processes of habitats supporting the species*
- *No significant disturbance of the species"*

Hoy SPA

96. Hoy is a mountainous island at the south-western end of the Orkney archipelago. Hoy SPA covers the northern and western two-thirds of Hoy island, which is formed of Old Red Sandstone and contains Orkney's highest hills, and adjacent coastal waters. ed Sandstone and contains Orkney's highest hills, and adjacent coastal waters. The SPA supports an extremely diverse mixture of mire, heath and alpine vegetation and Britain's most northerly native woodland. These upland areas and the high sea cliffs at the coast support an important assemblage of moorland breeding birds and breeding seabirds.

97. It was designated in December 2000 with a marine extension on 25 September 2009 and qualifies under Article 4(2) of the Birds Directive by regularly supporting 120,000 seabirds including nationally important populations of the following species:

- **Atlantic puffin** (3,500 pairs, 0.7% of the GB population);
- **Black-Legged Kittiwake** (3,000 pairs, 0.6% of the GB population);
- **Arctic Skua** (59 pairs, 2% of the GB population);
- **Northern Fulmar** (35,000 pairs, 6% of the GB population);
- **Great Black-Backed Gull** (570 pairs, 3% of the GB population);
- **Common Guillemot** (13,400 pairs, 2% of the GB population).

98. The conservation objectives for Hoy SPA are:

> *"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and*
>
> *To ensure for the qualifying species that the following are maintained in the long term:*
>
> *• Population of the species as a viable component of the site*
> *• Distribution of the species within site*
> *• Distribution and extent of habitats supporting the species*
> *• Structure, function and supporting processes of habitats supporting the species*
> *• No significant disturbance of the species"*

Rousay

99. Rousay is an island off the north-east of Orkney. The SPA consists of sea cliffs and areas of maritime heath and grassland in the northwest and northeast of the island.

100. It was designated in February 2000 with a marine extension in 2009 and qualifies under article 4(1) and 4(2) of the Birds Directive by regularly supporting 30,000 seabirds including nationally important populations of the following species:

- **Arctic Tern** (790 pairs, 2% of the GB population),
- **Arctic Skua** (130 pairs; 4% of the GB population),
- **Black-legged Kittiwake** (4,900 pairs; 1% of the GB population),
- **Common Guillemot** (10,600 individuals, 1% of the GB population),
- **Northern Fulmar** (1,240 pairs, 0.2% of GB population).

101. The conservation objectives for Rousay SPA are:

"To avoid deterioration of the habitats of the qualifying species (listed below) or significant disturbance to the qualifying species, thus ensuring that the integrity of the site is maintained; and

To ensure for the qualifying species that the following are maintained in the long term:

- *Population of the species as a viable component of the site*
- *Distribution of the species within site*
- *Distribution and extent of habitats supporting the species*
- *Structure, function and supporting processes of habitats supporting the species*
- *No significant disturbance of the species"*

Proximity of Marine Protected Areas

Outer Firth of Forth and St Andrews Bay Complex NCMPA

102. The Firth of Forth Banks Complex MPA is a composite site and the boundaries of each of the three areas were determined by the presence and extent of the important features contained within them. The Wee Bankie (inc. Scalp Bank) area boundary has been designed to protect its geomorphological and biological interests, as well as an important seabird and grey seal foraging areas. The Berwick Bank area boundary encompasses the bank feature and areas of known occurrences of adult ocean quahog in the MPA. Finally, Montrose Bank boundary encompasses a high diversity of sand and gravel habitats and an area where juvenile ocean quahog are known to occur.

East of Gannet and Montrose Complex NCMPA

103. The site is designated to protect offshore deep muds and ocean quahog

104. The conservation objectives for the East of Gannet and Montrose Fields Nature Conservation Marine Protected Area (NCMPA) are that the protected features should be:

    • so far as already in favourable condition, remain in such condition; and

    • so far as not already in favourable condition, be brought into such condition, and remain in such condition.

Turbot Banks NCMPA

105. Turbot Banks is important for sandeels, particularly which is closely associated with sand habitats, living buried in the sand for months at a time. The site contains the type of sandy sediment with low silt and clay components that sandeels prefer. The sandeels present within Turbot Bank are an important component of the larger sandeel population in the northern North Sea.

Appendix 2
RSPB Scotland commentary on the Applicant's proposed compensation measures

- The fundamental issues with the Applicant's assessment, along with the presentation of the outputs of the modelling of population scale impacts, in our view mean the appropriate assessment is inadequate, and therefore insufficient for the robust consideration required to enable a proper understanding of all potential adverse effects of the Application. Whilst we appreciate the Applicant may provide more information (and we reserve the right to review our comments and concerns in light of it) unless the Applicant resolves these fundamental issues, in our view the assessment currently provided is not fit for purpose and therefore the full extent of the compensation measures required cannot be calculated.

RSPB Scotland's approach to evaluating compensation measures

Introduction

- In short - it is vital that details and evidence are provided to enable confidence ecologically, financially and legally, in the compensation proposals and such information must be available for review by all Interested parties. This section sets out RSPB Scotland's approach to evaluating compensation measures. It includes our general approach to assessing compensation proposals and the level of detail we consider is required to evaluate compensation proposals as part of the Application's determination, before drawing out some general issues raised by the Applicant's proposals. We have set it out under the following headings:
    - RSPB Scotland's approach to assessing compensation proposals;
    - What level of detail is required on proposed compensation measures?
    - Generic issues raised by the Applicant's compensation proposals:
        - Relevance of measures to target species
        - Scale of compensation
        - Lead-in times for compensation
        - Lifetime of compensation and how certain measures would be maintained over time
        - Monitoring effectiveness of disturbance reduction measures
        - Are more strategic options available (or will be available)

RSPB Scotland's approach to assessing compensation proposals

- Set out in Table 1 below is the key criteria and requirements from the EC guidance on compensatory measures, along with additional commentary based on RSPB Scotland's experience of the principles that should be applied when assessing compensatory measures.

EC criteria	EC guidance summary (emphasis added)	RSPB Scotland additional commentary
Targeted	Measures should be the **most appropriate to the impact predicted** and **focused on objectives and targets addressing the Natura 2000 elements affected**. Must **refer to structural and functional aspects of site integrity and habitats/species affected**. **Must consist of ecological measures**: payments to individuals/funds are not appropriate.	Clear objectives and success criteria must be established for the compensation measures. Must address the ecological functions and processes required by impacted species/habitat. Requires shared understanding and agreement on what the impacts are i.e. need to agree nature, magnitude including that they will continue for as long as the project's impacts. This includes the time likely to be required for the SPAs to recover from those impacts in the case of proposals that are in place for a specified time period. This is to define objectives for compensation measures and to set out the success criteria to determine whether those objectives have been/are being achieved.
Effective	**Based on best scientific knowledge available alongside specific investigations for the location where the measures will be implemented**. Must be **feasible and operational in reinstating the conditions needed to ensure the overall coherence** of the Natura 2000 network. **Measures where no reasonable guarantee of success should not be considered**. The likely success of the compensation scheme should influence final approval of the plan or project in line with the prevention principle. The **most effective option, with the greatest chance of success, must be chosen**. **Detailed monitoring required** to ensure long-term effectiveness with remediation provisions if shown to be less effective.	Scientific evaluation of proposed measures must be carried out before consent is granted to avoid agreeing to measures that is/are not effective or technically feasible. This should include appropriate baseline survey and assessment. Compensation must address the impacted SPAs features to ensure overall coherence of the network for that feature is maintained. Substitution is not acceptable. Must be clearly defined timescales for delivery and measuring success (See success criteria under Targeted above). Monitoring must directly relate to the target species and the relevant ecological functions and processes. The compensation measures should be provided in perpetuity in line with obligations to ensure the overall coherence of the UK Site Network is maintained. Where it is not possible to devise compensatory measures to offset the adverse effects on site integrity, the project should not proceed.

EC criteria	EC guidance summary (emphasis added)	RSPB Scotland additional commentary
Technical feasibility	**Design must follow scientific criteria and evaluation** in line with best scientific knowledge and consider the specific requirements of the ecological features to be reinstated.	See **Effective** above.
Extent	Extent required **directly related to**: • the **quantitative and qualitative aspects inherent to the elements of integrity likely to be impaired** • **estimated effectiveness of the measure(s)** Therefore, ratios best set on a case-by-case basis. Ratios should generally be well above 1:1. Ratios of 1:1 or below only considered when shown measures will be fully effective in reinstating structure and functionality in a short period of time.	Based on an assessment of the necessary ecological requirements to restore species' populations and the related habitat structure and functions identified in the compensation objectives. Determining the minimum appropriate quantity will require an understanding of the quality of the compensation measures and how effective they will be in reinstating the required structures and functions. Any identified uncertainty in success should be factored in to increased ratios. Ratios need to be used where they make ecological sense and will help secure a successful outcome by providing more of something. Simply multiplying capacity to address uncertainty risks giving a false level of confidence. If there is no reasonable guarantee of success that measure should not be considered (see **Effective** under EC criteria).
Location	**Located in areas where they will be most effective** in maintaining overall coherence of the Natura 2000 network. Pre-conditions to be met include: • **must be within same range/ migration route/wintering areas for bird species** and **provide functions comparable those justifying selection of original site esp. geographical distribution**; • **must have/be able to develop the ecological structure and functions required by the relevant species** (or habitat) • **must not jeopardise integrity of any other Natura 2000 site**.	While the preference is for compensation measures as geographically close to the location of the damage, it is important to consider whether or not the compensation measures will be subject to pressures impacting their efficacy in that location e.g. prey availability, disturbance, and/or other impacts from the same or similar developments such as collision risk or displacement due to offshore wind farms. Therefore, compensation measures should be located so as to maximise proximity while minimising external pressures that may reduce likelihood of success. Compensation measures proposed to benefit SPA features must not result in damage to the integrity of any other SPA, SAC or Ramsar site and their features.

EC criteria	EC guidance summary (emphasis added)	RSPB Scotland additional commentary
	Spatial search hierarchy starting as close as possible to the impacted Natura 2000 site and working out from there.	
Timing	Case by case approach but **must provide continuity in the ecological processes essential to maintain the structure and functions that contribute to the Natura 2000 network coherence**. Requires **tight co-ordination between implementation of the plan or project and the compensation measures**. Factors to consider include: • **no irreversible damage to the site before compensation in place** • **compensation operational at the time damage occurs**. If not possible, over-compensation required • **time lags only admissible if will not compromise objective of "no net loss" to coherence of Natura 2000 network**; • May be possible to scale down in time depending on whether the negative effects are expected to arise in short, medium or long term. **All technical, legal or financial provisions must be completed before plan or project implementation starts** to prevent unforeseen delays that compromise effective compensation measures.	Compensation measures should be fully functional before any damage occurs to ensure the overall coherence of the UK Site Network is protected. This requires careful alignment of the timelines for implementing the plan or project and the compensation measures. Suggested time lags in delivering fully functional compensation will need to be carefully considered and can only be accepted where this will not compromise the continuity of essential ecological processes, Any effect of delay should be factored into the design and additional compensation measures provided (see also **Extent** above).
Long-term implementation	**Legal and financial security required for long-term implementation** and **for protection, monitoring and maintenance of sites to be secured before impacts occur.**	Legal rights to secure and implement the compensation measures must be in place prior to consent being granted. And robust financial guarantees are required to fund implementation, monitoring and any necessary remediation measures.

Table 1: Criteria for designing compensatory measures

RSPB Scotland's response to specific proposals

Developer proposed measures

- The application is accompanied by compensation proposals based upon 'without prejudice' potential for AEoSI upon:

Black Legged Kittiwake, Northern Gannet; and Puffin

RSPB comments on proposed compensation measures

The measures advanced are:

- Drainage management at East Caithness Cliffs SPA for Kittiwake
- Disturbance reduction at Troup, Penan and Lion's Head SPA for Kittiwake and Gannet
- Habitat management Forth Islands SPA for Puffin
- Firstly, we note that the compensation proposal indicates some level of agreement with the RSPB Scotland. However, we would clearly state that the RSPB, while recognising that the measures are relevant in terms of approaches to compensation on a project level, has not at this point agreed to these measures, or their timings and locations.
- Clearly the proposed measures at this stage are 'in principle' options. We would not want to see a situation where consent is granted without a detailed and realistic assessment and plan setting out how the measures can be implemented. We are now not routinely engaging with developers around project level compensation given the sheer number of requests for similar measures at the same sites and our limited capacity to engage with each request. We consider a strategic approach would be a more effective solution and are supportive of Nature Scot and Scottish Government plans to address this. We are continuing to engage with project level discussions on schemes that are more advanced- such as Green Volt.

Drainage Management

- With regard to drainage management the impacts would relate to whether the measures made a real difference where interventions were being made or whether these sites may not be attractive to seabirds for other reasons such as their relative position on a sea cliff or the escarpment above those cliffs. This would require detailed survey work for each measure.

Disturbance reduction

- Disturbance reduction measures are proposed to benefit all species considered to require compensation in response to the HRA conclusions. The report on disturbance reduction accepts that it can be challenging to influence behaviour and to monitor the extent of change that could realistically be evidenced by it.

- Disturbance reduction is suggested for Kittiwake and Gannet. At this stage the measure accepts that there is no baseline evidence for the extent of disturbance at Troup Head, and surveys are ongoing. However, the extent to which disturbance reduction and other factors have an effect must be considered. Most terrestrial disturbance is likely to come from walkers on the cliff tops. However, this area is likely to be less used because it is less secure in terms of its intrinsic slope angle and geography and that fact that it is not the best location in the first instance so may be more likely used by younger birds with less breeding success. It is difficult to extrapolate the success of the breeding colony as a whole to an area that may be less attractive as a nesting area for geographic reasons.

- While we would accept that the proposal in principle represents positive interventions, we cannot see how this measure could be relied upon, particularly over the 35-year lifetime of the development. Such approaches are usually tailored to short to medium-term objectives with truly clear asks. There is so much uncertainty around this and some of the measures may infringe upon others 'rights' such as Scottish Outdoor Access legislation or legitimate business interests and other societal trends such as social media and the way in which it encourages visitors to such areas.

Habitat Management for Puffin

- We note the potential for collaboration with the Scottish Seabird Centre with regard to SOS Puffin and positive management through the removal of tree mallow. This is a positive step, and we are engaged in discussions around this measure together with the Scottish Seabird Centre given we are already involved regarding the Green Volt compensation proposals.

General

- Regarding the Forth Islands, in principle, RSPB Scotland has significant concerns that there are enough options to compensate for the impacts of Berwick Bank on the same species being considered here. Consequently, we believe the measures required by Berwick Bank would likely exhaust the options available in the area and beyond, and that the area cannot provide compensation for other offshore proposals.

- We welcome the fact that Section 5 of the compensation document sets out that measures will be in place together with a one-year monitoring period before any turbines are operational. We also welcome the potential for adaptive management and change during the development's lifetime should the measures not prove effective.

- As set out above, we recommend that any measures consider strategic compensation options when available. We are receiving multiple approaches from different developers with the similar or the same measures for the same sites, already indicating that without a strategic framework in place there is already a significant problem with the way compensation is being approached. Consequently, while we will continue to the engage with the developers to the extent we can, we will be moving towards a more strategic approach and are anticipating that the Scottish Government may have a basic framework in place towards the end of this year. We are working on how this could be delivered with the Orkney Native Wildlife Project potentially being a pilot and are supporting the Scottish Government around more strategic and effective options around island-based compensation measures.

Royal Yachting Association

admin@ryascotland.org.uk [Redacted]

5 March 2025

Judith Horrill
Marine Licensing Casework Officer
Licensing Operations Team
Marine Directorate, Marine Laboratory,
375 Victoria Road,
Aberdeen,
AB11 9DB
MD.MarineRenewables@gov.scot

Dear Judith,

Flotation Energy Limited – Cenos Offshore Wind Farm

I have read the relevant parts of these applications for marine licences and section 36 consent on behalf of RYA Scotland and have no objection to them being granted. I note that, although it is an INTOG scheme, it is larger than some of the Scotwind sites. We welcome the commitment to enabling small craft to sail within the array subject to the usual 500 m safety zones for construction and major maintenance.

As the scheme will deploy floating devices, it will be important to establish whether wet storage will be required and, if so, where this would take place as there is the possibility of significant impact on other users of the sea. I feel that this needs to be clarified before the consents are given to avoid the situation where objections are made to an application for a marine licence for wet storage.

Yours sincerely,

[Redacted]

Dr G. Russell FCIEEM(retd) FRMetS

Planning and Environment Officer, RYA Scotland

Salamander Wind Project Company Limited

Powered by Ørsted and Simply Blue Group

Salamander Wind Project Company Ltd.
E: info@salamanderwind.com
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2nd April 2025

Marine Directorate Licensing Operations Team (MD-LOT)
By email: MD.MarineRenewables@gov.scot

Dear Sir/Madam,

RESPONSE TO THE APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND MARINE LICENCES UNDER PART 4 OF THE MARINE (SCOTLAND) ACT 2010 AND PART 4 OF THE MARINE AND COASTAL ACCESS ACT 2009 TO CONSTRUCT AND OPERATE THE CENOS OFFSHORE WINDFARM, APPROXIMATELY 200 KM OFF THE COAST OF ABERDEEN

Thank you for consulting Salamander Wind Project Company Limited (SWPC) on the application submitted to the Scottish Ministers on 31 January 2025, in accordance with the above legislation, to construct and operate the Cenos Offshore Windfarm and transmission infrastructure at a site off the coast of Aberdeen by Cenos Offshore Windfarm Limited ("the Applicant").

Salamander Offshore Wind Farm is being developed by SWPC, a joint venture between Ørsted, Simply Blue Group and Subsea7. SWPC submitted Section 36 Consent and Marine Licence applications for the Salamander Offshore Wind Farm in April 2024, and is currently awaiting a determination decision from the Scottish Ministers.

The Salamander Offshore Wind Farm is a proposed floating wind farm comprising up to seven offshore wind turbine generators with a capacity of up to 100 megawatts; the Offshore Array Area is located approximately 35 km off the coast of Peterhead. The Offshore Export Cable is proposed to make landfall north of Peterhead, near Lunderton and Kirkton. SWPC has been granted planning permission in principle under the Town and Country Planning (Scotland) Act 1997 for proposed onshore infrastructure including the onshore substation and onshore export cable corridor located on land at Lunderton, to the east of the A90 north of Peterhead.

Cenos Offshore Windfarm Array Area is located approximately 145 km from the Salamander Offshore Array Area. The Cenos export/import cable corridor (EICC) passes immediately to the southwest of the Salamander Offshore Array Area and then subsequently crosses the Salamander offshore export cable corridor (ECC) twice, initially outside the 12 nautical miles (nm) UK territorial sea boundary and again closer inshore inside the 12 nm boundary. Assuming both projects gain all the appropriate consents, it is expected that Salamander Offshore Wind Farm will be constructed before Cenos Offshore Windfarm according to the timelines outlined in the EIAR.

Comments in relation to the Cenos Array

Due to the distance between the Cenos Array and the Salamander Offshore Array (>145 km), and the fact that the Salamander Project is expected to have been constructed and be operational prior to the start of construction of the Cenos Offshore Windfarm, SWPC would agree with the cumulative effects assessment (CEA) in the Cenos EIA that there is minimal potential for cumulative effects between the two projects during all phases.

Salamander Wind Project Company Ltd.
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Offshore Export/Import Cable Corridor

In Chapter 17: Marine Infrastructure and Other Sea Users, the Applicant includes the Salamander Offshore ECC in the CEA as the Cenos EICC passes in close proximity to the Salamander Offshore Array Area as well as crossing the Salamander ECC. However, in Section 17.4.4.2 it states that there is only one crossing of the Salamander export cable(s), but as stated above (and shown in Figure 17-3), based on the proposed route of the Cenos EICC there will be two crossings required. Additionally, in Table 17-6 the distance from Salamander is stated as 0.4 km from the Cenos project. SWPC presumes this is the distance between the EICC and the southeast corner of the Salamander Offshore Array Area, rather than the cable crossings which would be 0 km. These points could be clarified by the Applicant.

SWPC agrees with the proposed standard mitigation measures of early engagement between the two developers, as well as ensuring crossing and proximity agreements being in place prior to construction commencing. SWPC notes that the Applicant intends to acquire NorthConnect Limited, and to utilise the shoreward part of the consented NorthConnect cable corridor for its offshore transmission infrastructure. SWPC also welcomes the clarification that only one set of infrastructure would be placed within the consented cable corridor. SWPC would highlight that there are three other offshore wind farms (OWFs) developments (Green Volt, Muir Mhòr and MarramWind) with export cable routes in the same nearshore area. Consequently, SWPC expects that this will be a particular focus for bilateral and multilateral engagement during detailed design of all projects to ensure the successful installation (and operation) of the multiple export cables, as well as minimising impacts to the local community and environment as far as practicable.

In Chapter 14: Commercial Fisheries, the Applicant assesses potential cumulative effects on fishers along the Cenos EICC during both construction and operation. However, it appears that the Salamander Project has not been included as one of the projects for cumulative assessment during the operation and maintenance (O&M) phase, despite there being two crossings of the Salamander ECC. In Table 14-11, Eastern Green Link 3, Muir Mhòr and MarramWind are included as projects with cable overlap (0 km), and the assessment in Section 14.7.3 considers the cumulative effects on fishers with these projects during O&M; SWPC would therefore question why Salamander is not considered for the O&M phase. Particularly in the inshore 12 nm region where multiple OWFs have export cables coming to shore, both north and south of Peterhead, there could be disruption to fishers using these waters from cable laying operations over several years by multiple developers, and then cable maintenance activities throughout the lifetimes of the OWFs. SWPC notes the various mitigations proposed in Appendix 34: Outline Fisheries Management and Mitigation Strategy (FMMS) to minimise impacts faced by the fishing community. SWPC wishes to highlight the additional mitigation measure outlined in the Salamander EIAR proposing development of a joint FMMS between these OWF projects, so that local fishers have clarity on aspects such as the programme of works across multiple projects; key contacts within each individual project; which operational measures will be implemented; use of OFLOs; and use of safety zones etc. SWPC would welcome collaboration with Cenos on development of this joint FMMS at the appropriate time for both projects.

SWPC also notes that the Salamander Project has not been considered in the Cenos CEA for the O&M phase in other relevant EIA topics such as benthic and fish ecology, despite there being interactions between the export cable routes of the projects at the two crossing points. However, it is not expected that cumulative interactions on these receptors would result in significant effects.

Onshore Aspects

As the location for the Cenos landfall is at Longhaven, south of Peterhead, it is not expected that there will be any interactions with the onshore aspects of the Salamander Project, and consequently SWPC has not considered any onshore aspects of the Cenos project in preparing this response.

SALAMANDER
Powered by Ørsted and
Simply Blue Group

Salamander Wind Project Company Ltd.
E: info@salamanderwind.com
W: https://salamanderfloatingwind.com/

Summary
We are pleased to have had the opportunity to input at this stage and look forward to working with the Cenos team in relation to potential interactions between our two projects. The Salamander team can be reached through existing contacts or at info@salamanderwind.com.

Yours sincerely
[Redacted]

Marianne Brownlee
Consents Manager,
Salamander Offshore Wind Farm

CC:
Cenos Offshore Windfarm [Email only]

Scottish Environment Protection Agency

From: Planning.North <Planning.North@sepa.org.uk>
Sent: 14 February 2025 12:43
To: MD Marine Renewables
Cc: Judith Horrill
Subject: PCS-20004598 SEPA Response to 00011090 / 00011091

Categories:
Objective:

To Whom It May Concern,

Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017
00011090 / 00011091
Flotation Energy Limited – Cenos Offshore Wind Farm
Central North Sea, approximately 200 km east of Aberdeen

Thank you for the above consultation. Based on the information provided, it appears that this application falls below the thresholds for which SEPA provide site specific advice. Please refer to our standing advice and other guidance which is available on our website. In addition, please also refer to our SEPA standing advice for the Department for Business, Energy and Industrial Strategy and Marine Scotland on marine consultations available here.

If there is a significant site-specific issue not addressed by our guidance or other information provided on our website that you wish to have our advice on, then please reconsult us highlighting the issue in question and we will try our best to assist.

I trust these comments are of assistance - please do not hesitate to contact me if you require any further information.

Kind regards,
Nina Caudrey
Senior Planning Officer

sepa Scottish Environment Protection Agency
Buidheann Dìon Àrainneachd na h-Alba
For the future of our environment

Faodar conaltradh còmhla ri SEPA a sgrùdadh no a chlàradh no a sgaoileadh gus obrachadh èifeachdach an t-siostaim a ghlèidheadh agus airson adhbharan laghail eile.

Scottish Fishermen’s Federation

SFF Ref: OB/FH-CenosOWF-TOG-EIA,S36,MLApp/25-0001

Your Ref: Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation

Email dated: 13th February 2024

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www.sff.co.uk

17th April 2025

Subject: SFF Response to Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation

Dear Judith Horrill/MD-LOT
E-mail: MD.MarineRenewables@gov.scot

We, at The Scottish Fishermen's Federation (SFF) have reviewed the Environmental Impact Assessment (EIA) Section 36 consent and Marine Licence Application – Consultation for the proposed project the Cenos Offshore Wind Farm. We appreciate the opportunity to make representation on behalf of the 450 plus fishing vessels in membership of its constituent associations, the Anglo Scottish Fishermen's Association, Fife Fishermen's Association. Fishing Vessel Agents and Owners Association, Mallaig & North West Fishermen's Association, Orkney Fisheries Association, Scottish Pelagic Fishermen's Association, the Scottish White Fish Producer's Association and Shetland Fishermen's Association. The chair of NECRIFG was consulted and agrees.

Reference to Previous Concerns: This response should be read in conjunction with our previous response to the scoping report. The concerns raised in that earlier response are reiterated here, along with additional issues.

Targeted Oil and Gas (TOG)
Please consider this response as a comprehensive and unequivocal objection to the planning application for the proposed Cenos Offshore Wind Farm.

Acknowledging the need for the energy transition, the above-mentioned organisations who represent the 450 plus fishing vessels fully acknowledge the need to decarbonise the Oil and gas sector as part of the North Sea Transition Deal (10% in 2025, 25% in 2027 and 50% in 2030, while reducing carbon emissions to zero by 2050).

However, the construction, operation and maintenance of large-scale offshore wind farms to achieve these goals and the CO2 emissions associated with these activities seem to contradict the rational around decarbonisation in the first instance.

Given that there is no guidance document for INTOG, there are two very bold and frequently used statements in the National Marine Plan and the Sectoral Marine Plan for Offshore Wind Energy.

Development can only be progressed if:

- No alternative plan/sites available
- Imperative reasons of overriding public interest (IROPI) that require development to proceed.

Addressing IROPI first off, construction of large-scale Offshore Wind Farms to decarbonise Oil and Gas Energy assets is NOT in the public interests as there is a clear alternative with a considerably less carbon footprint.

There is tried and tested technology of cable laying, using electricity from the grid to decarbonise the Oil and Gas Sector seems to be the common-sense approach, with the least financial, technological, and environmental risk.

Two Hundred and Twenty-Seven million pounds were paid out to offshore wind developers during 2022 as constraint payments, this has seen an increase of 60% on the previous year as Beatrice and Moray East are now fully operational. This figure will only increase as further developments come on stream[1] [2] [3]. According to the UK Government "Clean power 2030 Action Plan" the total UK figure for constraint payments could potentially reach £8bn by 2030.

All this latent energy could be utilised to decarbonise the Oil and Gas assets that are not due to be decommissioned and would be a continuous supply of electricity as opposed to an intermittent one.

The spatial squeeze in the marine environment is well documented, as is food security, therefore the fishing industry are deeply concerned about the use of marine areas for Offshore Windfarms when there is a clear and risk-free alternative. The SFF & constituent member associations object to this application.

Environmental and Spatial Concerns
The proposed Cenos Offshore Wind Farm presents significant challenges and the likelihood of real and significant harm to the fishing industry, as detailed in the environmental impact assessment report. This forms the core of our objection.

The following are some areas of specific concern:

Baseline Characterisation

[1] SeaGreen Wind Farm (2023): https://www.seagreenwindenergy.com/
[2] Neart na Gaoithe (NnG) Wind Farm (2024): https://nngoffshorewind.com/
[3] Moray West Wind Farm (2025): https://www.moraywest.com/

The SFF notes from the section on 'Project Site-Specific Surveys'[4]' that the existing baseline characterisation of the Commercial Fisheries impact assessment has been informed only by data collected during a 21-day summer survey (22nd August – 12th September 2023) and 12 months of AIS data (entirety of 2023) (EIAR Vol. 4, Appendix 26: NRA Report). There is no winter survey mentioned. We request clarification regarding the absence of winter survey data.

MMO Surveillance Sightings Data

The SFF notes from the section on 'Surveillance Sightings'[5] that the data used covers the period between 2011-2019. We notice that fishing data for the years 2020-2024 is missing which creates a data gap. Therefore, we propose more recent data to be used to reflect fishing activity with the study areas accurately.

In addition, the data used in figure (14-4[6], see below) covers only the year 2023 which does not present a comprehensive picture of fishing activity in the area as some types of fishing may change from one year to the other. Anecdotal data should not be used as standalone indicator of fishing activity within a specific year as data displayed on figure (14-4) show no or limited fishing activities in the Array Area. At least a ten consecutive years fishing data should be used to depict real fishing activity in the study area and sense-check the accuracy of fishing data used in the figure (14-4) as FiSMaDiM data shows demersal fishing activity in this area.

[4] Cenos EIA Chapter 14- Commercial Fisheries, section 14.4.3 Project site-specific surveys, page 36
[5] Cenos EIA Chapter 14- Commercial Fisheries, section 14.4.4.1.2 Surveillance Sightings, page 37
[6]Cenos EIA Chapter 14- Commercial Fisheries, section 14.4.4.1.3.3.2 Regional Study Area Figure 14-4 Page 42

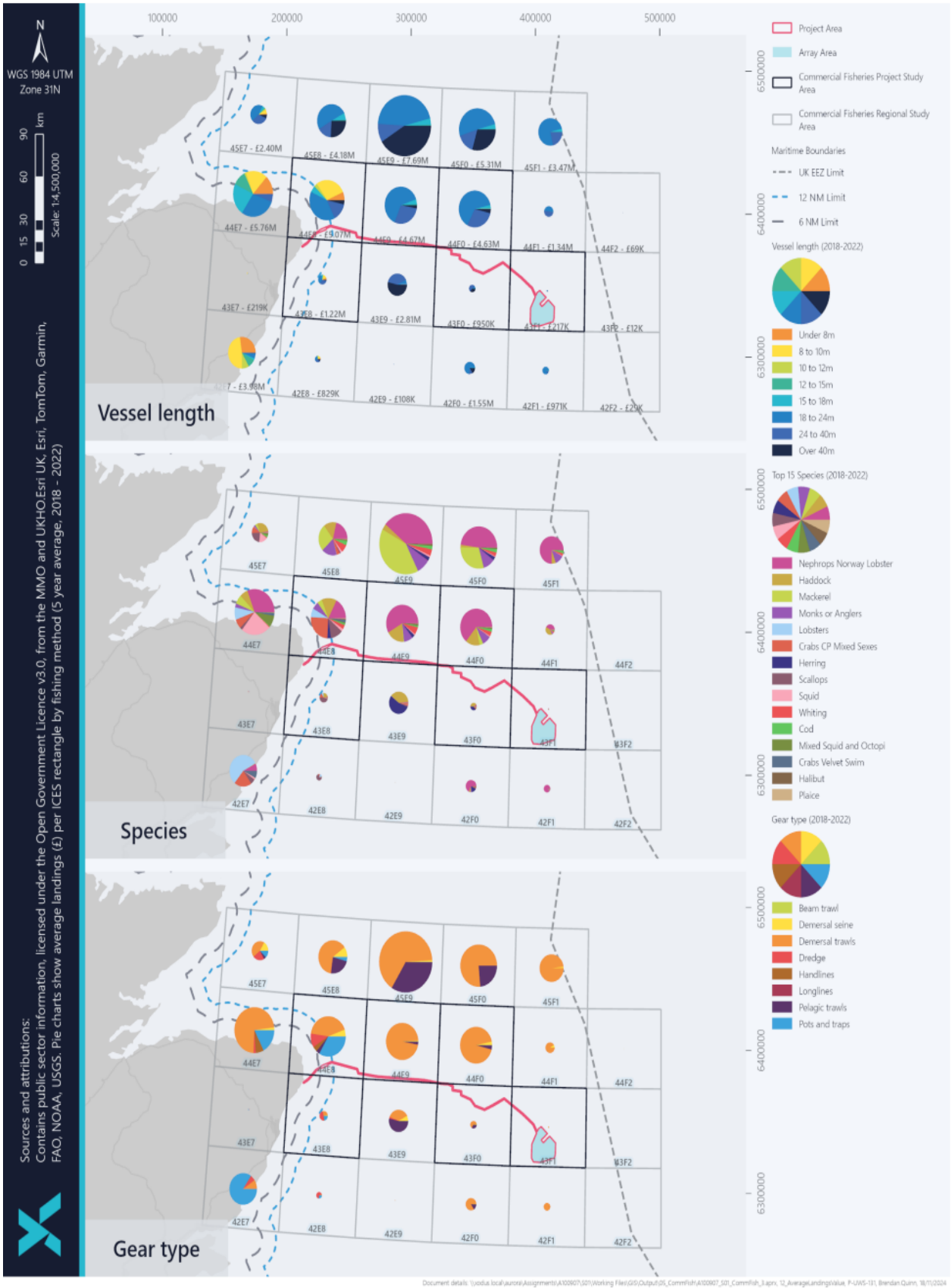


Figure 14-4 Average landings values for the Commercial Fisheries Study Area[4] (MMO, 2023)

Request for inclusion of Pre-Brexit Data

The SFF notes from section on 'MMO VMS Data 2017-2020'[7] that VMS data from 2017 to 2020 has only been used. However, this does not account for pre-Brexit data, which will include some types of fisheries such as small haddock. These fisheries have been significantly affected post Brexit by a combination of regulatory changes and resource related challenges, affecting their processing capabilities. Therefore, we request the inclusion of VMS data from 2011-2016 to reflect a realistic picture of fishing activities in this area.

Request for data supplementation to Future Baseline

The SFF notes from 'Future Baseline'[8] that while three years period can provide a good snapshot, it may not capture longer-term trends or rare events.

Key Points:

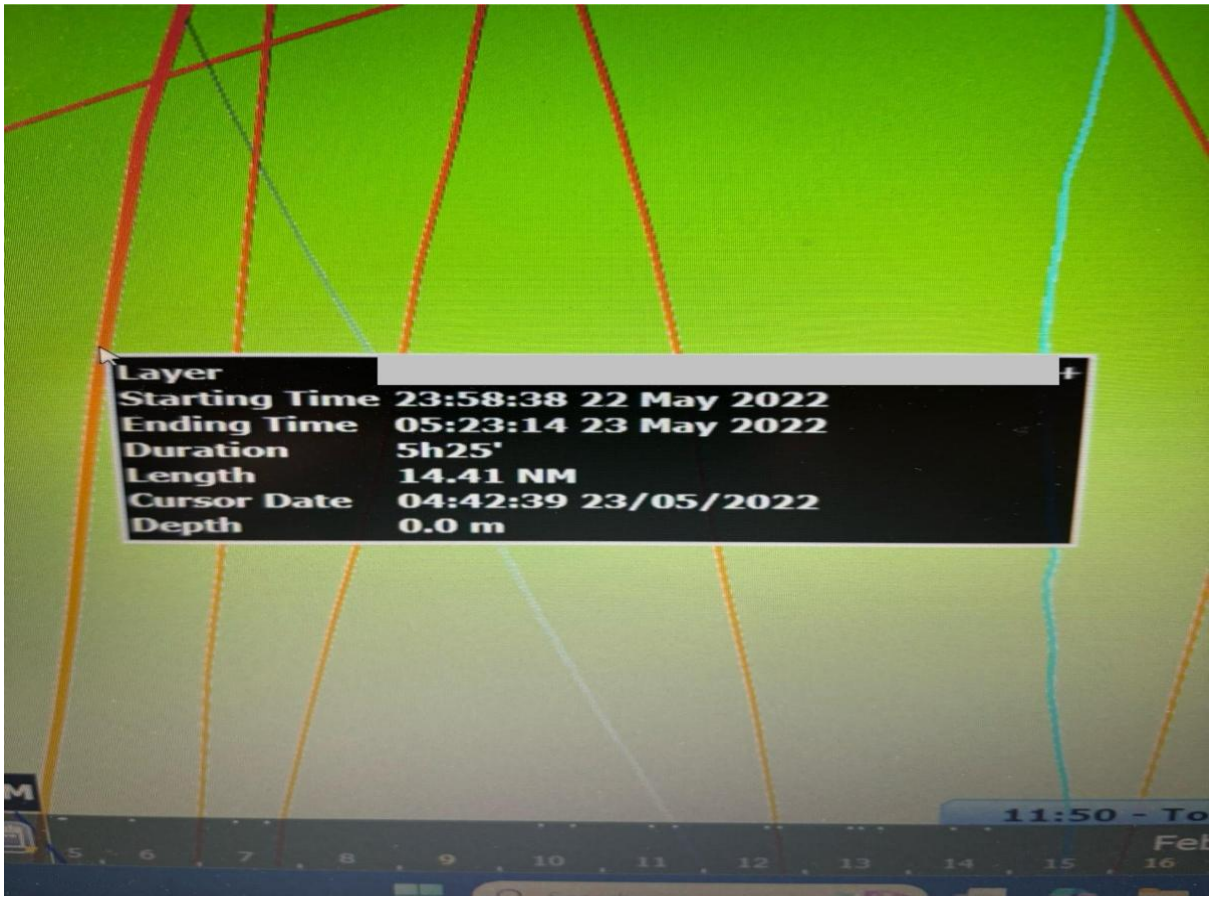
- **Historical Context**: A three-year baseline may lack sufficient historical context to fully understand changes in fish populations and ecosystems.
- **Seasonal and Annual Variations**: Longer baselines can better account for fluctuations in fish populations and fishing activities.

SFF requests supplementing the three-year baseline with additional data sources and historical records (pre-Brexit data from 2011 onwards) for a more comprehensive assessment of fisheries and their long-term sustainability. SFF would also like to highlight the recent collaborative efforts of major players in the Scottish seafood sector to address the challenges of processing small haddock[9] [10]. Given that small haddock is on the rise to meet market demands it is crucial to include historical baseline to ensures a realistic and accurate picture of fishing activities is captured.

Plotter Data

The SFF notes from para 'Inshore Fisheries'[11] those states "the plotter data provided confirmed the baseline findings of vessels active predominantly in the southern section of the Array Area. However, as the plotter data is not date stamped, this could also be historic activity". We cannot agree with the Applicant that the plotter data refer to historic activity as it was not time stamped. We provide the following, a section of the plotter data that we had provided to the developer, which is time stamped and shows recent fishing activity in the array area. This should be taken into consideration.

[7] Cenos EIA Chapter 14- Commercial Fisheries, section 14.4.4.2.1 MMO VMS Data page 43
[8] Cenos EIA Chapter 14- Commercial Fisheries, section 14.4.5 Future baseline page 79
[9] Fishing News Article: 'Small fish processing venture on track' 22nd August 2024
[10] Fishing News Article: 'New processing venture for small MSC haddock' 29th April 2024
[11] Cenos EIA Chapter 14- Commercial Fisheries, section 14.4.4.4 Inshore Fisheries page 71



Environmental Impact Assessment Methodology[12]

Sensitivity of Receptor: The impact of OWF on fishing within the Array Area and EICC should be the basis for determining sensitivity rather than the availability of fishing at the vicinity of the Array Area or EICC. This undermines the gear conflicts caused by the displacement of fishing from the Array Area and EICC on surrounding grounds.

Magnitude Criteria: The criteria for defining magnitude of impact are based on the technical expert's experience and judgement which do not reflect the realistic impact of the development on commercial fisheries. The vagueness of terms such as 'high levels of activity' and 'moderate extent of its ground' cannot be quantified and is open to the expert's discretion. We cannot accept the EIA methodology used as it is unrealistic and purely based on the expert's discretion. This methodology does not encompass/include the actual impacts of the OWF on fishing activities and fishing grounds.

In addition, the EIA uses terms such as "high," "medium," "low," and "negligible" to define the magnitude of an impact. From the fisheries perspective, it is important to scrutinize whether the criteria for these definitions adequately reflect the real-world impacts on fishing businesses. A "minor loss of ability to carry on fishing activities" can have significant economic consequences for individual fishers.

Significance of Effects: The EIA combines the magnitude of the impact and the sensitivity of the receptors to determine the significance of the effect. Effects of moderate significance or more are

[12] Cenos EIA Chapter 14- Commercial Fisheries, section 14.5 Impact assessment methodology 81

considered "significant" in EIA terms. It is important to examine whether the thresholds for determining significance adequately protect the interests of commercial fisheries.

We propose our following comments regarding the OWF impacts on different types of fishing to be considered and acted upon.

Potential effects/Impact on Demersal Trawlers: The SFF note from section 'Assessment of potential effects'[13] that the significance of development impact on demersal trawlers during construction, operation and decommissioning phases in relation to loss of access to fishing grounds is minor. We cannot agree with this conclusion as it ignores the exclusion of fishers from around 333km² and the potential gear conflict issues created by displacement. The type of fish, Nephrops, which is fished in the Array Area can only be found within specific seabed type that lapse within the Array Area not other places at the Development's vicinity. The assessment should also consider the direct impact on fishers within the Array Area and EICC. Therefore, the significance of impact on demersal trawler should be increased to major than low.

We also note in the Cenos EIA Chapter 14 that the magnitude of development effect on demersal trawler within the Array Area (AA) is medium. This contradicts the Applicant/expert's own definition in 'Table 14-7 Magnitude criteria'[14] for Magnitude of Effect that states where impact on commercial fisheries "is permanent or long-term (temporary but occurs over a long period (i.e., years))" should be high. As the demersal trawler cannot return to the AA post development/during operation and maintenance, and decommissioning, the magnitude of effect should also be raised from medium to high.

Based on our comments on the Applicant's EIA methodology and conclusion of the development's magnitude of effects on commercial fisheries and sensitivity of the demersal trawlers, we cannot agree with the applicant's conclusion re overall impact on the loss of access to the fishing grounds for the demersal trawlers being minor. As the loss of access for the demersal trawlers to their historic and prolific fishing grounds is long-term/permanent, throughout the project life cycle (Construction, Operation, Maintenance, and Decommissioning), therefore the significant of overall impact should be high accordingly.

Inadequate Consideration of Displacement Effects

While the report acknowledges potential displacement of fishing effort, we object to the conclusion about the secondary displacement effects on other fishing areas and fleets being not significant. We are of the view that displacement from the Project Area could lead to increased competition and gear conflict in adjacent fishing grounds, impacting fishermen's livelihoods. We demand a more thorough assessment of where displaced effort will go and the consequences for those.

Non-UK Vessels: The non-UK vessels targeting fishing grounds within UK waters are expected to have a large operational range. Surveillance sightings data indicates that non-UK vessel activity within the EICC and Array Area is very low. Given the very low presence of non-UK vessels, the effect is considered to have a negligible magnitude. However, we are of the view that the non-UK vessels

[13] Cenos EIA Chapter 14- Commercial Fisheries, section 14.6 Assessment of potential effects page 99
[14] Cenos EIA Chapter 14- Commercial Fisheries, section 14.5.3 Assessment methodology Table 14-7 Magnitude criteria page 85

number and magnitude of their activity should be stated in the EIA to determine their displacement impacts on other fishing ground and gear conflict they may cause.

Environmental Impacts of the Windfarm

Impact of Underwater Noise

The SFF notes from the section on the Spawning grounds[15] and the section on the Nursery grounds[16] that the assessment of underwater noise impacts from piling and unexploded ordnance (UXO) clearance is underestimating the potential effects on fish species. The noise levels and their impact ranges could be more significant than reported, affecting fish behaviour and health. Therefore, the methodology used to assess noise impacts should be re-evaluated to ensure it accurately reflects the potential risks. SFF's concerns are supported by following research and publications.

The UK government's policy paper on reducing marine noise highlights the significant impact of noise pollution from human activities, including pile driving for offshore wind farm foundations and cable installation on marine life[17]. This paper states that the noise can disrupt marine life, particularly fish species, by interfering with their ability to communicate, navigate, and reproduce.

The UK government's Joint Position Statement on UXO clearance in the marine environment emphasizes the need to minimize environmental impacts during UXO clearance activities[18]. Traditional high-order detonation methods produce loud blasts that can harm marine life and damage the seabed. The statement advocates for low-noise clearance methods, such as deflagration and water jet disruption, which are safer and cause less environmental harm. These methods are particularly relevant for offshore wind farms and cable installation projects, where UXO clearance is necessary to ensure safety and protect marine ecosystems[19].

The UK government's guidance on minimizing environmental impacts from UXO clearance further emphasizes the importance of using low-noise clearance methods to protect marine environments[20]. This guidance is crucial for offshore wind farms and cable installation projects, as it helps mitigate the environmental impact of necessary UXO clearance activities.

The UK government's new measures to curb underwater noise mandate the use of low-noise methods for underwater explosions and construction activities aim to prevent construction delays caused by breaches in noise thresholds, allowing offshore wind projects to be built more quickly while protecting vulnerable marine species and commercially valuable fish stocks[21].

[15] Cenos EIA Chapter 13 – Fish and Shellfish Ecology, section 13.4.4.2.1 Spawning grounds page 44
[16] Cenos EIA Chapter 13 – Fish and Shellfish Ecology, section 13.4.4.2.2 Nursery grounds page 54
[17] https://www.gov.uk/government/publications/reducing-marine-noise/reducing-marine-noise
[18] https://www.gov.uk/government/publications/marine-environment-unexploded-ordnance-clearance-joint-position-statement/marine-environment-unexploded-ordnance-clearance-joint-position-statement
[19] https://maritimeuksw.org/marine-unexploded-ordinance-uxo-removal-for-offshore-wind-farms/
[20] https://www.gov.uk/government/publications/supporting-minimising-environmental-impacts-from-unexploded-ordnance-clearance/supporting-minimising-environmental-impacts-from-unexploded-ordnance-clearance
[21] https://www.gov.uk/government/news/new-measures-to-curb-underwater-noise-and-accelerate-renewable-energy

SFF also refer to the findings from studies by Anthony D. Hawkins and Arthur N. Popper titled 'Assessing the Impact of Underwater Sounds on Fishes and Other Forms of Marine Life'[22] which show that Atlantic Cod and Haddock are particularly sensitive to underwater noise, disrupting their spawning behaviour and reducing reproductive success.

Additionally, species such as herring and salmon are known to be affected by underwater noise, leading to changes in their migration patterns and stress responses, as reported in the Seas At Risk and NorthConnect study[23] and in the 'The impact of ocean noise pollution on fish and invertebrates' study[24].

It is also worth mentioning here, the Scotland's Marine Assessment 2020[25] states, that the cumulative effects of multiple noise sources, combined impacts of piling, UXO clearance, and other anthropogenic activities can have more significant effects on fish populations and habitats than assessed.

Electromagnetic Field (EMF)

The section on the Impacts scoped out of the assessment[26] states the impact pathway is relevant only during the operation and maintenance phase when the cables are actively transmitting electricity. The assessment acknowledges in section on the Potential effects from Electromagnetic Fields (EMF) and heat generated by cables[27] that EMF can affect electro- or magneto-sensitive species, and therefore, the cables are planned to be buried to a depth of 0.4 to 1.5 meters to mitigate these effects during the operational phase. We see the proposed depth range as not sufficient. We recommend that a minimum burial depth of 1 meter should be considered where possible.

There are some uncertainties[28] that requires more comprehensive studies and better data to assess the impacts accurately:

- Limited understanding of current EMF levels from in-situ or buried cables and their impacts on marine environment.
- Uncertainty about how pelagic and migratory species react to dynamic cables EMF.

Therefore, SFF is of the view the EIA's finding is not accurate and acceptable as initially there are lack of data gap to support this assumption. These uncertainties highlight the need for comprehensive studies and better data to accurately assess the impacts. In addition, we are aware of some studies that show the EMF effects on marine life that raises our concerns. Following are some examples of the studies that support our position.

A study conducted by Heriot-Watt University published by The Guardian and The BBC found that underwater cables used for renewable energy projects, such as offshore wind farms, can affect the

[22] https://acousticstoday.org/wp-content/uploads/2015/05/Assessing-the-Impact-of-Underwater-Sounds-on-Fishes-and-Other-Forms-of-Marine-Life-Anthony-D.-Hawkins-and-Arthur-N.-Popper.pdf
[23] https://seas-at-risk.org/wp-content/uploads/2021/02/UnderwaterNoise_TheNeglectedThreat_final_2021-01-25.pdf
[24] https://www.oceancare.org/wp-content/uploads/2022/05/Underwater-Noise-Pollution_Impact-on-fish-and-invertebrates_Report_OceanCare_EN_36p_2018.pdf
[25] https://marine.gov.scot/sma/assessment/continuous-noise
[26] Cenos EIA Chapter 13 – Fish and Shellfish Ecology, section 13.5.2 Impacts scoped out of the assessment page 75
[27] Cenos EIA Chapter 13 – Fish and Shellfish Ecology, section 13.6.2.4 Potential effects from Electromagnetic Fields (EMF) and heat generated by cables page 144
[28] Cenos EIA Chapter 13 – Fish and Shellfish Ecology, section 13.4.7 Data gaps and uncertainties page 73

blood cells of brown crabs. The electromagnetic fields (EMFs) generated by these cables can cause changes in the blood cells of brown crabs, potentially affecting their health. This highlights the need for further research to understand the full impact of EMFs on marine life and to develop mitigation strategies to minimize these effects[29].

The findings from the Cefas workshop[30], supported by The Crown Estate, emphasize the importance of further research to understand the full extent of EMF impacts on marine life. This includes the need for effective mitigation strategies, such as burying cables to appropriate depths, to minimize these effects during the operational phase. The collaborative efforts and recommendations from the report are a step in the right direction towards addressing these concerns and ensuring the sustainable harmony of offshore wind developments and the fishing industry.

From the fishing industry's perspective, it is crucial to address the potential impacts of EMFs on marine species, particularly those of commercial importance. The fishing community is concerned about the limited understanding of current EMF levels from in-situ cables and the uncertainty about how pelagic and migratory species react to dynamic cables. These uncertainties highlight the need for comprehensive studies and better data to accurately assess the impacts.

Data Gaps and Uncertainties

The SFF notes from Data gaps and uncertainties[31] that this section acknowledges several data gaps and uncertainties, particularly regarding the migratory routes of diadromous fish and the effects of EMF on marine species. These uncertainties warrant a more precautionary approach and further research studies before proceeding with the project. SFF would like to highlight the ScotMER Evidence Map that lists about 14 evidence gaps under Fish and Fisheries receptor group that require further study to determine the OWF effects on marine environment. This includes EMF effect. For example, the ScotMER Evidence Gap Review[32] discusses the sensitivity of marine species to electromagnetic fields (EMF). It highlights the need for further research to understand the population-level impacts of EMF. EMF can affect fish and invertebrates, causing behavioural changes and potentially impacting their ability to navigate and detect prey.

Wake Effect

The wake effect is the phenomenon where the wind flow is disrupted by the presence of wind turbines, creating a region of slower and more turbulent air behind them. This effect can significantly impact the performance and efficiency of the wind farm. There are a lot of unknowns about Offshore Wind Farm wake effects on marine environment that unfortunately has not been touched on by the EIA at all. Some studies exist that show the negative effect of the Wake Effect on the marine environment. The below listed publications are very much of relevance here:

The article titled "Offshore wind farms are projected to impact primary production and bottom water deoxygenation in the North Sea"[33] discusses the potential environmental impacts of large offshore wind farm clusters on marine ecosystems. Offshore wind farms create wind wakes that

[29] https://www.theguardian.com/environment/2021/oct/11/underwater-cables-renewables-affect-blood-cells-brown-crabs-study and Brown crabs find underwater power cables 'difficult to resist' - BBC News

[30] https://www.marinedataexchange.co.uk/details/TCE-3718/2023-cefas-offshore-wind-evidence-and-change-programme-owec-electromagnetic-fields-emf-modelling-workshop

[31] Cenos EIA Chapter 13 – Fish and Shellfish Ecology, section 13.4.7 Data gaps and uncertainties page 73

[32] https://www.gov.scot/publications/review-fish-fisheries-research-inform-scotmer-evidence-gaps-future-strategic-research-uk/pages/7/

[33] https://www.nature.com/articles/s43247-022-00625-0

affect hydrodynamical conditions in the ocean. The findings provide evidence that ongoing offshore wind farm developments can substantially impact the structuring of coastal marine ecosystems on a basin scale. These changes can impact marine primary production and bottom water deoxygenation. Changes in primary production and oxygen levels can affect fish populations and marine biodiversity, which are crucial for the fishing industry. Understanding these impacts is essential for developing strategies to mitigate negative effects on marine ecosystems and ensure sustainable fishing practices.

Additionally, the article "Emergence of Large-Scale Hydrodynamic Structures Due to Atmospheric Offshore Wind Farm Wakes" highlights that offshore wind farms create atmospheric wakes characterized by reduced wind speed and increased turbulence downstream. These wakes lead to significant reductions in wind speed and wind stress, resulting in changes in horizontal currents and turbulent mixing. The wake effects also cause large-scale dipoles in sea surface elevation, which can affect the geostrophic balance and residual currents. These hydrodynamic changes can influence marine primary production and bottom water deoxygenation, impacting fish populations and marine biodiversity[34].

The above-mentioned research highlights the negative effects of the wake effect on the marine environment. It is crucial for the licensing authority to take this issue seriously and require the applicant to provide comprehensive evidence on the wake effect impacts on marine ecosystems. The SFF urges that this issue be addressed in a scientific manner, ensuring that the potential environmental consequences are thoroughly investigated and mitigated. This approach will help safeguard marine biodiversity and the sustainability of the fishing industry, while promoting responsible offshore wind farm development.

Stratification Effects

The Cenos EIA document[35] mentions stratification in the context of hydrodynamic changes in. Specifically, it discusses how the interaction between wind wakes and tidal currents can influence hydrodynamic processes, such as vertical transport of nutrients and density stratification in coastal seas. This is relevant to the potential impacts on fish and shellfish ecology due to changes in the marine environment caused by the Project.

Vertical Transport: Changes in stratification can affect the vertical transport of nutrients and other materials in the water column, potentially impacting the availability of food for marine organisms.

Density Stratification: Alterations in density stratification can influence the distribution and behaviour of fish and shellfish, as well as their habitats.

Hydrodynamic Processes: Stratification changes can modify hydrodynamic processes, which may affect the overall health and stability of marine ecosystems.

The article "Emergence of Large-Scale Hydrodynamic Structures Due to Atmospheric Offshore Wind Farm Wakes" further elaborates on the impact of wind farm wakes on stratification. It observes that wind farm wakes enhance stratification strength, particularly during the decline of summer stratification. The reduction of mixing at offshore wind farms results in the enhancement of stratification strength, affecting the mixed layer depth and potentially impacting marine ecosystem

[34] https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2022.818501/full

[35] Cenos EIA Chapter 13 – Fish and Shellfish Ecology, section 13.4.4.2 Spawning and nursery grounds page 38

processes. These changes in stratification can influence the vertical transport of nutrients and other materials, affecting the availability of food for marine organisms[20]

These implications highlight how crucial it is to conduct further research to comprehensively understand the effects of stratification changes on marine life and habitats. By addressing these research needs, we can better understand the complex interactions between offshore wind farms and marine ecosystems, ultimately leading to more informed decision-making and sustainable practices.

Long-term Habitat Loss

The SFF notes from the section on the Spawning and nursery grounds[36] that the assessment of long-term habitat loss due to the presence of infrastructure downplays the potential impacts. The SFF request the need for a more comprehensive evaluation of these impacts, considering changes in species composition and habitat fragmentation.

Habitat Fragmentation: Habitat fragmentation can significantly impact marine environments by altering the structure and function of ecosystems. For example, fragmentation of coral reefs can lead to changes in fish community composition and abundance. Fragmentation can also restrict water flow, which is a major driver of negative habitat fragmentation effects in marine systems as reported in the Journal of Marine Science and Engineering[37]. Studies have shown that habitat fragmentation can reduce connectivity, affecting fish populations and their ability to thrive as described in the Marine Biology article called 'Effects of wave exposure and habitat fragmentation on growth and grazing of rocky shore seaweeds: a mesocosm experiment'[38] .

Changes in Species Distribution: Offshore wind farms can lead to changes in species distribution by altering the local environment. The technical review by The Wildlife Society Impacts of Wind Energy Facilities on Wildlife and Wildlife Habitat[39] discusses the impacts of wind energy facilities on wildlife and habitats. It includes a section on offshore wind farms and their effects on marine environments. Long-term habitat loss can result from the presence of turbines, cables, and anchors, leading to habitat fragmentation and changes in species distribution. Additionally, the displacement of fishing effort due to the presence of wind farms can impact traditional fishing areas, leading to changes in species distribution and potential economic consequences for the fishing industry as described in the Oceanography magazine of the Oceanography Society called 'Setting the Context for Offshore Wind Development Effects on Fish and Fisheries'[40].

Insufficient Consideration of Fishing Activities

The SFF note from the Section on Vessel traffic[41] Figure 15.4 that the document has not fully consider the overlap between the displaced shipping routes and fishing grounds, leading to underestimating the disruption to fishing activities. The document should provide a detailed analysis of how displaced shipping routes especially the oil and gas vessels intersect with traditional fishing

[36] Cenos EIA Chapter 13 – Fish and Shellfish Ecology, section 13.4.4.2 Spawning and nursery grounds page 38

[37]https://www.um.edu.mt/library/oar/bitstream/123456789/113859/1/Effects_of_habitat_fragmentation_of_a_mediterranean_marine_reef_on_the_associated_fish_community.pdf

[38] https://link.springer.com/article/10.1007/s00227-024-04456-9

[39] https://wildlife.org/wp-content/uploads/2014/05/Wind07-2.pdf

[40] https://tos.org/oceanography/article/setting-the-context-for-offshore-wind-development-effects-on-fish-and-fisheries

[41] Cenos EIA Chapter 15 – Shipping and Navigation, section 15.4.4.2 Vessel traffic, Figure 15.4 Vessels by type (21 days, summer 2023) page 37

grounds around the Development. In addition, the Development construction vessels movement impact on inshore fisheries should also be seriously considered. This includes mapping the areas of overlap and assessing the extent to which fishing activities will be disrupted. Specific fishing grounds that are critical to local fishermen should be identified and their importance highlighted. This helps in understanding the potential impact on fishing efficiency and catch rates.

In addition, there is a lack of detailed analysis on how seasonal variations in fishing activities could be affected by increased maritime traffic. The document should include a comprehensive analysis of seasonal fishing patterns, detailing how different times of the year affect fishing activities. This includes peak fishing seasons, and the types of fish targeted during these periods, how increased maritime traffic during different seasons could disrupt these patterns. For example, increased traffic during peak fishing seasons could lead to significant disruptions and economic losses for fishermen.

Socio-economic Impact Assessment

Impact Magnitude: SFF note from the Section on the Impact Assessment[42] that assumptions are made regarding the magnitude of the project's impact on fishing activities. This includes the extent to which construction and operation will disrupt fishing grounds and alter fish behaviour. The construction and operation phases of the project can lead to temporary or permanent loss of access to traditional fishing grounds. This can affect the availability of fish and the efficiency of fishing operations. Noise and vibrations from construction activities can alter fish behaviour potentially leading to reduced catches. Construction activities can lead to increased turbidity and sedimentation, which can affect fish habitats and spawning grounds.

Economic Resilience: The document also assumes that the fishing communities have a certain level of economic resilience and can adapt to changes brought about by the project. This includes assumptions about the availability of alternative fishing areas and the effectiveness of compensation measures. The project can impact the income of fishermen and related businesses. Reduced catches and restricted access to fishing areas can lead to financial losses.

There are also assumptions made about the effectiveness of proposed mitigation measures[43], such as scheduling construction outside peak fishing seasons and providing financial compensation to affected fishermen. To minimize disruption, construction activities can be scheduled outside of peak fishing seasons. Providing access to alternative fishing areas to mitigate the loss of traditional fishing grounds may not always be possible achievable. Compensation schemes for affected fishermen and businesses can help offset economic losses. Continuous monitoring of water quality and fish populations can help identify and address issues promptly.

The SFF cannot agree with these statements as they cannot offset the real economic impact of the Development on commercial fisheries. We reiterate the need for strategic compensation for the affected fishermen that unfortunately has not been considered in the FMMS and other proposed embedded mitigations.

Stakeholder Engagement

[42] Cenos EIA Chapter 19 – Socio-economics, Tourism and Recreation, section 19.6 Assessment of potential effects page 95

[43] Cenos EIA Appendix 30 – Detailed Socio-Economic Methodology

SFF notes from the Section on Stakeholder Engagement[44] that the Applicant engaged in pre-application consultations with stakeholders, including those from the fishing industry, to inform the development of the Project however it does not detail how the feedback provided were considered in the design process.

Marine Protected Areas (MPAs) assessment

MPA Assessment encompasses three MPAs: East of Gannet and Montrose Fields, Southern Trench, and Turbot Bank with diverse species and habitats. Changes in sediment and water quality are of paramount importance, as increased suspended sediments and potential contamination can adversely affect fish habitats and spawning grounds. The assessment outlines several mitigation measures to address the challenges posed by the project, including sediment control, monitoring, contaminant mobilization pre-construction surveys, and contaminant management. However, it is crucial to evaluate the effectiveness of these proposed mitigation measures for both direct and indirect impacts. The measures must be adaptable to changing conditions to ensure that any unforeseen impacts can be promptly addressed. The SFF recommends supplementing this assessment with threshold that determine the effectiveness of these mitigation measures. Furthermore, we strongly object to the displacement of responsibility and compensation to other sectors, such as the fishing industry. The decision regarding the degree and extent of fisheries measures enforced within the MPAs should not account for the additional, potential impact that offshore wind farms might inflict on these features.

Decommissioning Plan

The SFF propose that the decommissioning programme (DP) should be prepared pre-consent in consultation with the fishing industry, rather than prior to construction as stated. We would object to delaying the development of a detailed decommissioning plan, as this is crucial for ensuring the long-term safety and accessibility of fishing grounds. We would advocate for a commitment to the full removal of all development-related infrastructure and post-decommissioning over-trawl sweeps to restore the seabed to its pre-development condition.

Habitat Regulations Appraisal (HRA)

The SFF note from 'Habitats Regulations Appraisal (HRA) – Compensation and Implementation Strategy'[45] that the Project has considered the Green Volt Outline Seabird Compensation Plan, that includes compensation measures such as Drainage management, Disturbance reduction, and Habitat management for puffin.

The SFF would like to reiterate that we oppose any nature compensation measures to offset the environmental damage from offshore wind developments that impose any types of restrictions on commercial fisheries. Once again, it is unconscionable that the fishing industry should be expected to pay the price for the environmental harms of the offshore wind industry.

The SFF stresses that our primary concern is protecting the marine environment which has supported the fishers and the wider communities which depend upon them for decades. If fishers are denied the right to earn their living, SFF will not support the proposal of any windfarm development therefore we reiterate that we strongly object to this application.

[44] Cenos EIA Chapter 6 – Stakeholder Engagement

[45] HRA Compensation and Implementation Strategy, Section 2.2 Compensation as a Condition of Consent page 8

Thank you for considering our detailed response. We trust that our concerns will be given due consideration and look forward to engaging in further discussions.

Sincerely yours

Oliwia Biros
Offshore Consents Assessments Manager
Scottish Fishermen's Federation

Fahim Hashimi
Offshore Energy Policy Manager
Scottish Fishermen's Federation

Sport Scotland

From: Gillian Kyle [Redacted]
Sent: 24 February 2025 10:59
To: MD Marine Renewables
Subject: RE: Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation – Response Required by 4 April 2025

Objective: -1

Hello

I confirm nil response in relation to below. I understand RYAS are being consulted in relation to the proposals and will be ongoing.

Thanks, Gillian

Scottish and Southern Electricity Networks

Scottish Hydro Electric Transmission Plc.
10 Henderson Road
Inverness
IV1 1SN

The Scottish Government
Marine Directorate Licensing Operations Team
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

Submitted via email: MD.MarineRenewables@gov.scot

24 March 2025

Dear Marine Directorate, Licensing and Operations Team,

REF: Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application

Thank you for the invitation to provide comment on the Cenos Offshore Windfarm Section 36 Consent and Marine Licence Application. We are grateful for the opportunity to input to the process, following from our response to the Scoping Report (SCOP-0444) in May 2024.

As the owner of the electricity transmission network in the North of Scotland, Scottish Hydro Electric Transmission Plc (SSEN Transmission), we welcome the references to subsea power infrastructure in the EIA documentation. It is noted that there is specific reference to SSEN Transmission projects within Chapter 17, section 17.4.4.3.

SSEN Transmission are currently progressing a £20bn investment across our network area, both onshore and offshore, enabling the connection of the renewable energy needed to meet Scottish and UK Government 2030 energy targets and beyond; providing greater home-grown energy security and supporting Scotland and the UK's pathway to Net Zero. As providers of critical national infrastructure there is also the potential for future projects beyond 2030 to be located on the east coast of Scotland, therefore presenting the potential for future interactions with the Cenos cable as it is detailed within the documents shared.

We remain committed to working with other legitimate users of the sea in a proactive manner, enabling all parties to deliver successful projects wherever reasonably possible. We therefore welcome and encourage regular and proactive engagement as the Cenos OWF project progresses. This is especially important where crossing agreements are to be developed, giving due consideration and provision for present and future cables to cross both export and generation sites, maintaining the freedom of the seas for both telecommunications and power cables.

The EIA specifically references the EGL2 project which has a granted Marine Licence (MS-00009943, 04 May 2023) and EGL3 project, for which a Marine Licence application is anticipated in summer 2025 following Scoping Report submitted in January 2024. Both of these projects will require crossing agreements; however, we would also like to highlight that SSEN Transmission currently have other projects in early stages of development which will likely require engagement regarding the proposed cable route in the future.

As noted in our Scoping Report response, we do not anticipate any direct interaction with our Spittal to Peterhead HVDC link, however we would encourage consideration of the project in relation to any potential cumulative impacts that could arise. Further to this, we note that the proposed landfall area on the East coast is increasingly busy with

both survey and development activity and we encourage communication and coordination between projects wherever possible to minimise impacts, including as relates to community and fisheries engagement.

Lastly we highlight and suggest the use of our 'Project map' Project Map - SSEN Transmission (ssen-transmission.co.uk) as this will provide the most up to date information regarding any developing SSEN Transmission projects.

I am happy to discuss further the comments above should you have any questions or concerns.

Yours sincerely

[Redacted]

Iain Gatward

Senior Marine Consents & Environment Manager

[Redacted]

Transport Scotland

From: Iain Clement
Sent: 01 April 2025 16:35
To: MD Marine Renewables
Cc: Judith Horrill; [Redacted] DEVENNY Alan; Andrew Erskine
Subject: Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Transport Scotland Consultation Response - 1-Apr-25

Objective: -1

FAO Judith Horrill

Afternoon Judith,

Thank you for the opportunity to comment on the Marine Applications for the Cenos Offshore Windfarm.

I note that the EIAR states that the onshore elements for ongoing grid connection (above MHWS), including the landward exit point and cable pull through, have previously been consented through the NorthConnect High Voltage Direct Current (HVDC) Cable Planning Consent, and that the EIAR has been prepared in support of the offshore elements of the project only with no mention of any Traffic and Transport assessment therein. Transport Scotland was consulted on the NorthConnect HVDC application and provided a TRNPA2 response on 12th November 2018.

As such, I can confirm that Transport Scotland has no comment to make on the offshore EIAR at this time.

Kind regards,

Iain

Development Management
Network Operations
Roads Directorate
transport.gov.scot

Transport Scotland, 2nd Floor, George House, 36 North Hanover St, Glasgow, G1 2AD

Transport Scotland, the national transport agency
Còmhdhail Alba, buidheann nàiseanta na còmhdhail

Ugie District Salmon Fishery Board

From: Ugie Salmon <usf@lunarfreezing.co.uk>
Sent: 08 April 2025 10:43
To: Judith Horrill
Cc: Lauren Cowan; Kirsten Watson
Subject: RE: Flotation Energy Limited – Cenos Offshore Wind Farm – EIA Section 36 consent and Marine Licence Application - Consultation – Nil Response Assumed

Objective: -1

Hello Judith, I am sorry,
There have been so many of these applications recently it has been difficult to keep up with them all. Our response would be,
How can the developers prove to us that no migrating salmon or seatrout in the Ugie, whether in the river or in the sea will be disadvantaged by this proposal, whilst construction takes place and when the project goes into production.
I hope you can take our concerns into account, albeit we are a little late.

Kind regards
Joseph Yule (Convener)
Ugie District Salmon Fishery Board

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Email [Redacted]
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Open Monday to Friday 8am – 5pm