Aberdeen Airport

Aberdeen International Airport

Aberdeen International Airport Limited
Dyce, Aberdeen
AB21 7DU
Scotland

T: +44 (0)870 040 0006
W: aberdeenairport.com

Marine Scotland
Marine Planning & Policy
Scottish Government

Via Email

ABZ Ref: ABZ3010

21st December 2021

Dear Sir/Madam

Ref: REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 AND MARINE LICENCE
APPLICATIONS FOR THE GREEN VOLT OFFSHORE WINDFARM LOCATED 75 KILOMETRES EAST OF THE ABERDEENSHIRE COAST

I refer to your request for scoping opinion received in this office on 3rd December 2021.

The scoping report submitted has been examined from an aerodrome safeguarding perspective and we would make the following observations:

- The proposed site is located within the wind farm consultation zone for Aberdeen Airport and as such aviation impacts should be considered as part of the EIA.

- It is also within the instrument flight procedures safeguarding area and impacts on IFPs should be considered as part of the EIA.

Our position with regard to this proposal will only be confirmed once the turbine details are finalized and we have been consulted on a full planning application. At that time we will carry out a full safeguarding impact assessment and will consider our position in light of, inter alia, operation impact and cumulative effects.

Yours Faithfully
[Redacted]

Kirsteen MacDonald

Safeguarding Manager
Aberdeen Airport
[Redacted]
abzsafeguard@aiairport.com

Aberdeen City Council

Sweeting S (Stephanie)

From: Richard Brough <RBrough@aberdeencity.gov.uk>
Sent: 08 February 2022 16:12
To: Sweeting S (Stephanie)
Subject: FW: SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on Request for a Scoping Opinion – Response Required by 3 January 2022

Dear Stephanie,

Thank you for your email. I apologise for the delay in responding.

The HRA screening looks to have screened in the necessary sites/ species as we'd expect for further investigation.

As for the EIA element, I don't think there is anything we'd look to comment on and would leave this to Marine Scotland as the relevant consenting body.

Kind regards

Richard Brough | - Environmental Planner
Protecting the irreplaceable. Promoting the sustainable

Please note: *Due to the current C19 (Corona Virus) pandemic non-essential Council staff including our team are currently working remotely. Due to this, email is the most reliable form of communication and we are trying to provide as normal a service as possible via this medium. We would ask for your understanding if our response is delayed, as many of our colleagues are dealing with the consequences of the pandemic.*

If your call is urgent, you can contact me on my mobile at [Redacted]

Aberdeen City Council | Environmental Policy | Strategic Place Planning | Commissioning
Ground Floor North | Marischal College | Broad Street| Aberdeen | AB10 1AB

Direct Dial: 01224 522435 Mobile: [Redacted] | Switchboard: 01224 523 470
www.aberdeencity.gov.uk | Twitter: @AberdeenCC | Facebook.com/AberdeenCC

Aberdeenshire Council

Aberdeenshire COUNCIL

Our Ref: ENQ/2021/1977
Your Ref:

Ask for: Stuart Murison
Tel: 01467 537696
Email: stuart.murison@aberdeenshire.gov.uk

Marine Scotland
Licensing Operations Team
375 Victoria Road
Aberdeen
AB11 9DB

24 December 2021

Dear Sir/Madam

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 AND MARINE LICENCE APPLICATIONS FOR THE GREEN VOLT OFFSHORE WINDFARM LOCATED 75 KILOMETRES EAST OF THE ABERDEENSHIRE COAST

REGULATION 14 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017
REGULATION 12 OF THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017
REGULATION 13 AND SCHEDULE 4 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2007

SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast

I refer to your request for a scoping opinion for the above proposal received on 7 December 2021.

Thank you for consulting us on the above EIA Scoping request. As the terrestrial Planning Authority, our comments below are limited to those aspects of interest to Aberdeenshire Council and are limited to intertidal ecology, cultural heritage, Seascape and Visual impacts as well as details pertaining to the landfall operations. We have not offered comments on any other aspects as contained within the Scoping Report.

Landfall
It is noted that a landfall location has not yet been selected, but that 2 potential locations have been identified. The sensitivities associated with both have been covered in Section 2.2.3 and there is a brief outline of how these would be accommodated should each of the north or south locations be chosen. This is all welcomed. From a terrestrial planning perspective, we would wish to see further detail on the landfall and steps taken to mitigate specific environmental impacts once the location has been finalised. It is appreciated that much of the information of most interest to the Council will be provided through a separate

onshore EIA process, but further information from the offshore side would also be required. For the time being and based on the information provided to date, there are no concerns with the scope of information outlined, we may however wish to comment further when further details are known, potentially through a consultation on any application.

SLVIA
We are satisfied with the approach outlined re the SLVIA and the rationale for scoping out this element of the assessment. The distance from shore means that no adverse impacts are likely.

Ecology
The range of ecological surveys proposed to be scoped into the EIA is acceptable. It is noted that the surveys included will depend on whether or not landfall is done using HDD or open trenching and we would welcome further dialogue on this.

Cultural Heritage
We consulted internally on this issue, with the Council's Archaeology Service commenting that:
Having reviewed Section 7.4 of the report (Marine Archaeology and Cultural Heritage) we can make the following comments:

1) We agree with the proposed methodology for undertaking the assessment of the historic environment for the offshore part of the development as detailed in this report (i.e. seawards of the MHWS). Within the list of Data Sources in Table 7.9 we would note that the Aberdeenshire HER also includes maritime records as well which should be considered in conjunction with those extracted from Canmore.
2) Page 165, 5th paragraph notes that the development and cable corridor are likely to lay within the former Luftwaffe flight path during the WWII bombing raids, and as such that there is potential for aviation remains relating to this activity to be located within this area. It should also therefore be noted that this also the potential for unexploded ordnance to be present as well, a factor to be taken into consideration when assessing the development site.
3) We agree with indirect impacts on heritage assets being scoped out of the EIA.
4) We agree with the proposed mitigation to be included within the project design (Section 7.4.3.5)

I hope the above information is of assistance as a formal scoping opinion in respect of the relevant EIA Report. Obviously during the processing of any associated planning application other issues may become obvious following public consultation and consultations with statutory consultees.

This opinion will be held for public inspection for a two year period, or until a planning application is submitted at which time the opinion will be transferred to the planning register with the application.

Yours faithfully

[Redacted]

Paul Macari
Head of Planning and Economy

Angus Council

From:	Ruari Kelly
To:	MS Marine Renewables
Subject:	SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on Request for a Scoping Opinion – Response Required by 3 January 2022
Date:	17 December 2021 08:54:08

Dear Sir/Madam,

I refer to the above consultation and would confirm that my Council has no comments to make and therefore offers a "nil return" response.

Kind regards,

Ruari

Ruari Kelly | Planning Officer (Development Standards) | Angus Council | 01307 492125 | kellyr@angus.gov.uk | www.angus.gov.uk

BP

Sweeting S (Stephanie)

From: Grocott, Michael <MICHAEL.GROCOTT@bp.com>
Sent: 27 January 2022 17:54
To: Sweeting S (Stephanie); clark.findlay@uk.bp.com
Subject: RE: SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on Request for a Scoping Opinion – Response Required by 3 January 2022

Hi Stef,

Thank you for your email. I have checked with colleagues and can confirm we do not intend to provide a response to the Scoping Report.

Mike

From: Stephanie.Sweeting@gov.scot <Stephanie.Sweeting@gov.scot>
Sent: 26 January 2022 10:00
To: clark.findlay@uk.bp.com; Grocott, Michael <MICHAEL.GROCOTT@bp.com>
Subject: FW: SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on Request for a Scoping Opinion – Response Required by 3 January 2022

Dear Sir/Madam,

It has come to my attention that you were identified for the below consultation but unfortunately have been missed from the consultation email.

The consultation period was extended until 28 January 2022. Please could you let me know if you intend to provide a response, and if so, a date by which you would be able to respond?

Please accept my apologies.

Kind regards,

Stef

Stef Sweeting
Marine Licensing Casework Manager
Marine Scotland - Marine Planning & Policy

Scottish Government | Marine Laboratory | 375 Victoria Road | Aberdeen | AB11 9DB
Mobile: [Redacted]
Email: Stephanie.Sweeting@gov.scot
Website: http://www.gov.scot/Topics/marine/Licensing/marine

COVID-19: Marine Scotland - Licensing Operations Team(MS-LOT) is working from home and as a result determination of applications may take longer than our stated timelines. In addition MS-LOT is unable to respond to phone enquiries, please communicate with MS- LOT via email. Email addresses are MS.MarineRenewables@gov.scot for marine renewables correspondence or MS.MarineLicensing@gov.scot for all licensing queries.

BT

Sweeting S (Stephanie)

From: radionetworkprotection@bt.com
Sent: 22 December 2021 15:35
To: MS Marine Renewables
Subject: RE: SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on Request for a Scoping Opinion – Response Required by 3 January 2022 WID11718

Follow Up Flag: Follow up
Flag Status: Completed

OUR REF: WID11718

Hi Stef

Thank you for your email dated 03/12/2021.

Re :- Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast

We have studied this wind farm proposal using the co-ordinates below 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.

Regards
Chris


Aberdeen
Firth of
Forth Banks
Marine
Protected

Chamber of Shipping

Sweeting S (Stephanie)

From: Robert Merrylees <RMerrylees@ukchamberofshipping.com>
Sent: 31 January 2022 13:37
To: Sweeting S (Stephanie); MS Marine Renewables
Subject: RE: SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on Request for a Scoping Opinion – Response Required by 3 January 2022

Dear Stef,

Thank you for the follow up email and apologies the Chamber of Shipping did not initially respond within the requested time period.

The Chamber welcomes the consultation and at this stage, does not have any particular items that need additional consideration other than those captured within the Scoping Report.

The Chamber looks forward to more detailed analysis on shipping and navigation in due course.

Kind regards,
Robert

From: Stephanie.Sweeting@gov.scot <Stephanie.Sweeting@gov.scot>
Sent: 31 January 2022 13:04
To: MS.MarineRenewables@gov.scot
Subject: RE: SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on Request for a Scoping Opinion – Response Required by 3 January 2022

Dear Sir/Madam,

The below consultation has now closed. We have not received a response and therefore a nil return has been assumed.

Kind regards,

Stef

Marine Scotland - Marine Planning & Policy

Scottish Government | Marine Laboratory | 375 Victoria Road | Aberdeen | AB11 9DB
Website: http://www.gov.scot/Topics/marine/Licensing/marine

COVID-19: Marine Scotland - Licensing Operations Team(MS-LOT) is working from home and as a result determination of applications may take longer than our stated timelines. In addition MS-LOT is unable to respond to phone enquiries, please communicate with MS- LOT via email. Email addresses are MS.MarineRenewables@gov.scot for marine renewables correspondence or MS.MarineLicensing@gov.scot for all licensing queries.

Dee DSFB

Dee District Salmon Fishery Board

Licensing Casework Officer
The Scottish Government,
Marine Scotland Licensing Operations Team,
Marine Laboratory,
375 Victoria Road,
Aberdeen, AB11 9DB

By email to MS.MarineRenewables@gov.scot
31st December 2021

Dear Sirs,

Green Volt Offshore Wind Limited – Green Volt – 75km East of Aberdeenshire Coast - Consultation on Request for Scoping Opinion

On behalf of the Dee District Salmon Fishery Board (Dee DSFB) we welcome the opportunity to respond to the Green Volt Offshore Wind Limited - Consultation on Request for Scoping Opinion.

Designations & Conservation Status

As a statutory body charged with the protection of Atlantic salmon and sea trout stocks within its district, the Dee DSFB has a duty to ensure that there are no significant adverse impacts upon the populations of these species.

The Dee has been designated as a Special Area of Conservation under the EC Habitats Directive 92/43 EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna for Atlantic salmon (the principal species for which it receives this designation). The Dee District also supports populations of trout, eels and brook, river and sea lampreys.

Sea trout, common to all the rivers within the Dee District, are a priority species under the United Kingdom's Biodiversity Action Plan (UKBAP).

All lamprey species are protected under the EC Habitats Directive whilst river and sea lampreys are additionally protected under the UKBAP priority list.

Eels are a UKBAP priority species, critically endangered under the IUCN red list and protected under CITES.

Conservation regulations

The Conservation of Salmon (Scotland) Regulations 2016 has led to the production of stock assessments for all Scottish salmon rivers, based on catch data. The assessments estimate whether the number of adults returning to the river in each of the previous five years will produce sufficient numbers of eggs to keep the population size above a critical threshold.

For the Dee, like other north-east rivers, the assessments have shown a declining trend in catches since 2011. Nonetheless, the Dee has been categorised as a grade 1 river, meaning that the stocks have most likely been above the critical threshold - the Conservation Limit - over the last five years.

Further assessment of the juvenile salmon stocks in the Dee through the National Electrofishing Programme for Scotland (NEPS) programme has identified that juvenile stocks in the Dee have been assessed as being a Grade 2, suggesting that there are significant issues with recruitment and survival within the catchment, (Malcolm *et al* 2020). With greater pressures on marine survival and approx. 4% of smolts returning as adults, it's clear that we need to address any additional pressures within both the freshwater and marine environments associated with Dee salmon stocks.

The conclusion from these assessments reflects that despite the decline seen in Dee stocks, the number of salmon returning to the Dee is sufficient to maintain a stable population. However, it does not suggest that the salmon stock is thriving from a biological perspective or that it could withstand further losses.

The neighbouring rivers of the Don, Cowie and Carron have all been classified as grade 3 rivers for 2021. The grade 3 status identifies that the stock is failing critical conservation targets over the last five years and therefore management actions are required to protect the stock, including mandatory catch and release of salmon. These grade 3 classifications illustrate the tenuous position of migratory salmon stocks within the north-east area.

Position

The Dee DSFB welcomes the opportunity to respond to the scoping opinion, however the location of the proposed site, cable corridor and landfall are out with the Dee District Salmon Fishery Board district.

Whilst we recognise that there may be potential conflicts during the construction and operational phases of this proposed development, we are not able to respond appropriately at this time due to the limited understanding of the impacts of a development of this scale. We therefore suggest that further consultation takes place with Marine Scotland Science and Fisheries Management Scotland with reference to broadening our understanding of any potential impact upon diadromous fish.

Proposals to develop a post-construction monitoring plan are ongoing with Dee District Salmon Fishery Board in relation to the Kincardine Offshore Windfarm Ltd (KOWL). We would welcome further discussion with Green Volt to develop the scope, scale and contribution to a project such as that

proposed for KOWL, to investigate diadromous fish migration pathways associated with this development should it be consented.

We welcome further consultation on the development but presently have no further comment currently.

[Redacted]
[Redacted]

amie Urquhart
Fisheries Protection Manager, Dee District Salmon Fishery Board

Dee District Salmon Fishery Board

Licensing Casework Officer
The Scottish Government,
Marine Scotland Licensing Operations Team,
Marine Laboratory,
375 Victoria Road,
Aberdeen, AB11 9DB

By email to MS.MarineRenewables@gov.scot
25th February 2022

Dear Stef,

SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on HRA Screening

On behalf of the Dee District Salmon Fishery Board (Dee DSFB) we welcome the opportunity to respond to the Green Volt Offshore Wind Limited - Consultation on Request for HRA Screening.

Designations & Conservation Status

As a statutory body charged with the protection of Atlantic salmon and sea trout stocks within its district, the Dee DSFB has a duty to ensure that there are no significant adverse impacts upon the populations of these species.

The Dee has been designated as a Special Area of Conservation under the EC Habitats Directive 92/43 EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna for Atlantic salmon (the principal species for which it receives this designation). The Dee District also supports populations of trout, eels and brook, river and sea lampreys.

Sea trout, common to all the rivers within the Dee District, are a priority species under the United Kingdom's Biodiversity Action Plan (UKBAP).

All lamprey species are protected under the EC Habitats Directive whilst river and sea lampreys are additionally protected under the UKBAP priority list.

Eels are a UKBAP priority species, critically endangered under the IUCN red list and protected under CITES.

Conservation regulations

The Conservation of Salmon (Scotland) Regulations 2016 has led to the production of stock assessments for all Scottish salmon rivers, based on catch data. The assessments estimate whether the number of adults returning to the river in each of the previous five years will produce enough eggs to keep the population size above a critical threshold.

For the Dee, like other north-east rivers, the assessments have shown a declining trend in catches since 2011. Nonetheless, the Dee has been categorised as a Grade 1 river, meaning that the stocks have most likely been above the critical threshold - the Conservation Limit - over the last five years.

Assessment of the juvenile salmon stocks in the Dee through the National Electrofishing Programme for Scotland (NEPS) has evaluated juvenile stocks in the Dee as Grade 2, suggesting that there are significant issues with recruitment and survival within the catchment (Malcolm *et al* 2020). With greater pressures on marine survival such that only approximately 3% of smolts return to the river as adults, we need to address any pressures within the freshwater and marine environments to protect Dee salmon stocks.

In January 2022, the Scottish Government released its Wild Salmon Strategy which gave a clear message that Scottish salmon are at crisis point. The Strategy calls on government agencies, as well as the private sector, to prioritise the protection and recovery of Scotland's wild Atlantic salmon populations.

River Dee Smolt Research

Research into the migration of juvenile salmonids (known as smolts) through the River Dee, its harbour and the coastal environment, has taken place over four years from 2016-2019 through two research programmes. Acoustic tagging and tracking have been used to investigate smolt migration timing, period, rate, marine migration direction and tag losses from the River Dee to the harbour at Aberdeen and beyond to a series of arrays as far as 20km offshore.

Programme 1; coordinated by the Dee DSFB during 2016 and then jointly by the Dee DSFB and Marine Scotland Science (MSS) from 2017-2019 focusing on the migration of salmon smolts through the river and harbour;

Programme 2; coordinated by the River Dee Trust and MSS as part of an Environmental Research and Monitoring Programme for the European Offshore Wind Deployment Centre called the North East Scotland Salmon and Sea Trout Tracking Array, funded by Vattenfall. This programme investigated migration routes of salmon and sea trout from the Rivers Dee and Don over three years 2018, 2019, and 2021, with results from 2021 yet to be fully analysed.

Smolt migration in the marine environment.

A series of the marine arrays deployed as part of programme 2, are designed to identify the direction of travel of smolts as they migrate from the harbour. The location of marine arrays deployed during 2019 is presented in Figure 1.

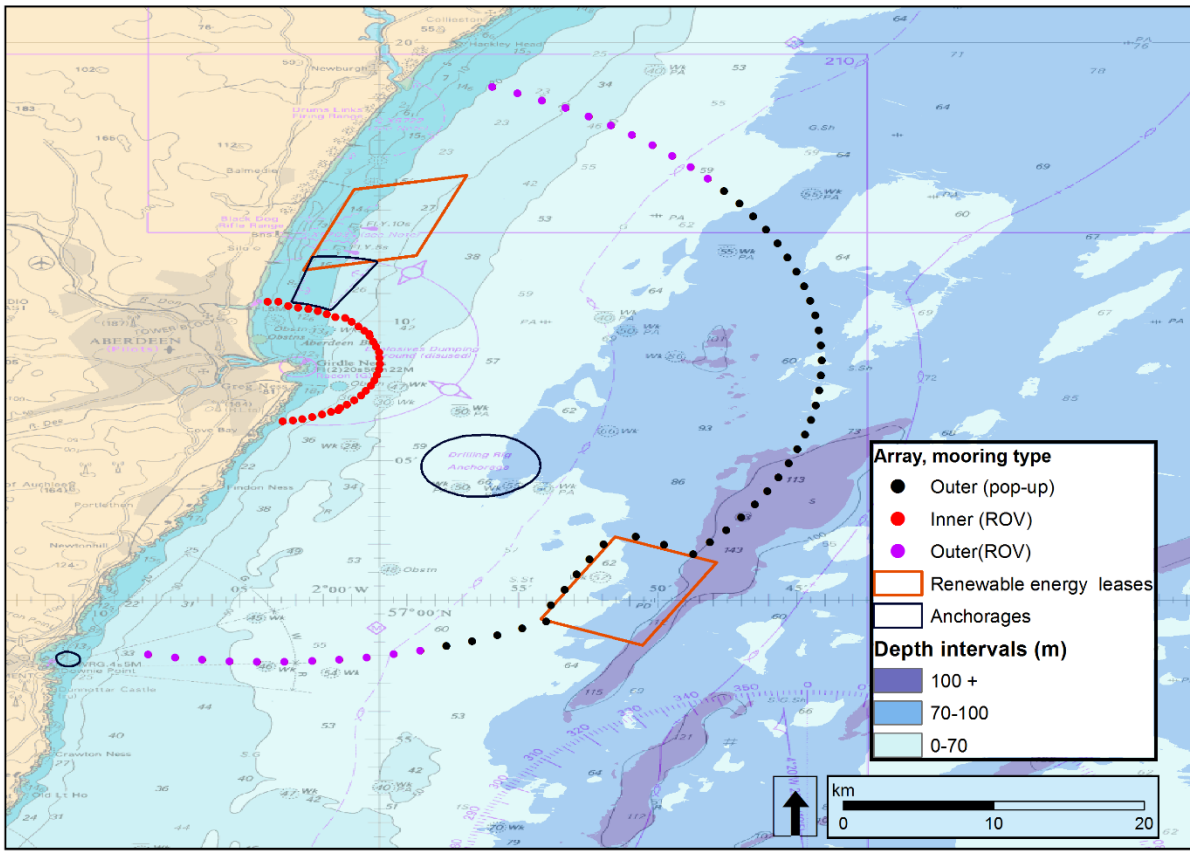

Figure 1. 101 acoustic receivers deployed in two marine arrays, inner array (red) is 4km from Aberdeen Harbour and outer array (purple/black) is 20km from Aberdeen Harbour.

Analysis of these tracks for 2019 illustrate that smolts exiting the Dee SAC initially travel in a south easterly direction (at least as far as 20 km from the coast). Direction and rate of travel are influenced by ocean currents and as such, smolts may not be able to substantially alter their migration routes. Figure 2 illustrates the detections of Dee salmon smolts on the marine arrays. Individual fish are colour-coded so that a direction of travel is assumed between the 4 km and 20 km arrays.

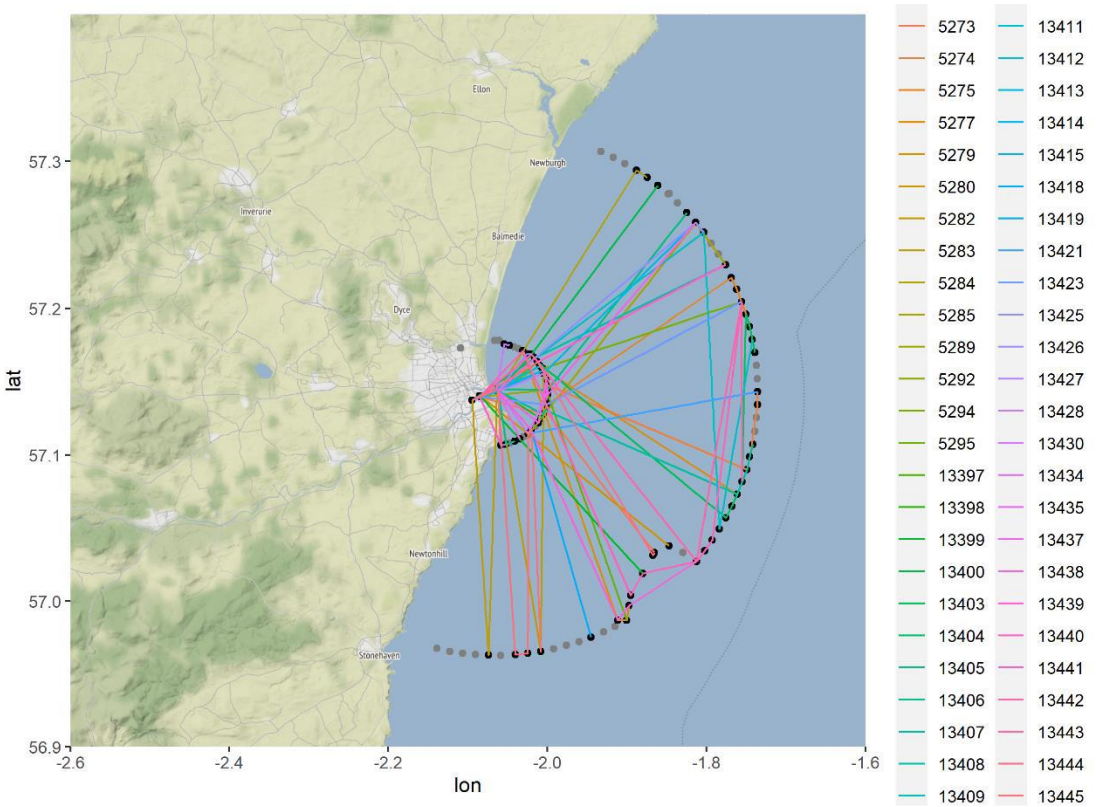

Figure 2. Detections of Dee salmon smolts during 2019.

Whilst this array provides some understanding on the immediate direction of travel up to 20km, there is uncertainty surrounding migration pathways beyond this range. We understand that the Norwegian Sea is an important staging area for smolts and therefore conclude that there is the potential for smolt migration pathways to be impacted by this development as they migrate from the River Dee SAC to the Norwegian Sea.

Position

The Dee DSFB welcomes the opportunity to respond to the consultation on HRA Screening. We are aware that the Fisheries Management Scotland (FMS) has responded to the consultation on the HRA screening report, and we would like to reiterate some of their conclusions alongside our own in this response. The following comments are provided in respect of the HRA screening report for the Green Volt Offshore Windfarm.

Based on the information available on salmon migration pathways we believe that there is potential for the proposed development site to be used by adult salmon and salmon post smolts from the River Dee SAC.

We therefore suggest that more information is required to understand the potential impacts with reference to section 5.3.1.3., paragraph 129, particle motion and do not agree that these effects should be scoped out at this stage.

Equally in section 5.3.1.5. disturbance of migratory fish from EMF. The assumption is that salmon will not use the location of the site during their migration and the report, therefore, focuses upon the

nearshore impacts and cable route. However due to the floating nature of the proposed development, the cables arising from the turbines will be unshielded between the turbines and the seabed. On that basis, we do not consider that EMFs should be scoped out.

We are pleased to acknowledge that the HRA screening has 'scoped in' Atlantic salmon for further investigation, based on potential for 'In combination' underwater noise and EMF impacts as referenced above.

Section 5.3. makes reference to the National Research and Monitoring Strategy for Diadromous Fish. However, this process has largely been superseded by the ScotMER Diadromous Fish Specialist Receptor Group. This group has worked together to identify and prioritise evidence gaps associated with consenting offshore renewable developments, which are detailed in the ScotMER diadromous fish evidence map (available here). It is notable that a number of the evidence gaps which have been prioritised in that process are scoped out of the HRA for the proposed development.

We would echo comments made by FMS that if MS-LOT are content for issues identified in the Diadromous fish evidence map to be scoped out of the current process, we consider that it is vital that a specific condition is included to ensure that the proposed development contributes to this wider work.

We look forward to commenting further on the application process.

Yours sincerely
[Redacted]

Jamie Urquhart

Fisheries Protection Manager, Dee District Salmon Fishery Board

DIO/MOD

Defence Infrastructure Organisation

Teena Oulaghan
Ministry of Defence
Safeguarding Department
St George's House
DIO Headquarters
DMS Whittington
Lichfield
Staffordshire
WS14 9PY

Telephone [MOD]: [Redacted]

E-mail: teena.oulaghan100@mod.gov.uk

Your Ref: SCOP 0009

Our Ref: DIO10054130

Scottish Government,
Marine Laboratory,
375 Victoria Road,
Aberdeen,
AB11 9DB.

By email only

14 February 2022

Dear Sir / Madam,

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 AND MARINE LICENCE APPLICATIONS FOR THE GREEN VOLT OFFSHORE WINDFARM LOCATED 75 KILOMETRES EAST OF THE ABERDEENSHIRE COAST

REGULATION 14 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017

REGULATION 12 OF THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017

REGULATION 13 AND SCHEDULE 4 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2007

Thank you for consulting the Ministry of Defence (MOD) on the above Scoping Opinion request in respect of the Green Volt Offshore Wind Farm development. The consultation was received by this office on 5 December 2021. I write to confirm the safeguarding position of the MOD regarding information that should form part of any Environmental Statement submitted in support of an application.

The applicant has prepared an Environmental Impact Assessment Scoping Report for the proposed development. The Scoping Report recognises some of the principal defence issues relevant to MOD consideration of the proposed development.

The use of airspace in the vicinity of the proposed development for defence purposes has been appropriately identified. The Scoping Report highlights some of the aviation and radar systems that may be affected by the proposed wind farm and the MOD is identified as a relevant receptor in Chapter 7.7.2.2 Aviation and Radar of the Scoping Report.

The report identifies that the proposed turbines have the potential to affect and be detectable to Primary Surveillance Radars (PSR), both military and civilian systems, in the wider region. The report also notes that the development has the potential to have an impact on the operation and capability of the Air Defence Radars (ADR) at RAF Buchan. The impact on these radars should be considered in the preparation of any application for this

scheme. The impact on radar systems may require technical mitigation(s) which would be provided by the applicant.

Impact on military activity has been recognised in chapter 7.7.2.1 of the Scoping Report. The designated site area, as shown on figure 7.19, identifies military Practice and Exercise Areas (PEXA). At this time, it is not anticipated that the development would have any substantial impact though further assessment will take place when additional information is available.

The potential presence of unexploded ordnance (UXO) has been identified as a relevant consideration in section 7.7.2.7. The potential presence of UXO and disposal sites is also a relevant consideration to the installation of cables and other intrusive works that may be undertaken in the maritime environment.

Impact on military low flying has been scoped in and the applicant states in the Scoping Report that they are committed to lighting and charting the turbines. In the interests of air safety, the MOD would request that the development be fitted with MOD accredited aviation safety lighting in accordance with the Civil Aviation Authority, Air Navigation Order 2016.

In relation to the Onshore element of the proposed development, chapter 2.2.3 of the Scoping report identifies the landfall zones have not yet been determined, however two principal areas are currently under consideration: North of Peterhead (figure 1.3) and South of Peterhead (figure 1.3). The MOD hope to be consulted to determine any impact on MOD assets. A table (table 2.6) of the corridor which will contain the Offshore cable route is included in the Scoping Report we request that we are consulted once the cable route and Onshore landfall location is finalised.

I trust this is clear however should you have any questions please do not hesitate to contact me.

Yours sincerely
[Redacted]

Teena Oulaghan
Safeguarding Manager

Fisheries Management Scotland

From:	Alan Wells
To:	MS Marine Renewables
Cc:	Cowan L (Lauren); Jamie Urquhart (Jamie@riverdee.org)
Subject:	RE: SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on HRA Screening – Response Required by 18 February 2022
Date:	24 February 2022 17:11:41

Dear Sir/Madam,

Thank you for allowing some extra time to respond.

The following comments are provided in respect of the HRA screening report for the Green Volt Offshore Windfarm. I am aware that the Dee DSFB responded to the consultation on the scoping report, and it is important that the Dee, Spey and Esk DSFBs are fully involved in the HRA process going forward given that these SACs are identified in Section 5.5.

Information on the use of the marine environment by post smolts arising from rivers in the Moray Firth has been provided by the Moray Firth tracking project. Whilst salmon post smolts were not tracked out with the Moray firth, the significant use of the southern part of the Moray Firth is consistent with the proposed development site being used by salmon post smolts (and potentially returning adults) for a significant number of rivers. We would strongly recommend that the Atlantic Salmon Trust is contacted for more information. With this in mind, we consider that the River Moriston SAC and River Oykel SAC should also be scoped in to the HRA.

Section 5.3. makes reference to the National Research and Monitoring Strategy for Diadromous Fish. However, this process has largely been superseded by the ScotMER Diadromous Fish Specialist Receptor Group, which is concerned with evidence gaps related to the health, distribution, and impacts on Diadromous fish (salmon, sea trout, etc.). This group has worked together to identify and prioritise evidence gaps associated with consenting offshore renewable developments, which are detailed in the ScotMER diadromous fish evidence map (available here). It is notable that a number of the evidence gaps which have been prioritised in that process are scoped out of the HRA for the proposed development.

If MS-LOT are content for issues identified in the Diadromous fish evidence map to be scoped out of the current process, we consider that it is vital that a specific condition is included to ensure that the proposed development contributes to this wider work.

In section 5.3.1.3., paragraph 129, particle motion is recognised as a potentially important mechanism for effects relating to offshore developments such as wind energy, especially for those fish species more sensitive to particle motion than sound pressure. The section then concludes that an LSE is not likely. As set out above, we consider that there is potential for the proposed development site to be used by salmon post smolts from a significant number of rivers. We consider that more information is required to reach this conclusion and do not agree that these effects should be scoped out at this stage.

Similarly in section 5.3.1.5. disturbance of migratory fish from EMF has been scoped out. Work undertaken by MSS is referenced here, but we would emphasise that this work investigated behavioural/startle responses associated with EMPs, as opposed to more subtle impacts on the ability of salmon to use the Earth's magnetic fields for migration. Additionally, based on the assumption that salmon will not use the location of the site, this section focusses on nearshore

cables which will be buried. However, due to the floating nature of the proposed development, the cables arising from the turbines will be unshielded between the turbines and the seabed. On that basis, we do not consider that EMFs should be scoped out.

Please don't hesitate to contact me if you require any further information.

Kind regards,

Alan

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

Fraserburgh Harbour Comissioners

From:	Harbour Master
To:	MS Marine Renewables
Subject:	FW: SCOP - 0009
Date:	06 December 2021 12:23:56

We have nothing to add or remove from the scope of the EIA for the proposed works.

Rgds.
Thomas Boyle
Harbour Master
Fraserburgh Harbour Commissioners
Harbour Office
Shore Street
Fraserburgh
AB43 9BR
01346 515858

HES

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

By email to:
MS.MarineRenewables@gov.scot

Marine Scotland (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: 300055446
Your ref: SCOP-0009

14 February 2022

Dear Marine Scotland

The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
SCOP-0009 - Green Volt Offshore Wind Ltd - Green Volt - 75km East of the Aberdeenshire Coast
Scoping Report

Thank you for your consultation which we received on 03 December 2021 about the above scoping report. We have reviewed the details 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 (HMPAs).

The relevant local authority archaeological and cultural heritage advisors will also be able to offer advice on the scope of the cultural heritage assessment. This may include heritage assets not covered by our interests, such as unscheduled archaeology, and category B- and C-listed buildings.

Proposed Development
We understand that the proposed development comprises an offshore wind farm on the current location of the Ettrick and Blackbird oil field, 75km from the Aberdeenshire coast. It will consist of x30 12-16MW turbines of a standard market type and of unknown height. There will be two export cables; one to the Buzzard oil field 15km to the west of the proposed wind farm and a second cable would connect to the National Grid via a landfall site at Peterhead.

Scope of assessment
We welcome the thorough scoping exercise undertaken for the proposed development as set out in Section 7.4 of the Scoping Report and note it has been made with reference to our Managing Change guidance note on Setting (2016). Please note that this Guidance was updated in 2020 and can be accessed here. We are content that there has been a substantive review of historic environment baseline data from appropriate sources and that this is sufficient to underpin the forthcoming assessment. We welcome that the

Scoping Report proposes to assess both potential direct and indirect impacts on terrestrial and marine archaeology caused by the construction of the wind farm and export cable corridor. We consider the proposed methodologies appropriate.

We also welcome the proposal to ensure that appropriate mitigation is embedded into the scheme. As part of this, we would highlight the requirement for the preparation of a project specific Written Scheme of Investigation (WSI) with a Protocol for Archaeological Discoveries (PAD).

We note the potential for cumulative impacts on the setting of terrestrial heritage assets within our remit by the development of this wind farm in combination with other existing and proposed off-shore wind farms in the area. In this case, we would also recommend that cumulative impacts are carefully considered as part of your EIA assessment.

Further information
Guidance about national policy can be found in our 'Managing Change in the Historic Environment' series available online at www.historicenvironment.scot/advice-and-support/planning-and-guidance/legislation-and-guidance/managing-change-in-the-historic-environment-guidance-notes. Technical advice is available on our Technical Conservation website at https://conservation.historic-scotland.gov.uk/.
We hope this is helpful. Please contact us if you have any questions about this response. The officer managing this case is Samuel Fox and they can be contacted by phone on 0131 668 6890 or by email on samuel.fox@hes.scot.

Yours faithfully

Historic Environment Scotland

JNCC

From:	JNCC Offshore Industries Advice
To:	MS Marine Renewables
Subject:	RE: SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on Request for a Scoping Opinion – Response Required by 3 January 2022
Date:	03 December 2021 12:21:36

Dear Sir/Madam

Thank you for consulting JNCC on the Scoping Opinion Consultation for the Green Volt Wind Farm (SCOP-0009), which we received on 03/12/2021.

JNCC's role in relation to offshore renewables has been delegated to NatureScot. NatureScot is now authorised to exercise the 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. Therefore, NatureScot should provide a full response. As such JNCC have not reviewed this application and will not be providing further comment.

Please contact me with any questions regarding the above comments.

Kind regards,

Jon Connon

OIA Admin Officer

Marine Management Team

JNCC, Inverdee House, Baxter Street, Aberdeen, AB11 9QA

Tel: 01224 083522

Mobile [Redacted]

Email: jon.connon@jncc.gov.uk

jncc.gov.uk

JNCC have been monitoring the outbreak of COVID-19 closely and developed a response plan. As a result, the vast majority of our staff are working from home and adhering to the government's advice on social distancing and travel restrictions. Whilst we are taking these actions we are available for business as usual. We will respond to enquiries as promptly as possible. However, there may be some delays due to the current constraints and we ask for your understanding and patience.

MCA

Nick Salter
Maritime and Coastguard Agency
UK Technical Services Navigation

www.gov.uk/mca
21 December 2021

Marine Scotland - Marine Planning & Policy
Scottish Government, Marine Laboratory
375 Victoria Road, Aberdeen, AB11 9DB

Dear Sir/Madam

Green Volt Offshore Wind Ltd

Scoping Opinion Consultation Response

Thank you for the opportunity to comment on the Scoping Report for the Green Volt offshore wind farm. The MCA has reviewed the report provided by Floatation Energy, as detailed in your email dated 3 December 2021. The MCA's remit for offshore renewable energy development is to ensure that safety of navigation is preserved whilst progress is made towards government targets for renewable energy.

The EIA Report should supply detail on the possible impact on navigational issues for both commercial and recreational craft, specifically:

- Collision Risk
- Navigational Safety
- Visual intrusion and noise
- Risk Management and Emergency response
- Marking and lighting of site and information to mariners
- Effect on small craft navigational and communication equipment
- The risk to drifting recreational craft in adverse weather or tidal conditions
- The likely squeeze of small craft into the routes of larger commercial vessels.

A Navigational Risk Assessment (NRA) will need to be submitted in accordance with MGN 654 (and MGN 372) and the MCA's Methodology for Assessing the Marine Navigation Safety & Emergency Response Risks of Offshore Renewable Energy Installations (OREI). This NRA should be accompanied by a detailed MGN 654 Checklist which can be downloaded from the MCA website at https://www.gov.uk/guidance/offshore-renewable-energy-installations-impact-on-shipping

I note, in Table 7.6, that a vessel traffic survey will be undertaken to the standard of MGN 654 i.e. at least 28 days which is to include seasonal data (two x 14-day surveys) collected from a vessel-based survey using AIS, radar and visual observations to capture all vessels navigating in the study area.

The turbine layout design will require MCA approval prior to construction to minimise the risks to surface vessels, including rescue boats, and Search and Rescue aircraft operating within the site. If

a ‘worst-case’ layout is used within the NRA, the applicant should ensure it is a realistic layout design that complies with MGN 654 guidance. Any additional navigation safety and/or Search and Rescue requirements, as per MGN 654 Annex 5, will be agreed at the approval stage.

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. If cable protection measures are required e.g. rock bags or concrete mattresses, the MCA would be willing to accept a 5% reduction in surrounding depths referenced to Chart Datum. This will be particularly relevant where depths are decreasing towards shore and potential impacts on navigable water increase, such as at the HDD location.

Consideration of electromagnetic deviation on ships' compasses should be included within the assessment. The MCA would be willing to accept a three-degree deviation for 95% of the cable route. For the remaining 5% of the cable route no more than five degrees will be attained. The MCA may request a deviation survey post the cable being laid.

Under section 7.2.3.4, regulatory mooring expectations is identified as a potential mitigation and I can confirm this guidance should be followed and that a Third-Party Verification of the mooring arrangements will be required.

Particular consideration will need to be given to the implications of the site size and location on SAR resources and Emergency Response Co-operation Plans (ERCoP). 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. A SAR checklist will also need to be completed in consultation with MCA.

MGN 654 Annex 4 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. Failure to report the survey or conduct it to Order 1a might invalidate the Navigational Risk Assessment if it was deemed not fit for purpose.

On the understanding that the Shipping and Navigation aspects are undertaken in accordance with MGN 654 and its annexes, along with a completed MGN checklist, MCA is likely to be content with the approach. As this project progress, we would welcome engagement with the developers, and early discussion on the points raised above.

Yours faithfully,

[Redacted]

Nick Salter
Offshore Renewables Lead

NATS

From:	NATS Safeguarding
To:	MS Marine Renewables
Subject:	RE: SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on Request for a Scoping Opinion – Response Required by 3 January 2022 [SG32512]
Date:	20 December 2021 16:08:41
Attachments:	image001.png image002.png image003.png image004.png image005.png image006.png SG32512 Green Volt Offshore Wind Farm - TOPA - Issue 1.pdf

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Our Ref: SG32512

Dear Sir/Madam

We refer to the application above. The proposed development has been examined by our technical safeguarding teams and conflicts with our safeguarding criteria.

Accordingly, NATS (En Route) plc **objects to the proposal**. The reasons for NATS's objection are outlined in the attached report TOPA SG32512.

We would like to take this opportunity to draw your attention to the legal obligation of local authorities to consult NATS before granting planning permission. The obligation to consult arises in respect of certain applications that would affect a technical site operated by or on behalf of NATS (such sites being identified by safeguarding plans that are issued to local planning authorities).

In the event that any recommendations made by NATS are not accepted, local authorities are obliged to follow the relevant directions within Planning Circular 2 2003 - Scottish Planning Series: Town and Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) (Scotland) Direction 2003 or Annex 1 - The Town And Country Planning (Safeguarded Aerodromes, Technical Sites And Military Explosives Storage Areas) Direction 2002.

These directions require that the planning authority notify both NATS and the Civil Aviation Authority ("CAA") of their intention. As this further notification is intended to allow the CAA to consider whether further scrutiny is required, the notification should be provided prior to any granting of permission.

It should also be noted that the failure to consult NATS, or to take into account NATS's comments when determining a planning application, could cause serious safety risks for air traffic.

Should you have any queries, please contact us using the details below.

Yours faithfully

NATS

NATS Safeguarding
E: natssafeguarding@nats.co.uk
4000 Parkway, Whiteley,
Fareham, Hants PO15 7FL
www.nats.co.uk

Prepared by:
NATS Safeguarding Office

Technical and Operational Assessment (TOPA)

For

Green Volt Offshore

Wind Farm Development

NATS ref: SG32512

Issue 1

Contents

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Publication History

Issue	Month/Year	Change Requests and summary
1	December 2021	Scoping Request

Document Use

External use: Yes

Referenced Documents

1. Background

1.1. En-route Consultation

NATS en-route plc is responsible for the safe and expeditious movement in the en-route phase of flight for aircraft operating in controlled airspace in the UK. To undertake this responsibility it has a comprehensive infrastructure of RADAR's, communication systems and navigational aids throughout the UK, all of which could be compromised by the establishment of a wind farm.

In this respect NATS is responsible for safeguarding this infrastructure to ensure its integrity to provide the required services to Air Traffic Control (ATC).

In order to discharge this responsibility NATS is a statutory consultee for all wind farm applications, and as such assesses the potential impact of every proposed development in the UK.

The technical assessment sections of this document define the assessments carried out against the development proposed in section 3.

2. Scope

This report provides NATS En-Route plc's view on the proposed application in respect of the impact upon its own operations and in respect of the application details contained within this report.

Where an impact is also anticipated on users of a shared asset (e.g. a NATS RADAR used by airports or other customers), additional relevant information may be included for information only. While an endeavour is made to give an insight in respect of any impact on other aviation stakeholders, it should be noted that this is outside of NATS' statutory obligations and that any engagement in respect of planning objections or mitigation should be had with the relevant stakeholder, although NATS as the asset owner may assist where possible.

3. Application Details

Scottish Government submitted a request for a NATS technical and operational assessment (TOPA) for the development at Green Volt Offshore Wind Farm. It will comprise turbines with tip heights up to 270m within the boundary points as detailed in Table 1 as shown in the diagrams contained in Appendix B.

Points	Lat	Long	East	North
1	57.8324	-0.5112	488508	883509
2	57.9310	-0.5169	487934	894478
3	57.9310	-0.6714	478785	894288
4	57.9169	-0.6714	478816	892719
5	57.9169	-0.7079	476652	892677
6	57.8606	-0.7079	476772	886405
7	57.8606	-0.7472	474439	886362
8	57.8324	-0.7472	474497	883226

Table 1 – Turbine Details

4. Assessments Required

The proposed development falls within the assessment area of the following systems:

RADAR	Lat	Long	nm	km	Az (deg)	Type
Alanshill Radar	57.6431	-2.1655	47.0	87.1	72.6	CMB
Perwinnes Radar	57.2123	-2.1309	58.3	107.9	49.0	CMB
En-route Nav	**Lat**	**Long**	**nm**	**km**	**Az (deg)**	**Type**
None						
En-route AGA	**Lat**	**Long**	**nm**	**km**	**Az (deg)**	**Type**
None						

Table 2 – Impacted Infrastructure

4.1. En-route RADAR Technical Assessment

4.1.1. Predicted Impact on Alanshill RADAR

Using the theory as described in Appendix A and development specific propagation profile it has been determined that the terrain screening available will not adequately attenuate the signal, and therefore this development is likely to cause false primary plots to be generated. A reduction in the RADAR's probability of detection, for real aircraft, is also anticipated.

4.1.2. Predicted Impact on Perwinnes RADAR

Using the theory as described in Appendix A and development specific propagation profile it has been determined that the terrain screening available will not adequately attenuate the signal, and therefore this development is likely to cause false primary plots to be generated. A reduction in the RADAR's probability of detection, for real aircraft, is also anticipated.

4.1.3. En-route operational assessment of RADAR impact

Where an assessment reveals a technical impact on a specific NATS' RADAR, the users of that RADAR are consulted to ascertain whether the anticipated impact is acceptable to their operations or not.

Unit or role	Comment
Prestwick ATC	*Unacceptable*
Aberdeen ATC	*Unacceptable*

Note: The technical impact, as detailed above, has also been passed to non-NATS users of the affected RADAR, this may have included other planning consultees such as the MOD or other airports. Should these users consider the impact to be unacceptable it is expected that they will contact the planning authority directly to raise their concerns.

4.2. En-route Navigational Aid Assessment

4.2.1. Predicted Impact on Navigation Aids

No impact is anticipated on NATS' navigation aids.

4.3. En-route Radio Communication Assessment

4.3.1. Predicted Impact on the Radio Communications Infrastructure

No impact is anticipated on NATS' radio communications infrastructure.

5. Conclusions

5.1. En-route Consultation

The proposed development has been examined by technical and operational safeguarding teams. A technical impact is anticipated, this has been deemed to be unacceptable.

Appendix A – Background RADAR Theory

Primary RADAR False Plots

When RADAR transmits a pulse of energy with a power of P_t the power density, P, at a range of r is given by the equation:

$$P = \frac{G_t P_t}{4\pi r^2}$$

Where G_t is the gain of the RADAR's antenna in the direction in question.

If an object at this point in space has a RADAR cross section of σ, this can be treated as if the object re-radiates the pulse with a gain of σ and therefore the power density of the reflected signal at the RADAR is given by the equation:

$$P_a = \frac{\sigma P}{4\pi r^2} = \frac{\sigma G_t P_t}{(4\pi)^2 r^4}$$

The RADAR's ability to collect this power and feed it to its receiver is a function of its antenna's effective area, A_e, and is given by the equation:

$$P_r = P_a A_e = \frac{P_a G_r \lambda^2}{4\pi} = \frac{\sigma G_t G_r \lambda^2 P_t}{(4\pi)^3 r^4}$$

Where G_t is the RADAR antenna's receive gain in the direction of the object and λ is the RADAR's wavelength.

In a real world environment this equation must be augmented to include losses due to a variety of factors both internal to the RADAR system as well as external losses due to terrain and atmospheric absorption.

For simplicity these losses are generally combined in a single variable L

$$P_r = \frac{\sigma G_t G_r \lambda^2 P_t}{(4\pi)^3 r^4 L}$$

Secondary RADAR Reflections

When modelling the impact on SSR the probability that an indirect signal reflected from a wind turbine has the signal strength to be confused for a real interrogation or reply can determined from a similar equation:

$$P_r = \frac{\sigma G_t G_r \lambda^2 P_t}{(4\pi)^3 r_t^2 r_r^2 L}$$

Where r_t and r_r are the range from RADAR-to-turbine and turbine-to-aircraft respectively. This equation can be rearranged to give the radius from the turbine within which an aircraft must be for reflections to become a problem.

$$r_r = \sqrt{\frac{\lambda^2}{(4\pi)^3}} \sqrt{\frac{\sigma G_t G_r P_t}{r_t^2 P_r L}}$$

Shadowing

When turbines lie directly between a RADAR and an aircraft not only do they have the potential to absorb or deflect, enough power such that the signal is of insufficient level to be detected on arrival.

It is also possible that azimuth determination, whether this done via sliding window or monopulse, can be distorted giving rise to inaccurate position reporting.

Terrain and Propagation Modelling

All terrain and propagation modelling is carried out by a software tool called ICS Telecom (version 11.1.7). All calculations of propagation losses are carried out with ICS Telecom configured to use the ITU-R 526 propagation model.

Appendix B – Diagrams

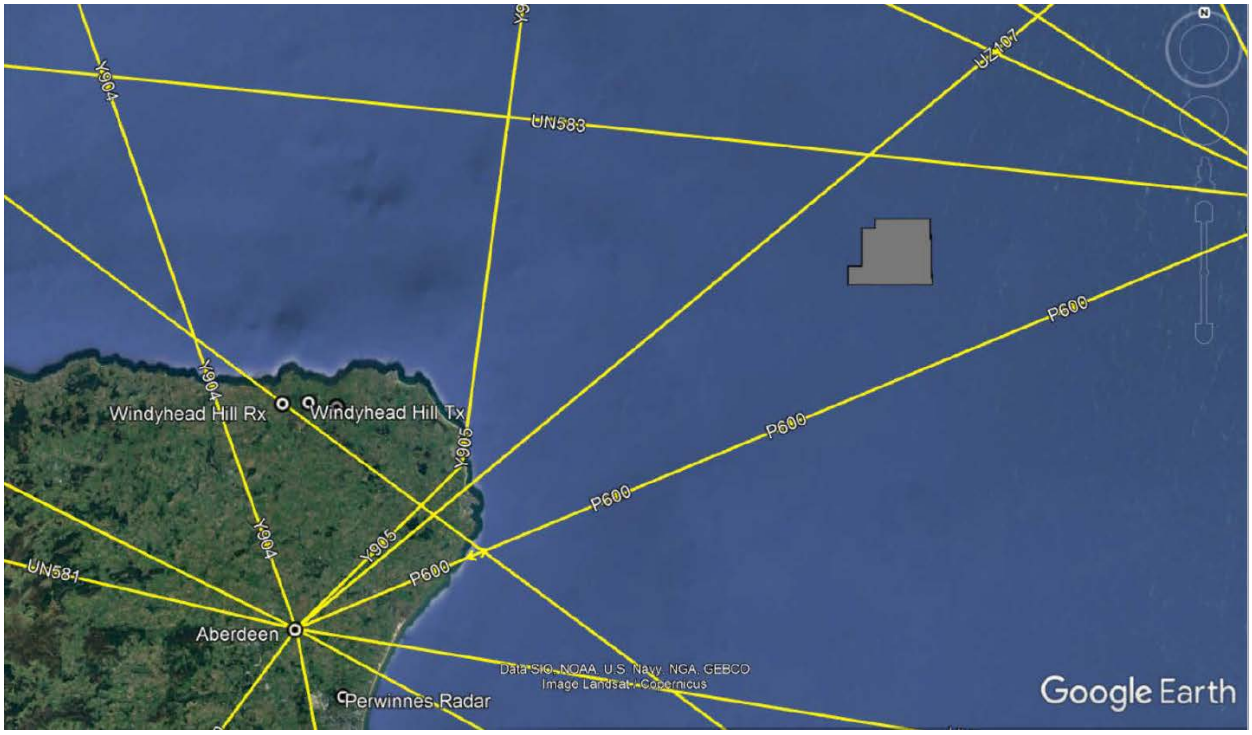

Figure 1: Proposed development location shown on an airways chart

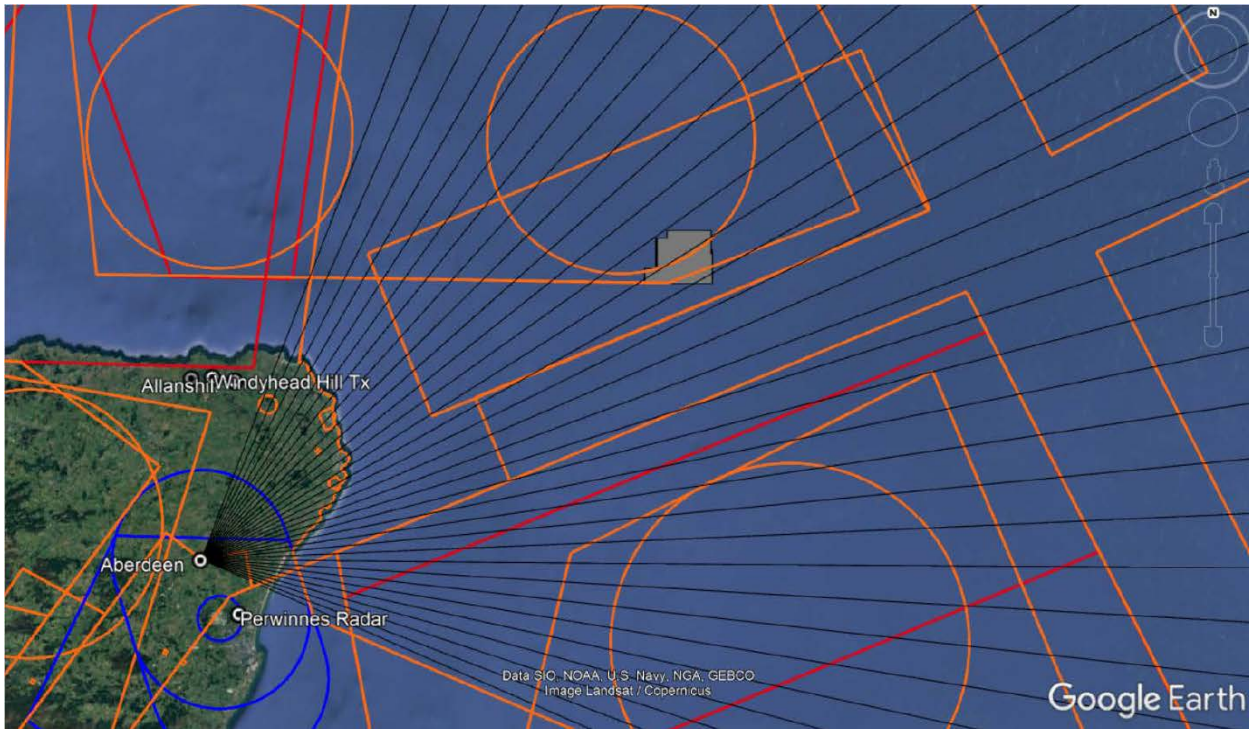

Figure 2: Proposed development shown alongside other recently assessed applications

consented/built | impact –accepted | impact –objection | mitigated
mitigation –proposed | no impact | refused/withdrawn

NatureScot

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

Stephanie Sweeting
Marine Scotland
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

27 January 2022

Our ref: CMS REN OSWF INTOG GreenVolt

By Email Only

Dear Stef,

GREEN VOLT OFFSHORE FLOATING WIND FARM PROPOSAL - INNOVATION AND TARGETED OIL AND GAS DECARBONISATION (INTOG)

NATURESCOT ADVICE ON EIA SCOPING AND HRA SCREENING REPORTS

Thank you for consulting SNH (hereinafter referred to as NatureScot) on the Environmental Impact Assessment (EIA) scoping and Habitats Regulations Appraisal (HRA) screening reports, submitted by Green Volt Offshore Wind Limited, for a wind farm project to be known as Green Volt Offshore Wind Farm.

Our advice on the natural heritage interests to be addressed within the Environmental Impact Assessment Report (EIA Report) and Habitats Regulations Appraisal (HRA) for this project, located 75 km east of the Aberdeenshire coastline, is outlined below.

We are grateful for the extension to the consultation deadline, which has enabled us to compile our advice for both the EIA scoping and the HRA screening.

Policy context

We are currently facing two crises, that of climate change and biodiversity loss and as the Scottish Government's adviser on nature, our work seeks to inspire, enthuse and influence others to manage our natural resources sustainably.

NatureScot works in support of the Scottish Government's vision for an energy sector that delivers secure, affordable and clean energy for Scotland[1]. We provide advice in the spirit of Scotland's National Marine Plan[2] which balances the promotion of the sustainable development of offshore wind, whilst protecting our biodiversity and taking account of seascapes, landscapes and visual impacts.

Proposal

The Green Volt project proposes to develop a floating offshore wind farm to facilitate a first of its kind decarbonisation of the oil and gas industry. This will be achieved through the complete electrification of the Buzzard oil and gas field (operated by CPEL) with the support of a fully connected grid connection back to the New Deer substation in Aberdeenshire. Green Volt will seek to acquire a site lease in accordance with the indicative INTOG Sectoral Marine Plan process.

The project area is to be located within the decommissioned Ettrick and Blackbird oil and gas developments, which ceased production in 2017 and are still undergoing final decommissioning activities. The site will cover an area of approximately 144 km^2. The location is 20 km away from the Buzzard platform complex.

The proposal, which is following a project design envelope approach, comprises:

- Up to 30 wind turbine generators, with a blade tip of 270 m above mean sea level and a blade clearance of 22 m above mean sea level. Each turbine will have a capacity of 10 – 16 MW.
- Floating substructures to support the wind turbines.
- Anchors and moorings securing the substructures to the seabed. It's most likely that a catenary mooring system with drag embedment anchors will be used. There will be up to six mooring lines per substructure.
- Up to 35 inter-array cables to collect power generated by the wind turbines. These will either be laid on the seabed or buried.
- Up to two offshore substation platforms. This will provide the marshalling point for the inter-array cables and the required voltage conversion transformers to enable export of electricity to the Buzzard facility and to the offshore export cable. The offshore substations are likely to be similar in scale and size as the standard offshore transmission substation. They will likely be supported on a jacket structure and pin piled to the sea floor.
- Up to three offshore export cables, one cable connecting the offshore substation to the Buzzard platform (~15 km in length) and up to two (dual redundant) cables connecting the offshore substation to the landfall location in Aberdeenshire (~90 km in length). It's expected that the dual redundant cables will run in close proximity and within the same cable corridor. The cables will be trenched, laid and buried. There will also be an onshore export cable (~30 km) which will connect to the offshore cable and will transmit power back to the onshore substation, where it will join to the UK grid. However, this aspect is not included in the offshore scoping report.
- Landfall, possibly north or south of Peterhead, with an onward connection the grid transmission and distribution network at New Deer substation in Aberdeenshire. Landfall is anticipated to be installed through horizontal directional drilling.
- A proposed 50 year lease period.

[1] Scottish Government Energy Strategy 2017: https://www.gov.scot/Publications/2017/12/5661/3
[2] https://www.gov.scot/Publications/2015/03/6517

The scoping report considers all of the offshore infrastructure of the proposed wind farm, seaward of Mean High Water Springs (MHWS), as does our advice. The applicant has prepared a separate onshore scoping report for the onshore infrastructure above Mean Low Water Springs (MLWS) and intends to submit separate consents, licences and permissions for the onshore elements.

We note, as per section 3.4, that should additional pre-construction licences be required, these will be discussed and agreed during the pre-construction phase of the proposed development. The EIA Report must make it clear what consents and licences are being sought for what activity and ensure all relevant information is provided to enable an assessment of the potential impacts, including where appropriate European Protected Species licensing.

Assessment approach

This is the first project of this nature in UK waters and as such, there are aspects of current EIA / HRA processes including tools and methods that may require further discussion, not least because of the distance from shore, but also its location within a decommissioning oil / gas field. We highlight in our advice below any aspects where we consider further discussion may be useful to help inform the assessment process.

Natural heritage interests to be considered

We refer you to our advice as detailed below within receptor-specific technical appendices for key natural heritage interests to be considered in the EIA Report:

- Advice on physical environment – specifically coastal processes is provided in **Appendix A**.
- Advice on benthic interests is provided in **Appendix B**.
- Advice on fish and shellfish interests is provided in **Appendix C**.
- Advice on marine mammal interests is provided in **Appendix D**.
- Advice on ornithological interests is provided in **Appendix E**.
- Advice on seascape landscape and visual impact assessment (SLVIA) is provided in **Appendix F.**

Habitats Regulations Appraisal (HRA)

An HRA screening report has been provided, as received on 14 December 2021, which we have reviewed alongside the scoping report.

Advice provided in **Appendix G** covers:

- Annex I habitats
- Diadromous fish interests
- Ornithological interests
- Marine mammal interests

Further information and advice

NatureScot will continue to provide further advice on natural heritage interests. We would recommend due to the novel nature of this project that a road map process is established as part of the pre application process, as work is undertaken by the applicant in support of their formal submission. Please contact myself, Jenna Lane, or Erica Knott in the first instance for any further advice.

Yours sincerely,

Jenna Lane

Marine Sustainability Adviser

Sustainable Coasts and Seas Activity

jenna.lane@nature.scot

[Redacted]

NATURESCOT SCOPING ADVICE FOR GREEN VOLT OFFSHORE WIND FARM

APPENDIX A – PHYSICAL ENVIRONMENT - COASTAL PROCESSES

Physical processes/environment are considered in Section 5 of the Green Volt EIA scoping report.

In Section 5.2.3 and Table 5.5, seabed scour is scoped out largely on the basis that no scour has been identified around existing or previous oil and gas installations in the area where the offshore wind farm is proposed. We agree with this in regard to the offshore wind farm area; however, it is not clear that the decommissioning activities will address drill arisings and therefore we recommend further consideration is given to what if any impact the establishment of the wind farm may have on previous drill arisings. In addition, it seems possible that scour could be an issue for parts of the export cable in or approaching the nearshore, where seabed marine energies are higher (see Fig 5.7 for tidal flow), and that the cable might require protection in this area by hard structures such as rock mattresses. We therefore recommend that scour (and any protection) should be scoped in for the export cable corridor.

The northern option for cable landfall, which could be trenched, appears to be at the bay of St Fergus, through a broad sandy beach and dune system. There is a history of trenched pipelines to the St Fergus terminal. We're not aware of any pipelines being re-exposed by storm erosion, but the EIA should take account of accelerating sea-level rise. It should consider the possibility of the cable landfall becoming re-exposed due to landward retreat of the beach (which is predicted for parts of the bay[3]). This is part of ensuring the development is resilient to climate change effects.

A re-exposed cable might be easily re-buried, but it might lead to demand for protective measures, which could in turn interrupt coastal sediment transport. If sufficiently close to Loch of Strathbeg SSSI, it is therefore possible that this interruption could affect the SSSI's nationally important coastal geomorphology and dependent habitats. Therefore, we recommend that natural re-exposure of a trenched landfall should be scoped in as a potential effect, with consideration given to identifying Loch of Strathbeg SSSI as a receptor.

Aside from the above, we are content with the scoping report - Section 5, including not undertaking coastal process studies for the offshore wind farm area.

[3] Mapping at www.dynamiccoast.com

APPENDIX B – BENTHIC INTERESTS

Benthic interests are considered in Section 6.1 of the Green Volt Scoping report.

Data and information sources

We understand that there was an additional site-specific survey in 2021. The results from this should be used to update the known occurrence and distribution of any Priority Marine Features (PMFs) and confirm conclusions made to date.

Existing environment

At both the offshore wind farm development site and export cable routes, potential Annex 1 habitats and Priority Marine Features (PMFs) have been identified. In addition, the export cable passes through the Southern Trench MPA.

In terms of scoping, the EIA should focus on the identification and distribution of PMFs and other habitats of importance[4]. Notably, the Scoping report mentions:

- 'sea pen and burrowing megafauna communities' habitat as defined by OSPAR (2010), were observed at all stations within the wind farm Site (likely to include PMFs).
- *Sabellaria spinulosa* with a bryozoan turf and barnacles on silty turbid circalittoral rock;
- *Sabellaria spinulosa* on stable circalittoral mixed sediment (although, at the time of survey, this was not classed as a reef). Note that Marine Scotland have published a guidance note on this species.)[5]
- *Urticina felina* and sand-tolerant fauna on sand-scoured or covered circalittoral rock (potential to support the Annex I habitat of bedrock reef or stony reef);
- *Echinocyamus pusillus*, *Ophelia borealis* and *Abra prismatica* in circalittoral fine sand (PMF);

Potential impacts

We agree with the list of potential impacts that have been scoped in as per Section 6.1.3.

We note that the Marine Evidence-Based Sensitivity Assessments (MarESA) on the Marine Life Information Network (MarLin) website will be used to judge the sensitivities of the benthic and intertidal habitats and communities during the construction, operation and decommissioning phases. We would also advise the use of FeAST[6] (Marine Scotland's Feature Activity Sensitivity Tool). The information in FeAST reflects our current understanding of the interactions between activities, pressures and features. It highlights that activities can give rise to a range of pressures which the protected features may be sensitive to.

The NorthConnect EIA Report (2018) also identified various habitats of interest that correspond to the location of the proposed Green Volt export cable corridor. The Green Volt Scoping report states that the

[4] Priority Marine Features in Scotland's seas - https://www.nature.scot/doc/priority-marine-features-scotlands-seas-habitats

[5] https://data.marine.gov.scot/dataset/status-sabellaria-spinulosa-reef-moray-firth-and-aberdeenshire-coasts-and-guidance

[6] FeAST - http://www.marine.scotland.gov.uk/feast/

NorthConnect consenting corridor was designed to exclude habitats of conservation value. The EIA for the GreenVolt development should also identify how these habitats can be avoided through micro-siting, etc.

Southern Trench MPA

Section 5.2.2.1 of the Scoping document states that '*the export cable route through the MPA predominantly passes through areas of gravelly sand, with some sections of slightly gravelly muddy sand and not the protected marine muds noted as the protected feature of the STMPA which are more predominant in the northern section of the MPA'.* We agree that this is the case for the burrowed muds, fronts and shelf deeps features. However, there may be areas of burrowed mud outwith the northern concentration and if possible the cable route should seek to avoid these. Advice contained within the Conservation and Management document for the Southern Trench MPA[7] for cables and pipelines:

- Reduce or limit pressures - Minimise the footprint of new cables and pipelines within areas of burrowed mud habitat. Early discussion of siting, design and construction is recommended to reduce the potential of impacts. Key details which should be discussed will include pre-application surveys, siting and installation techniques.

In addition, the entire MPA provides supporting habitats important for minke whale (e.g. supporting key prey species). The advice in the above document relating to habitats that support minke whales and cable and pipeline activities is:

- Reduce or limit pressures - Early discussion of siting, design and construction is recommended to reduce the risks of disturbance… This is also recommended to reduce potential impact on the habitat of sandeels.

Buchan Ness to Collieston Coast SAC/SPA

We confirm that if Horizontal Directional Drilling (HDD) is undertaken for the cable export option that passes through this site, then we agree there will be no significant impacts. However, if HDD cannot take place, further consideration of the impacts and sensitivity of impacts pathways will require addressing.

[7] https://apps.snh.gov.uk/sitelink-api/v1/sites/10477/documents/59

APPENDIX C – FISH AND SHELLFISH INTERESTS

Fish and shellfish interests are considered in Section 6.2 of the Green Volt scoping report. Our advice below focuses on those fish and shellfish species and where appropriate their associated habitat that are protected features of European sites or Nature Conservation MPAs as well as those that are of conservation importance including Priority Marine Features (PMFs) and key prey species. Please see Appendix G for HRA Screening advice.

Fish species

We appreciate that the proposal is largely for a floating wind farm site, however, there will still be underwater noise impacts and these should be scoped in and should include consideration of particle motion.

We advise Electromagnetic Fields (EMF) impacts should be scoped in, as there are likely to be EMF effects from both the export cables, and the dynamic inter-array cables. There is a longer-term need for a strategic research project considering EMF effects for all fish and invertebrates species through the ScotMER process.

NatureScot are currently working on adding fish species to the Feature Activity Sensitivity Tool (FeAST) - this work is due to be completed this financial year and should be published early next financial year.

A number of fish species are Priority Marine Features (PMFs) and consideration of impact to these species as PMFs should be included within the EIA Report.

We do not expect that fishing surveys are carried out as part of the baseline surveys, however, we do advise on the consideration of eDNA surveys to help give additional information to characterise the proposal for fish diversity, distribution and abundance. Whilst eDNA is a relatively novel survey approach and there are still some question over its effectiveness, it offers a non-destructive and relatively easy way to obtain data. It will also help identify what consideration is required for impact assessment purposes including any mitigation measures.

Diadromous fish

In terms of diadromous fish inclusion for consideration, we advise that Atlantic salmon, sea trout, European Eel and lamprey species are more likely to interact with this wind farm proposal than either the export cable or the wind farm site itself. Use of eDNA surveys may help clarify if these species are found within the wind farm site – see comments above.

We are unclear on the rationale around screening in / out impacts. Reference is made to Harding et al (2016)[8] and states that this research showed that the noise produced from piling activities from offshore wind farm construction does not appear to have significant effects upon the movement behaviour or physiological behaviour of Atlantic salmon, and individuals do not show a startle response or stress to this source of underwater noise. It also states that Atlantic salmon and lamprey are not considered to be sensitive to underwater noise. We do not agree with the interpretation that the research from Harding et

[8] Harding H., Bruinthes R., Radford A., N., Simpson S., D. (2016) Measurement of hearing in the Atlantic salmon (*Salmo salar*) using auditory evoked potentials, and effects of pile driving playback on salon behaviour and physiology. Scottish Marine and Freshwater Science Report Vol 7 No 11

al (2016) as showing that Atlantic salmon are not 'sensitive' to underwater noise, nor that this potential impact can be screened out.

It could be argued that the research by Harding et al (2016) demonstrated that Atlantic salmon did not flee from the vicinity of piling noise, although the sound level was above that which Atlantic salmon can detect, not that they are not vulnerable to impacts from piling noise. We would suggest that Harding et al (2016) indicated that soft start piling (as proposed in the HRA screening report) could be ineffective as mitigation to protect Atlantic salmon.

It's noted that in Section 7.7.2.7 of the Scoping Report that the potential for unexploded ordnance (UXO) within the Green Volt site and the export cable route is limited. If UXO is identified within the development area during surveying and cannot be avoided then we would suggest that potential impacts on diadromous fish should also be considered.

We therefore advise that underwater noise impacts should be screened in to the EIA Report for diadromous fish.

Marine fish and shellfish

We provide some commentary around marine fish species, particularly with regard to ecosystem functions and predator-prey interrelationships, however we advise that consideration of all aspects of marine fish and fishery interactions should be sought from Marine Scotland Science.

We are unclear on current fishing activity within the area - the landings data in Tables 6.3 and 6.4 indicate different results to that of NMPi VMS data which indicate the site is largely trawled for herring and nephrops. It will be important to be clear on what activity does take place within the site to enable consideration of any displaced fishing activity. It would also be helpful to consider the export cable route and any inshore fishing activity that may be affected.

There is little in this section to understand what consideration will be given to ecosystem effects, in particular the role of fish as prey species. It would be helpful to consider further potential impacts to both herring and sand eels as both are important prey species and the wind farm may impact on important seabed habitat. For example, what aspect of the development will cause disturbance and/or what consideration of micro-siting of anchors, etc. can be considered.

Marine Scotland Science are currently managing a research project to better identify spawning and nursery grounds in Scottish waters. As we understand it, this research should report in March 2022 and could be used to help inform the EIA for this project.

APPENDIX D – MARINE MAMMAL INTERESTS

Marine mammal interests are considered in Section 6.3 of the Green Volt Scoping report. Please see Appendix G for further information on those European sites which have marine mammal qualifying features.

Data and information sources

Site-specific monthly aerial surveys are being conducted for both marine mammals and seabirds, with the initial monthly survey undertaken in May 2020. Aerial surveys alone will not provide all of the required information due to the limited availability of animals being at the sea surface. We caution against using this data to generate marine mammal density estimates for the Project Area, however the data will provide a useful update to the existing information detailed in Table 6.11. In addition, we have not had sight of this monthly aerial survey plan so cannot comment whether it adequately covers the site and export cable corridor. We also suggest that any recent data from the ECOMMAS project is considered as this may help inform usage by cetaceans (porpoise and dolphins) in the near shore area.

Section 6.3.2.5 suggests that there are no data gaps for any marine mammals. However, the majority of the surveys have only been carried out in summer months meaning that there are seasonal gaps. The aerial surveys may help to fill these seasonal gaps depending on coverage.

Existing environment

We agree with the list of cetacean species given in Section 6.3.2. However, we recommend that humpback whale is included in the regularly seen list. There has been an increase in sightings of humpback whales in the North Sea from the Forth north to Shetland over the last few years.

Section 6.3.2.3 regarding reference populations mainly refers to the IAMMWG (2021) updated paper on Management Unit (MU). However, the figure given for the East Scotland bottlenose dolphin MU is incorrect. NatureScot recommends the use of 224 for the total bottlenose dolphin population in the East Scotland management unit[9].

In Section 6.3.2.6, four cetacean species are listed as key species being taken forward for assessment – harbour porpoise, bottlenose dolphin, white-beaked dolphin and minke whale. We suggest this list should only be finalised once the aerial surveys and any other baseline data investigation has been completed. We recommend that Atlantic white-sided dolphin is taken forward for assessment due the prevalence of this species forming mixed groups with white-beaked dolphin.

Potential impacts

We agree that all the suggested potential impacts during construction for marine mammals, as detailed in Section 6.3.3.1, are scoped in at this time. For underwater noise, some of the construction activities (particularly within 12nm) may require an EPS licence. We agree with the suggested potential impacts for the operation and maintenance phase, as detailed in Section 6.3.3.2. We note that this Section states "The potential for impacts from both EMF and change to water quality during operation have been scoped out.

[9] https://www.nature.scot/doc/east-coast-scotland-bottlenose-dolphins-estimate-population-size-2015-2019

This is consistent with other recent OWF projects". We advise that EMF is an issue that can't yet be scoped out especially if cables are not able to be buried.

Section 6.3.3.1.2 regarding vessel interaction mentions that marine mammals in the area will "be used to" the type of vessels expected to be used in the construction phase. Marine mammals do not stay resident in one area and may travel throughout the North Sea and beyond; and the scoping report gives no indication of the number of vessel movements expected- this will be required in the EIA Report. More information on the number and type of vessel movements will be required in the EIA Report and any potential impacts from this activity detailed in the marine mammal section.

As this is a floating wind proposal with dynamic cabling, consideration should be given to what will be done to review whether the inter-array cabling, anchor cables etc. will not post a risk of entanglement to cetacean species. We commissioned research in this area and would advise reference to our report: *Understanding the potential for marine megafauna entanglements from renewables marine energy development.*[10]

Approach to impact assessment

In Section 6.3.4.2 regarding impact assessment methodology for marine mammals, the JNCC guidance on EPS is referred to. This guidance only applies outwith 12nm. Within Scottish territorial waters different legislation and guidance needs to be adhered to[11]. This may have implications for Table 6.18 which shows the definitions of levels of magnitude for marine mammals.

Southern Trench MPA

Section 6.3.2.4.1 states that the supporting features of the minke whale are protected under the Conservation Objectives of the Southern Trench MPA. This has implications for the export cable. As mentioned in Appendix B – Benthic Interests, it's advised in the Conservation and Management document for the Southern Trench MPA[12] regarding cable and pipeline activities that in order to reduce or limit pressures, early discussion of siting, design and construction is recommended to reduce the risks of disturbance. This is also recommended to reduce potential impact on the habitat of sandeels.

Seal species

The nearest designated seal haul-out to the proposed landfall sites is the Ythan River Mouth, designated for grey seals, approximately 21 km away. We agree that this can be scoped out of further assessment given the distance away from the expected export cable landfall.

[10] https://www.nature.scot/doc/naturescot-commissioned-report-791-understanding-potential-marine-megafauna-entanglement-risk
[11] https://www.gov.scot/publications/marine-european-protected-species-protection-from-injury-and-disturbance/
[12] https://apps.snh.gov.uk/sitelink-api/v1/sites/10477/documents/59

APPENDIX E – ORNITHOLOGICAL INTERESTS

Ornithological interests are considered in Section 6.4 of the Green Volt Scoping report. Please see Appendix G for advice on European sites.

Section 6.4 provides a brief overview of some of the key principles in the ornithological assessment methodology. Overall we are content with the key points, however, we note there are many more detailed aspects to this which will require agreement. We query that Section 6.4 is entitled 'Offshore Ornithology', which is not wholly inclusive of the ornithological interests, as the assessment will include populations and assemblages of marine birds present at coastal designated sites and a cable corridor option that makes landfall within an SPA.

Study areas and baseline characterisation

Regarding site-specific surveys, Section 6.4.1.1, we are broadly content with the survey programme, noting that additional survey work is planned should the cable option within the SPA be chosen, although the duration of these surveys is not outlined.

We are content with the data sources and desk top study information provided.

We wish to see modelled abundance as produced by MRSea provided, as it would offer greater facility in understanding the variation in distribution in response to environmental variables. If this is not possible then design-based estimates will need to be used, but this should be checked and agreed with NatureScot and Marine Scotland in advance.

Potential impacts

Overall, we largely agree with the potential impacts set out in Section 6.4.3. More detail is provided within our HRA Screening advice in Appendix G. We note the impacts for which a quantitative assessment will be undertaken and confirm there is still a need to assess fully the remaining impacts e.g. disturbance effects from noisy construction / decommissioning activities, vessel activities etc.

Impact assessment

Overall we agree with the methods stated in Section 6.4.4. However, we note that the detailed methodology and scope of the impact assessment, and reference population sizes for each species, will be based on the best available information at the time of undertaking the assessment and will be subject to consultation with key stakeholders. We strongly advise that we are consulted on this to ensure it is agreed with sufficient time.

APPENDIX F – SEASCAPE, LANDSCAPE AND VISUAL IMPACT ASSESSMENT (SLVIA)

Seascape, landscape and visual resources are considered in section 7.1 of the Green Volt scoping report. Our advice does not cover the cultural heritage aspects as this is outwith our remit and advice should be sought from the relevant local authorities / Historic Environment Scotland in this regard.

Potential impacts

The proposed Green Volt offshore wind farm is located over 75km from the Scottish coastline. The 50km Zones of Theoretical Visibility (ZTV) assessment indicates that the development site is located well outside ZTV range of any coastal location. With regards to onshore export cable installation (below MHWS), this will be of a short-term nature and will use similar vessels regularly using the Port of Peterhead. Based on this information, we agree that no SLVIA is required as part of the EIA and that it can be scoped out of the assessment.

APPENDIX G – HABITATS REGULATIONS APPRAISAL – LIKELY SIGNIFICANT EFFECT SCREENING

We have reviewed the Habitats Regulations Appraisal (HRA) Stage 1 Screening Report (document reference: PC2483-RHD-ZZ-XX-RP-Z-0002) for the Green Volt offshore wind farm and provide advice, as outlined below, on those European sites and their qualifying features (QFs) for which we consider it reasonable to expect a likely significant effect (LSE) either alone or in-combination with other plans or projects. Our advice follows the same structure as laid out in the HRA screening report.

Annex I habitats

Identification of European Sites and Features

Identification of Annex I habitat features is considered in Section 4.1.1 of the Green Volt screening report.

We are content with the single site screened in for consideration of LSE - Buchan Ness to Colliston SAC.

Impact pathways and determination of Likely Significant Effect

Determination of likely significant effect for Annex I habitat features is considered in Section 4.3.

We agree with the justification provided to reach the conclusion that the proposed offshore works will have no LSE on the habitat interest of the SAC – vegetated sea cliffs.

Diadromous fish

Identification of European Sites and Features

Identification of sites and features regarding diadromous fish is considered in Section 5.1.1 of the Green Volt HRA screening report.

Section 5.1.1 of the HRA screening report correctly identifies Atlantic salmon, sea lamprey and river lamprey as the diadromous fish species most likely to be present in the vicinity of the development area.

Table 5.1, Section 5.1.1, of the HRA screening summarises the SACs that are screened into the HRA. We are content with this list of SACs to be taken forward for determination of LSE for Atlantic salmon, river and sea lamprey. We also advise the inclusion of freshwater pearl mussel (FWPM), for which Atlantic salmon are a host species during a critical parasitic phase of the mussels' lifecycle and so there is a need to consider indirect impacts upon this species to ensure populations are not adversely affected.

Impact pathways and determination of Likely Significant Effect

Section 5.3 of the HRA screening report discusses potential impacts on the relevant diadromous fish species and appears to conclude that all potential impacts are screened out, whilst Section 5.4 is an 'in combination' assessment and states that there is not anticipated to be LSE for sites beyond 90km from the development area. We are unclear on specifically what is represented by the in-combination assessment and also on the rationale for the 90km cut-off.

The HRA screening report does not appear to fully consider the timing of Atlantic salmon migration, in relation to potential impacts arising from relevant development activities. For example, in section 5.3, paragraph 122 states that "…from available data it may be assumed that the fish species are more likely to

be present in the Export Cable rather than the Wind farm Site…as information suggests that most of the adult migration time is spent swimming in shallow coastal and near shore waters…". The possibility that migrating Atlantic salmon smolts could pass through the development area during the spring months is not reflected. Available research on Atlantic salmon behaviour at sea would indicate that ceasing relevant noisy activities (such as piling) during the hours of darkness through the period when high numbers of young Atlantic salmon could be migrating could help to mitigate potential impacts from noise. Before concluding that impacts from noise can be screened out, we would have expected the consultation document to consider in more depth the available research on diadromous fish behaviour in the marine environment and the sensitivity of these species to relevant activities. However, we do note that Section 5.3.1.3 paragraph 128 states that limited piling will be required (over approximately 36 hours) and that the piling will take place around 75 km offshore, which (if this reflects total piling time) does represent a short timeframe within which fish could be exposed to potential impacts from piling noise.

We note that in Section 5.3.1.5 (paragraphs 132 – 137) it is proposed to screen out Electromagnetic Field (EMF). Recent research on EMF effects[13] from underwater cables concluded that there remain significant knowledge gaps on the effects of EMF on fish. This is likely to be addressed through a strategic project via ScotMER in the longer term. However, we would advise that EMF is screened in to the HRA and the assessment considers the most recent available information on the behaviour of diadromous fish species in the marine environment. We note that the HRA screening report states that the possible export route options are located 37 km from the closest SAC with diadromous fish species (River Dee SAC) and given present knowledge on migratory routes and behaviour (including depth use), it is possible that EMF effects would not be expected to adversely affect relevant fish species. However, this should be considered and presented within the assessment.

Marine mammals

Identification of European Sites and Features

Table 6.2 in Section 6.5 of the Green Volt HRA Screening report identifies the designated sites where marine mammals are a qualifying feature (or feature of interest) screened into the HRA for further assessment.

The Southern North Sea SAC has been screened in for harbour porpoise. We would recommend that this SAC is screened out of the HRA for further assessment due to its distance (273km) from the proposed development. Since there is not a resident population for this harbour porpoise SAC, the purpose of this designation is to protect the environment in and adjacent to the SAC.

We agree that the Moray Firth SAC should be screened in for the bottlenose dolphin feature and potential impact pathway from the installation of the export cable. Isle of May SAC and Faray and Holm of Faray SAC for grey seal, and Firth of Tay and Eden Estuary SAC and Dornoch Firth and Morrich More SAC for harbour seal should all be screened out for further assessment as the proposed wind farm activities are not within relevant distances to require further consideration.

[13] Herve, L. (2021). An evaluation of current practice and recommendations for environmental impact assessment of electromagnetic fields from offshore renewables on marine invertebrates and fish. A dissertation submitted by Lucie Hervé to the Department of Civil & Environmental Engineering, University of Strathclyde, in part completion of the requirements for the Erasmus Mundus Joint Master Degree *Renewable Energy in the Marine environment*.

Impact pathways and determination of Likely Significant Effect

Table 6.1 in Section 6.2 of the HRA Screening report shows a summary of the potential impacts to marine mammals screened into the HRA. The table states that there will be no disturbance to seal haul-out sites during construction, operation and maintenance and decommissioning, and that this impact is therefore screened out. We agree that no seal SACs require to be screened in for further consideration.

Ornithology

In line with Scottish Government policy[14] Ramsar sites are protected by whatever underpinning designation is relevant to the particular feature(s).

Identification of European Sites and Features

Marine SPAs

We agree that the closest marine SPA is Moray Firth, which is 54.4km away from the proposed cable corridor and can be screened out.

Breeding seabird SPAs

We agree that as the landfall locations of the southernmost of the proposed export cable corridors overlap with Buchan Ness to Collieston Coast SPA, that all qualifying features of this SPA are screened in. We also would advise based on experience of previous proposed HDD works in this SPA, that the following aspect should be considered further:

- onshore elements of the HDD operation are not likely to have a significant effect on the SPA if the operation is carried out outside the seabird breeding season
- the element of the project which has greatest potential to cause disturbance to breeding seabirds is work carried out at the seaward HDD emergence point ...
- our knowledge of seabird behaviour at this colony, suggests that it is likely that work at the emergence point during the breeding season would probably cause disturbance to a substantial proportion of the breeding seabirds of the SPA. Disturbance to seabirds using the waters of the marine section of the SPA would also have to be considered.

We note that the HRA screening document has been written based on the data from digital aerial surveys undertaken May to September 2020, noting that a two year dataset was absent at the time of the report. We do not consider that the numbers of birds on site should be used at this stage to determine LSE; rather identifying the sites and features with theoretical connectivity and any impact pathways.

We notice from paragraph 177, section 7.1.1.2.1 and Table 7.1 that distance from the proposed development to SPA has been measured using the straight line distance. However, additional context has been provided for connectivity on the 'at-sea' distance for seabird species (excluding gulls that can travel significant distances over land). We are content to screen out those sites and species as listed in paragraph 178 on this basis.

[14] https://www.gov.scot/publications/implementation-of-scottish-government-policy-on-protecting-ramsar-sites/

However, we are currently developing guidance on connectivity in the breeding season, which includes site specific exceptions for two species. The mean max +1SD also encompasses almost all site specific maximum values, with the exception of single SPAs for northern fulmar, Manx shearwater, black-legged kittiwake, common tern, Arctic tern, common guillemot and razorbill and three SPAs for northern gannet. Woodward *et al*. (2019) identify that there are concerns that the maximum values may not reflect the conditions typically faced by birds at a given breeding colony, e.g. if local food supplies are depleted or if the colony includes failed breeders. They recommend when determining whether to incorporate such data into assessments, it is important to consider how regularly species at an SPA may experience depleted local food conditions, and whether other SPAs may be experiencing similar conditions. We have therefore considered two exceptions where site specific data presents a more robust evidence base:

1. Tracking on Fair Isle showed foraging distances are greater than those of all other colonies, for both common guillemot and razorbill. This may relate to poor prey availability during the study. However, trends for seabirds in the Northern Isles indicate this may be becoming a more frequent occurrence. We therefore recommend for common guillemot and razorbill:
    - Use of mean max+1SD, including data from Fair Isle for all Northern Isles designated sites.
    - For all designated sites south of the Pentland Firth (i.e. excluding the Northern Isles, use of mean max+1SD discounting Fair Isle values.
2. In the case of gannet, where three separate sites have exceeded the mean max, we advise a more prescriptive screening approach – see below:

Table 1. Exceptions to recommended foraging ranges

Species	**Exception Applied**	**Recommended Foraging Range (km)**	**Metric**
Northern gannet	Forth Islands SPA	590	Max
	Grassholm SPA	516.7	Max
	St Kilda SPA	709	Max
Common guillemot	All Northern Isle SPAs	153.7	MM+SD
Razorbill	All Northern Isle SPAs	164.6	MM+SD

We also note the figure for Common tern is incorrect and should be 18.0 + 8.9.

Consideration has been given to all breeding seabird colony SPAs on the east coast of Scotland and north (including Orkney and Shetland) and northwest Scotland with 34 sites located within the mean-max foraging range plus 1 standard deviation (SD) screened into the initial list (as per Woodward et al. 2019) (Table 7.2). We agree that consideration of the at-sea distance has been applied for kittiwake (from Shiant Isles SPA and North Rona and Sula Sgier SPA) and Manx shearwaters (from St Kilda SPA).

We disagree that great skua and Leach's storm petrels (at SPAs listed in paragraph 182), have been screened out on the basis that they were recorded infrequently or in low numbers as this has been

undertaken without consideration of the full 2 years of survey data (as per paragraph 183). We also note that both European storm petrels and Leach's storm petrels can be harder to detect in DAS. Therefore we recommend other data sources including ESAS data, tracking studies and other spatial studies such as MERP maps (Waggitt et al. 2019).

Non-breeding season seabird connectivity

Any UK SPA contributing birds to the BDMPS for the non-breeding season assessment should be screened in and taken forward for determination of likely significant effect – we consider that a step has been missed here and consideration of adverse effect on site integrity is being pre-judged. We advise the HRA supporting documentation provides evidence to support the conclusion of whether or not there is a likely significant effect and not to exclude species where no adverse effect on site integrity is assumed. Likely significant effect is where there is a plausible pathway to impact, and that it would result in a significant impact (i.e. mortality of individuals, or productivity loss due to prevention of successful breeding). It is for the Competent Authority to determine if no adverse effect on site integrity can be concluded, based on the evidence supplied.

Migratory water birds

We are content with the 22 SPAs for migratory water bird features that have been screened in as per Table 7.4.

Impact pathways and determination of Likely Significant Effect

We advise that going forward in the HRA that disturbance and displacement effects should be separated out, but understand why they have been grouped together for both construction, and operation and maintenance phases.

Potential collision risk to migratory water birds and seabirds on passage should be assessed with reference to the site specific survey results and the approach outlined in the Marine Scotland commissioned report on strategic assessment of collision risk of Scottish offshore wind farms to migrating birds (Marine Scotland, 2014)[15]. This should also take account of any update via the ScotMER project on the strategic review of migratory routes.

Paragraph 227 discounts some seabird SPA populations due to contributions towards BDMPS, we have advised above this step is premature for LSE screening.

Section 7.2.2 has omitted consideration of water clarity/suspended sediment.

Table 7.5 – LSE Matrix for Buchan Ness to Collieston Coast SPA

Disturbance/Displacement has been excluded for gulls with regard to offshore development, however we advise this should be screened in for construction and decommissioning activities at the breeding colony.

[15] Scottish Marine and Freshwater Science Volume 5 Number 12: Strategic assessment of collision risk of Scottish offshore wind farms to migrating birds, report available from: http://www.gov.scot/Resource/0046/00461026.pdf

Tables 7.8-7.38 Seabird assemblage (breeding)

While we agree that where LSE is identified for a named assemblage feature then there is LSE for the seabird breeding assemblage, however for clarity it would be useful to specify which of these are named assemblage features. For advice on fulmar and great skua see below. We are content that disturbance / displacement effects have been screened out for all gull species (with the exception of Buchan Ness to Collieston Coast - see above) and screened in for seabird species including gannet. All species likely to be at risk of collision have been screened in. We agree with the species screened in for barrier to movement during the operation and maintenance phase. All seabirds and gull species have been screened in for changes to prey across and in-combination effects across all phases.

Tables 7.8, 7.9, 7.10, 7.11, 7.13, 7.14, 7.17, 7.18, 7.19, 7.21, 7.23, 7.24, 7.25, 7.29, 7.30, 7.31, 7.32, 7.33, 7.34, 7.35, 7.36, 7.37, 7.38 - LSE matrices for sites with breeding fulmar as a QF (excluding Table 7.5)

Fulmar are expected to be able to absorb the loss of a potential foraging site as they have such large foraging ranges and can find alternative areas. We agree therefore with that the following SPAs can be screened out across all impact pathways: Troup, Pennan and Lion's Head, Fowlsheugh, East Caithness Cliffs, North Caithness Cliffs, Copinsay, Hoy, Fair Isle, Calf of Eday, Rousay, West Westray, Cape Wrath, Sumburgh Head, Handa, Coquet Island, Noss, Foula, Shiant Isles, North Rona and Sula Sgeir, Fetlar, Hermaness, Saxa Vord and Valla Field, Flamborough and Filey Coast, St Kilda.

Table 7.14, 7.31, 7.34, 7.35 - LSE matrices for breeding sites with great skua as a QF

Subject to confirmation of presence from the 2 years of survey data, we are content that great skua are only likely to interact with the development during the passage periods. Therefore we agree with the approach to screen in collision and in-combination effects (Hoy, Foula, Fetlar and Hermaness, Saxa Vord and Valla Field SPAs), and screened out for all other impact pathways.

Table 7.41-7.60 LSE Matrices for sites with migratory water birds as QFs.

We agree with the approach where geese and migratory water bird qualifying features have been screened in for collision and barrier to movement during the operation and maintenance phase, but screened out for all other impact pathways.

NLB

Northern Lighthouse Board

84 George Street
Edinburgh EH2 3DA

Tel: 0131 473 3100
Fax: 0131 220 2093

Website: www.nlb.org.uk
Email: enquiries@nlb.org.uk

Your Ref: SCOP-0009
Our Ref: AL/OPS/ML/O6_21_700

Ms Stef Sweeting
Marine Licensing Casework Officer
Marine Scotland – Marine Planning and Policy
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

3 December 2021

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 AND MARINE LICENCE APPLICATIONS FOR THE GREEN VOLT OFFSHORE WINDFARM LOCATED 75 KILOMETRES EAST OF THE ABERDEENSHIRE COAST

REGULATION 14 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017
REGULATION 12 OF THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017
REGULATION 13 AND SCHEDULE 4 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2007

Thank you for your e-mail correspondence dated 3rd December 2021 relating to the request to review the Scoping Report submitted by **Green Volt Offshore Wind Limited** for the proposed development of a floating windfarm, approximately 75km East of the Aberdeenshire Coast.

Northern Lighthouse Board note the inclusion within Section 7 of a proposal to engage with both NLB and MCA regarding Lighting and Marking across both the construction and Operational phases of the windfarm.

Northern Lighthouse Board have no objection to the content of the Scoping Report.

Yours sincerely
[Redacted]

Peter Douglas
Navigation Manager

NorthConnect

NORTHCONNECT
CONNECTING RENEWABLES

Project : **NorthConnect**
Subject : **Green Volt Windfarm Scoping Report**
Reference : **SCOP-0009**
Our reference : **NCGEN-LE-NCT-MSC-0008**

Dear Ms Sweeting,

I have reviewed the "Green Volt Offshore Windfarm – Offshore Environmental Impact Assessment(EIA), Offshore Scoping Report," prepared by Royal Haskoning of behalf of Flotation Energy and CNOOC Petroleum Europe Ltd (CPEL), for the joint proposal to develop the Green Volt floating offshore windfarm. Our comments are aimed at issues which have a direct effect or overlap with the NorthConnect project. For the purpose of transparency, it should be noted that as mentioned within the scoping report NorthConnect are assisting the project by providing relevant baseline information from the NorthConnect project. NorthConnect welcome the proactive dialogue with the project team with regard to sharing data, with the aim of developing decarbonisation projects while minimise adverse environmental impacts.

Sections 7.4.3.1 Potential Impacts During Construction and 7.4.3.4 Potential Cumulative Impacts with regards to Archaeology, put a level of reliance on the NorthConnect mitigation. It is understood the Green Volt cable may be laid within the consented NorthConnect corridor, which is nominally 500m wide, although it has been surveyed this does not preclude the potential for unexpected or incidental finds. Hence, NorthConnect have a protocol for archaeological discoveries in place for cable installation works. However, the actual cable lay footprint will be much narrower than the consented corridor and any unexpected or incidental finds during construction will be limited to the cable lay area. As such it should not be assumed that where the Green Volt cable will be laid will be free from archaeological artifacts, therefore Green Volt will need to have their own appropriate mitigation in place to manage archaeology finds. It should be noted that cumulative impacts will be the responsibility of Green Volt to assess as the NorthConnect EIA process is now complete.

With regards to Electromagnetic Field (EMF) impacts, if Green Volt are to use the NorthConnect cable corridor or be close to it, the cumulative impacts of EMF should be modelled and clearly considered within the EIA Report. This is to allow for the assessment of impacts on ecological receptors including benthic and fish ecology with potential knock-on implications for the fishing sector and navigation. Significant cumulative effects are not expected however, there is a need for transparency to be clearly demonstrated to stakeholders that EMF has been appropriately considered.

Finally, although not directly related to NorthConnect, we would suggest that the potential use of Acoustic Deterrent Devices (ADD) as mitigation if piling is carried out, as mentioned in Section 2.4 Construction notes, needs careful consideration. It should be clear why this mitigation is required, taking account of the potential for ADDs to potential cause harm in their own right.

Yours sincerely,
[Redacted]

Fiona Henderson
UK Permitting Lead

Ofcom

From: Spectrum Licensing
To: MS Marine Renewables
Subject: SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt
Date: 06 December 2021 08:51:39

Dear Sir / Madam,

Thank you for contacting Ofcom.

In reply to your email, please note that Ofcom no longer replies to these requests.
The windfarm process as originally developed was aimed at putting a windfarm developer and potentially impacted fixed link licensees in contact with each other. Beyond this Ofcom did/does not have any further involvement or enter into the co-ordination / planning discussions between the concerned parties.
The same applies now that the fixed link licence information in the Ofcom managed and co-ordinated bands is provided via the Spectrum Information System. i.e. Ofcom does not enter into the discussions between windfarm and fixed link operators.
It should also be noted that while Ofcom provides information via the Spectrum Information System there are a number of bands that are now awarded on a block basis i.e. these bands are managed and assigned by the licensees themselves and the individual link information is not published on the SIS.
Further information on these bands and the licensees details can be found here:
https://www.ofcom.org.uk/manage-your-licence/radiocommunication-licences/mobile-wireless-broadband/above-5ghz
The location of published licences is located on the Wireless Telegraphy Register so you should perform your search there however not all fixed links masts are detailed on this service as above.
Wireless Telegraphy Register:
https://www.ofcom.org.uk/spectrum/information/spectrum-info-faq/wtr#:~:text=The%20Wireless%20Telegraphy%20Act%20Register,the%20Wireless%20Telegraphy%20Act%202006
We will be updating the website and will advise once this has been done.
If you have any further queries please do not hesitate to contact the Spectrum Licensing Team on 020 7981 3131 or via email at spectrum.licensing@ofcom.org.uk.

Yours sincerely,

Ofcom Spectrum Licensing
Spectrum.licensing@ofcom.org.uk

ref:_00D58H42o._5004I1KeL1n:ref

Oil and Gas Authority

From:	Stuart Walters (Oil & Gas Authority)
To:	MS Marine Renewables
Subject:	SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on Request for a Scoping Opinion – Response Required by 3 January 2022
Date:	17 December 2021 16:32:09
Attachments:	image001.png

Good Afternoon,

To confirm a nil return from the OGA on this scoping report.

Thanks,

Stuart Walters
Senior Policy Manager - Energy Transition Policy
E: stuart.walters@ogauthority.co.uk
T: [Redacted]
Follow us on Twitter @OGAuthority

RSPB

giving nature a home
rspb Scotland

Stef Sweeting
Marine Licensing Casework Officer
Marine Scotland

By email: ms.marinerenewables@gov.scot

27 January 2022

Dear Ms Sweeting,

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) SCOPING AND HABITATS REGULATIONS APPRAISAL (HRA) SCREENING OPINION REQUEST FOR GREEN VOLT OFFSHORE WINDFARM

RSPB Scotland welcomes this opportunity to comment on the scoping and screening reports for Green Volt Offshore Windfarm proposal.

RSPB Scotland are supportive of the use of renewable technology. It must however be carefully located to avoid negative impacts on sites and species of conservation importance. We note the purpose of this windfarm would be to help decarbonise oil and gas extraction. This in itself is not unwelcome, but RSPB believe that in order to limit global temperature rise we must phase out the use of fossil fuels. Decarbonisation of oils and gas should not be used to expand oil and gas production. That electrification of extraction will not reduce the amount of greenhouse gases emitted if that oil and gas is combusted to provide fuel or electricity.

We have serious concerns over the potential risks offshore wind projects pose to seabird populations both individually and cumulatively. We also have serious concerns about the potential for in-combination impacts with other offshore proposals. We believe the consented projects in the Moray Forth, those granted lease agreements under Scotwind, and sites identified in the draft Sectoral Marine Plan round for Offshore Wind for Innovation and Targeted Oil and Gas Decarbonisation (INTOG) are all of relevance to be considered with this project.

To assess the risks to seabirds adequately, use must be made of the latest and best available science. We agree the proposal is likely to have a significant effect on the conservation objectives of several protected sites and species. As identified in the submitted documents, an Appropriate Assessment (AA) to assess the likely significant effects of the proposal in more detail and identify ways to avoid or minimise any effects is therefore required.

We have provided detailed comments in the Annex below. These are relevant to both the EIA Scoping and HRA Screening opinion requests. We have focused our attention on ornithological issues (Chapters 7 in the HRA screening report and section 6.4 of the EIA screening).

Please do not hesitate to contact me if you require any further information or clarification.

Yours sincerely,

Catherine Kelham
Senior Marine Conservation Planner

RSPB Scotland Headquarters
2 Lochside View
Edinburgh Park
Edinburgh
EH12 9DH

Tel: 0131 317 4100
Facebook: RSPBScotland
Twitter: @RSPBScotland
rspb.org.uk/Scotland

Annex: RSPB Scotland Comments

We generally agree with the proposed assessment methods but have the following comments

Surveys

- We welcome the two-year programme of monthly digital aerial surveys of the windfarm sites. We note these started in May 2020 and are due to be completed in April 2022.
- It would be helpful if the surveys could be extended over the full 2022 breeding season and ended at the start of the non-breeding season (1st September). This way analysis can be taken for two complete breeding and non-breeding seasons.

Species of Interest

- This project is located within a higher usage area of UK kittiwakes, guillemots, and razorbills based on tracking data (see Wakefield *et al.* 2017[1]).
- We are concerned with the scoping out of Leach's storm-petrel. Although a relatively old resource, "*An Atlas of seabird distribution from north-west European waters*"[2] shows there have been recordings of Leach's Storm Petrel in this area. As however current evidence suggests that birds from the nearest colonies are likely to forage at the continental shelf, we believe it more likely these are sighting of non-breeding birds. This, combined with the birds being very small size and dark in colour may explain why they have not been picked up in an aerial survey to date. A qualitative narrative relating to the species present in the area and their behaviour throughout the year should be presented.

SPA Connectivity

- We encourage the adoption of a precautionary approach to the identification of relevant sites for seabirds with clear methodology on the exclusion of sites and species.
- We welcome using foraging ranges as published in Woodward *et al*. (2019)[3] to derive connectivity with SPA colonies. We would also recommend that site specific data are examined and where the maximum foraging range from the colony exceeds the generic value, that the site-specific value is used.
- The exceptions to this are for common guillemot and razorbill. Tracking on Fair Isle showed foraging for both common guillemot and razorbill distances are greater than those of all other colonies. This may relate to poor prey availability during the study. However, trends for seabirds in the Northern Isles indicate this may be becoming a more frequent occurrence. For all designated sites south of the Pentland Firth (i.e. excluding the Northern Isles), we advise use of mean max +1SD discounting Fair Isle values. For clarity, North Caithness Cliffs SPA is considered to lie south of the Pentland Firth.

	All Northern Isle SPAs	**All sites south of Pentland Firth**
Common guillemot	153.7 mm +SD	95.2 mm +SD
Razorbill	164.6 mm +SD	122.2 mm +SD

Disturbance and Displacement

- We advise use of the SeaBORD modelling tool, supported by a matrix approach where SeaBORD is not applicable.

[1] Wakefield, E.D., Owen, E., Baer, J., Carroll, M.J., Daunt, F., Dodd, S.G., Green, J.A., Guilford, T., Mavor, R.A., Miller, P.I., Newell, M.A., Newton, S.F., Robertson, G.S., Shoji, A., Soanes, L.M., Votier, S.C., Wanless, S. and Bolton, M. (2017), Breeding density, fine-scale tracking, and large-scale modeling reveal the regional distribution of four seabird species. Ecol Appl, 27: 2074-2091

[2] (PDF) An atlas of seabird distribution in north-west European waters (researchgate.net)

[3] Woodward, I., Thaxter, C.B., Owen, E. and Cook, A.S.C.P. (2019). Desk-based revision of seabird foraging ranges used for HRA screening. BTO Research Report No. 724, British Trust for Ornithology, Thetford. ISBN 978-1-912642-12-0.

- We welcome further discussion around displacement and mortality values to be used in the model.

Collision Risk

- It is proposed to use the deterministic Band model (Band 2012), and/or the stochastic model (McGregor 2018), and the migratory birds collision risk tool for migratory species (Wright et al. 2012);
- In relation to the Band model, Option 2 and Option 3 of should use flight height distribution from Johnson et al. (2014)[4] with corrigendum.
- In relation to use of the stochastic CRM shiny app developed by Marine Scotland Science, we recommend the full output reports are provided.
- We welcome further discussion on the model options used and parameterisation of them.

Population Consequences

- Where apportioned impacts are large and / or the SPA populations are small, it is likely that population models will be required to establish whether or not there could be long-term impacts on population viability
- We agree with use of the NE population tool (Searle et al. 2019[5]). We advise the two-ratio metrics [6] which are generally termed 'Counterfactual of final population size' and 'Counterfactual of population growth-rate' are be presented.

Avoidance rates

- We welcome use of avoidance rates based on Cook *et al.,* (2014)[7] with the exception of breeding season gannet.
- We welcome further discussion around this point.

[4] Johnston, A., Cook, A., Wright, L., Humphreys, E. and Burton, N. (2014). Modelling flight heights of marine birds to more accurately assess collision risk with offshore wind turbines. Journal of Applied Ecology. 51. 10.1111/1365- 2664.12191

[5] Searle, K., Mobbs, D., Daunt, F. & Butler, A. 2019. A Population Viability Analysis Modelling Tool for Seabird Species. Natural England Commissioned Reports, Number 274.

[6] Cook, A.S.C.P. & Robinson, R.A. 2016. Testing sensitivity of metrics of seabird population response to offshore wind farm effects. JNCC Report No. 553. JNCC, Peterborough

[7] Cook, A. S. C. P., Humphreys, E. M., Masden, E. A., & Burton, N. H. K. (2014). The avoidance rates of collision between birds and offshore turbines. Scottish Marine Freshwater Sci 5 (16): 247 pp. Edinburgh: Scottish government.

RYA

RYA Scotland

Royal Yachting Association Scotland

Caledonia House
1 Redheughs Rigg
South Gyle
Edinburgh
EH12 9DQ

T +44 (0)131 317 7388
E admin@ryascotland.org.uk
W www.ryascotland.org.uk

21 December 2021

Case Officer, Marine Scotland – Marine Planning and Policy
Scottish Government, Marine Laboratory,
375 Victoria Road, Aberdeen,
AB11 9DB, ms.marinerenewables@gov.scot

Dear Stef,

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 AND MARINE LICENCE APPLICATIONS FOR THE GREEN VOLT OFFSHORE WINDFARM

I have read the scoping report on behalf of RYA Scotland. Recreational boating should be scoped in to the *Shipping and Navigation* section of the EIA as the site is on the route from SW Norway to Scotland. I note that a hazard workshop will be held and ERYA Scotland will wish to contribute to it.

This will be the first large grid-connected floating wind farm to be built and, as it is also located near oil and gas production infrastructure, there may turn out to be issues that were not relevant for existing and planned floating wind farms. On the other hand, the oil and gas industry has many years of experience of ensuring safe navigation near production platforms and the mitigation measures employed will be very relevant to the current proposal.

Although the current version of the *UK Coastal Atlas of Recreational Boating* published by the RYA has poor coverage of the sea at the proposed site, tracks can be seen heading towards the site. We estimate that a quarter of recreational vessels crossing the northern North Sea transmit an AIS signal and consider that their routes are typical of those of the other vessels. Note that recreational boats can be difficult to spot on radar (see 7.2.2.4), which may lead to an underestimate of numbers. This may be exacerbated by variations in numbers of vessels and routes from year to year depending *inter alia* on wind direction and strength. However, what matters is that some vessels will pass through the area, some of which will do so in conditions of poor visibility. There may be information on the ports of departure from Norway from the marinas at Whitehills and Peterhead. I also suggest that contact is made with the Norwegian Sailing Federation (https://www.norgesseilforbund.org/ in case they are able to contribute their knowledge of the routes between Norway and Scotland.

In terms of the proposed landfall sites, Peterhead is one of the termini of the planned SEGL 2 HVDC link from Peterhead to Drax in Yorkshire which may lead to a cumulative impact.

Yours sincerely,

[Redacted]

Dr G. Russell FRMetS MCIEEM
Planning and Environment Officer, RYA Scotland

Scottish Water

Friday, 10 December 2021

Marine Licensing
375 Victoria Road

Aberdeen

Development Operations
The Bridge
Buchanan Gate Business Park
Cumbernauld Road
Stepps
Glasgow
G33 6FB

Development Operations
Freephone Number - 0800 3890379
E-Mail - DevelopmentOperations@scottishwater.co.uk
www.scottishwater.co.uk
Follow Us

Dear Customer,

Green Volt Floating Offshore Wind Farm, Peterhead, AB42 0HY
Planning Ref: Green Volt
Our Ref: DSCAS-0054628-KDY
Proposal: Green Volt Floating Offshore Wind Farm

Please quote our reference in all future correspondence

Audit of Proposal

Scottish Water has no objection to this planning application; however, the applicant should be aware that this does not confirm that the proposed development can currently be serviced and would advise the following:

Drinking Water Protected Areas

A review of our records indicates that there are no Scottish Water drinking water catchments or water abstraction sources, which are designated as Drinking Water Protected Areas under the Water Framework Directive, in the area that may be affected by the proposed activity.

Surface Water

For reasons of sustainability and to protect our customers from potential future sewer flooding, Scottish Water will not accept any surface water connections into our combined sewer system.

There may be limited exceptional circumstances where we would allow such a connection for brownfield sites only, however this will require significant justification from the customer taking account of various factors including legal, physical, and technical challenges.

In order to avoid costs and delays where a surface water discharge to our combined sewer system is anticipated, the developer should contact Scottish Water at the earliest opportunity with strong evidence to support the intended drainage plan prior to making a connection request. We will assess this evidence in a robust manner and provide a decision that reflects the best option from environmental and customer perspectives.

General notes:

- Scottish Water asset plans can be obtained from our appointed asset plan providers:
    - Site Investigation Services (UK) Ltd
    - Tel: 0333 123 1223
    - Email: sw@sisplan.co.uk
    - www.sisplan.co.uk

I trust the above is acceptable however if you require any further information regarding this matter please contact me on **0800 389 0379** or via the e-mail address below or at planningconsultations@scottishwater.co.uk.

Yours sincerely,

Angela Allison
Development Services Analyst
PlanningConsultations@scottishwater.co.uk

Scottish Water Disclaimer:

"It is important to note that the information on any such plan provided on Scottish Water's infrastructure, is for indicative purposes only and its accuracy cannot be relied upon. When the exact location and the nature of the infrastructure on the plan is a material requirement then you should undertake an appropriate site investigation to confirm its actual position in the ground and to determine if it is suitable for its intended purpose. By using the plan you agree that Scottish Water will not be liable for any loss, damage or costs caused by relying upon it or from carrying out any such site investigation."

SEPA

SEPA
Scottish Environment Protection Agency
Buidheann Dìon Àrainneachd na h-Alba

Our ref: 3593
Your ref: SCOP-0009

SEPA email contact:
Planning.north@sepa.org.uk

Marine Scotland
375 Victoria Road
Aberdeen
AB11 9DB

15 December 2021

By email only to: ms.marinerenewables@gov.scot

Dear Sir/Madam

Regulation 14 of The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2017
Regulation 12 of The Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017
Regulation 13 and Schedule 4 of The Marine Works (Environmental Impact Assessment) (Scotland) Regulations 2007
SCOP-0009: Request for Scoping Opinion for Proposed Section 36 And Marine Licence Green Volt Wind Ltd 75KM East Of Aberdeenshire Coast

Thank you for consulting SEPA on the scoping opinion for the above development by way of your email received on 3 December 2021.

SEPA are satisfied with the proposed scoping in/out at the intertidal area and landfall locations due to the proposed Horizontal Directional Drilling (HDD). We note and welcome intertidal habitats will be scoped in if HDD is not used.

It would seem that the remainder of the proposed activities, will be covered by our SEPA standing advice for The Department of Energy and Climate Change and Marine Scotland on marine consultation, which should be referred to for further information. We have no further site-specific comments or advice to add.

If you have any queries relating to this letter, please email us at planning.north@sepa.org.uk.

Yours faithfully

Zoe Griffin
Senior Planning Officer
Planning Service

SEPA Aberdeen Office
Inverdee House, Baxter Street
Torry, Aberdeen AB11 9QA
tel 01224 266600 fax 01224 896657
www.sepa.org.uk • customer enquiries 03000 99 66 99

SFF

Our Ref: MM/A&R

Your Ref:

28th January 2022

E-mail: Stephanie.Sweeting@gov.scot

Scottish Fishermen's Federation
24 Rubislaw Terrace
Aberdeen, AB10 1XE
Scotland UK

T: +44 (0) 1224 646944
F: +44 (0) 1224 647078
E: sff@sff.co.uk

www.sff.co.uk

Dear

Green Volt Scoping Response

The Scottish Fishermen's Federation is pleased to respond to this application 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 premise in the Executive summary/ Introduction is misleading, in that the expected life span of Buzzard is 15 years, so this development of 50 years planned existence, is unashamedly describing the power they will supply to the grid, which will be a larger component of production, than that dedicated to Buzzard. Even if the project manages to deliver power by 2026, that will only cover maybe c14years of Buzzard production. At that point, 2026, platform decommissioning comes into the scenario, and fishing would normally expect a clean sea bed to be left behind.

Of course the ability to measure benthic ecology and fish communities in the Buzzard 500m zone will have been hampered by its very existence, so the developer must find a way to define the baseline with the Buzzard in situ. That is further complicated by the uncertainty surrounding oil based cuttings from the area, containing substances with the ability to damage the marine environment. The apparent lack of these should be scoped and confirmed.

The fishing industry would expect that any such dangerous chemicals are dealt with safely and the Buzzard is removed at end of life. Furthermore there is an expectation that the cable delivering power to Buzzard is also removed, as a foreign object, which purpose has gone. The impact of the export cable must be addressed, with full burial being the aim.

Then we have to consider the siting of the proposed farm, the area quoted as “previously hosting the Ettrick and Blackbird oilfield” which again the fishing industry would have expected to regain access to post oil production. Having been denied access to all these areas it is unlikely that there will be verifiable statistics on fish populations in any of the three areas.

With the advent of 50year leases, the fishing industry is now looking at the best part of two generations being excluded from working in these areas, which is an immense potential displacement, and should be scoped in.

In order for there to be any attempt at coexistence or just transition, the developer should have to scope all the above scenarios, so that the regulator can make an informed judgement about the value of the project compared to the economic and socio-economic impacts on Fishing, a low carbon source of protein, which will rise in importance in years to come.

Para 1.2.1 highlights the removal of visual impacts further offshore, but as no offshore windfarm has yet had a problem with visual impacts, the fishing industry would expect there would not be much attention paid to these impacts.

Para 1.2.2 describes the process which led to the Regional Location Guidelines, and points out that early iterations of the Draft Plan Options had taken Oil & Gas as constraints out of the plan. For some reason this did not stop developers from going ahead with their own ideas for the INTOG project. This would appear to be in total contradiction to Scotland’s National Marine Plan, giving *carte blanche* to developers to continue working on projects out-with the plan without open and transparent consideration of eg the fishing industry.

Para 1.2.4 is quite explicit in that the Crown Estate Scotland (CES) is allowing developers to drive the process before the define INTOG. This would seem to be directly opposed to the CES obligation to protect the rights to fishing and navigation.

Chapter 2, the project description, is almost pointless, in the experience of the fishing industry the adherence to the “Rochdale envelope” informs nothing of what the final farm will actually be, but instead simply increases the amount of bureaucracy created. Similarly Fig 2.2 means nothing at this point in time.

Moving on to 2.2.1.3& 4, any discussion of the mooring system needs to scope the loss of seabed for safe fishing activity. This is effectively the seabed within the circumference of the anchor system. Anchors should be functionally designed to allow for removing from the seabed in due course and not being left in place.

Para 2.2.1.5 on needs to be scoping in the cables, both array and export, in terms of both safety for fishing vessels and Electro-Magnetic Force (EMF) for fish and crustaceans. It is not a preferred option to leave unburied due to the “lack of commercial fishing activity” as that is an obvious historical impact of the Oil & Gas (O&G) developments. Indeed this might be interpreted as the developer saying that fishing has not lost anything because they were excluded by the O&G anyway, which is not right. The same applies in 6.2.3.9.5, where they acknowledge O&G caused the lack of fishing, but don’t assess whether it could return to historic levels, when there may have been significant fishing.

Export cables need to be assessed for burial and impacts on fishing along their route. Route design should be an early discussion with fishing interests, to aim for full burial. While we welcome the developers sated desire to bury these, we must note this misleading statement; “Damage, once in operation, usually arises from external aggression originating from fishing operations or vessel anchoring” where in reality the cable laying operation is the biggest cause of damage. There is

nothing in there to say post lay that there will be surveys to decide any need for over trawl trials, which the SFF sees as essential.

Best practice for the benthic ecology studies should discount the data from pre 2013, and use it only as a guide as to what is actually there.

The SFF would expect that Ettrick/ Blackbird should be fully decommissioned prior to development of Green Volt. Only then can a true picture of the seabed become visible as well heads are removed, and safety zones are finished with. This should happen in order to get an accurate scoping of the area.

Commercial fisheries data in 6.2 shows significant amounts of Scallops, Squid, Crabs, Lobster, Haddock and Mackerel. These should be compared to the historic data, pre 2013, to give an indication of changes. It would seem essential to assume the worst case scenario which would be the loss of all that catch, and to show mitigation for that.

It should also be noted that fish generally choose a particular seabed to spawn, so those spots should be identified and mitigated by the timing of development activity. With regards to fish aggregation, invasive species etc, the developers should seek the most relevant data available.

On EMF, the development is quoting work from 2012, it is essential that they source the latest science on this subject, and make provision accordingly.

The table, 7.8 in chapter 7.3, seems to indicate no need to scope, but the fishing industry would at least expect to see these items scoped in during construction and operation. Furthermore, without assurances about the future of the Nephrops fishery in the South East corner it needs to be scoped in.

Yours sincerely, Malcolm Morrison

Shell

From:	Maria.Diaz@shell.com
To:	MS Marine Renewables
Cc:	Bruce.Taylor@shell.com; Ian.Greenwood@Shell.com
Subject:	FW: SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on Request for a Scoping Opinion – Response Required by 3 January 2022
Date:	29 December 2021 09:14:18

Good morning Stef,

Thanks for the opportunity to provide feedback on the scope of the Impact Assessment Scoping report for the Green Volt Offshore Wind Farm Project.

Upon review of the scoping report, we consider appropriate to include a map identifying the neighbouring CCS and Oil&Gas licenses.
This would allow to identify any risk of potential stranded Assets, and more importantly would be to consider what would be the measures to prevent/mitigate impact on future CCS and O&G activities in the area.
This is a concern voiced via the Industry Body Oil & Gas UK.

Best regards,

Maria M. Diaz
Environment Lead - Projects
Shell U.K. Limited
1 Altens Farm Road,
Nigg, Aberdeen, AB12 3FY

Tel 01224 883270
email maria.diaz@shell.com
Internet: http://www.shell.com

Sport Scotland

From:	Gillian Kyle
To:	MS Marine Renewables
Subject:	RE: SCOP-0009 – Green Volt Offshore Wind Ltd - Green Volt – 75km East of the Aberdeenshire Coast – Consultation on Request for a Scoping Opinion – Response Required by 3 January 2022
Date:	09 December 2021 12:13:12

Thank you for the above consultation.
Having consulted RYAS, I understand they will be providing comments on the offshore infrastructure scoping report on likely impact on recreational craft.
I have also reviewed the offshore infrastructure documents and confirm that **sport**scotland has no comments to make.
Kind regards,
Gillian

Gillian Kyle | Planner | **sport**scotland
Doges **|** Templeton on the Green **|** 62 Templeton Street **|** Glasgow **|** G40 1DA

t: 0141 534 6557
w: www.sportscotland.org.uk
My normal working days are Tuesday, Wednesday and Thursday.

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Awarding funds from The National Lottery

Transport Scotland

Development Management and Strategic Road Safety
Roads Directorate

Buchanan House, 58 Port Dundas Road, Glasgow G4 0HF
Direct Line: 0141 272 7593, Fax: 0141 272 7350
lain.clement@transport.gov.scot

TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

Marine Scotland
375 Victoria Road
Aberdeen
AB11 9DB

ms.marinerenewables@gov.scot

Your ref:

Our ref:
GB01T19K05

6th January 2022

Dear Sirs,

REGULATION 14 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017

REGULATION 12 OF THE ELECTRICITY WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) (SCOTLAND) REGULATIONS 2017

REGULATION 13 AND SCHEDULE 4 OF THE MARINE WORKS (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2007

REQUEST FOR SCOPING OPINION FOR PROPOSED SECTION 36 AND MARINE LICENCE APPLICATIONS FOR THE GREEN VOLT OFFSHORE WINDFARM LOCATED 75km EAST OF THE ABERDEENSHIRE COAST

With reference to your recent correspondence on the above development, we acknowledge receipt of the Offshore Scoping Report (OSR) prepared by Royal Haskoning DHV UK Ltd in support of the above development.

This information has been passed to SYSTRA Limited (SYSTRA) for review in their capacity as Term Consultants to Transport Scotland – Roads Directorate. Based on the review undertaken, we would provide the following comments.

Proposed Development

The proposed development comprises the Green Volt Offshore Windfarm, a floating offshore windfarm of up to 30 turbines which will facilitate the decarbonisation of the Oil and Gas industry through the complete electrification of the Buzzard oil and gas field with the support of a fully connected UK grid connection back to the New Deer substation in Aberdeenshire. Each turbine will have a generating capacity of 10 – 16 MW.

We note that the Applicant intends to submit separate consents, licences and permissions for the offshore (below Mean High Water Springs (MHWS)) and onshore (above Mean Low Water Springs (MLWS)) infrastructure associated with the project. A separate onshore scoping report has, therefore, been prepared for the onshore infrastructure.

Assessment of Environmental Impacts

We note that the OSR considers all offshore infrastructure seaward of MHWS, notably:

- Wind turbine generators, floating substructures, moorings, inter-array cables, electrical substation;
- Export cables; and
- Landfall onshore/offshore interface for the export to shore cable.

Given that the OSR deals only with the offshore elements of the proposed development and a scoping report will support a separate application for the onshore elements, I can confirm that Transport Scotland has no comment to make on the OSR and will await the consultation exercise associated with the onshore elements.

I trust that the above is satisfactory but should you wish to discuss in greater detail, please do not hesitate to contact me or alternatively, Alan DeVenny at SYSTRA's Glasgow Office on 0141 343 9636.

Yours faithfully

[Redacted]

Transport Scotland
Roads Directorate

cc Alan DeVenny – SYSTRA Ltd.

Visit Scotland

13 December 2021

Marine Scotland - Licensing Operations Team
Scottish Government
By email: ms.marinerenewables@gov.scot

Dear Stef,

Green Volt Offshore Wind Ltd - Green Volt

Thank you for giving VisitScotland the opportunity to comment on the above wind farm development.

Our response focuses on the crucial importance of tourism to Scotland's local and national economy, and of the natural landscape for visitors.

Background Information

VisitScotland, as Scotland's National Tourism Organisation, has a strategic role to develop Scottish tourism in order to get the maximum economic benefit for the country. It exists to support the development of the tourism industry in Scotland and to market Scotland as a quality destination.

While VisitScotland understands and appreciates the importance of renewable energy, tourism is crucial to Scotland's economic and cultural well-being. It sustains a great diversity of businesses throughout the country. According to a recent independent report by Deloitte, tourism generates £11 billion for the economy and employs over 200,000 - 9% of the Scottish workforce. Tourism provides jobs in the private sector and stimulates the regeneration of urban and rural areas.

One of the Scottish Government and VisitScotland's key ambitions is to grow tourism revenues and make Scotland one of the world's foremost tourist destinations. This ambition is now common currency in both public and private sectors in Scotland, and the expectations of businesses on the ground have been raised as to how they might contribute to and benefit from such growth.

Importance of scenery to tourism

Scenery and the natural environment have become the two most important factors for visitors in recent years when choosing a holiday location.

The importance of this element to tourism in Scotland cannot be underestimated. The character and visual amenity value of Scotland's landscapes is a key driver of our tourism product: a large majority of visitors to Scotland come because of the landscape, scenery and the wider environment, which supports important visitor activities such as walking, cycling, wildlife watching and visiting historic sites.

The VisitScotland Visitor Experience Survey (2015/16) confirms the basis of this argument with its ranking of the key factors influencing visitors when choosing Scotland as a holiday location. In this study, over half of visitors rated scenery and the natural environment as the main reason for visiting Scotland. Full details of the Visitor Experience Survey can be found on the organisation's corporate website, here: https://www.visitscotland.org/binaries/content/assets/dot-org/pdf/research-papers/scotland-visitor-survey-2015-16-full.pdf

Taking tourism considerations into account

We would suggest that full consideration is also given to the Scottish Government's 2008 research on the impact of wind farms on tourism. In its report, you can find recommendations for planning authorities which could help to minimise any negative effects of wind farms on the tourism industry. The report also highlights a request, as part of the planning process, to provide a tourism impact statement as part of the Environmental Impact Analysis. Planning authorities should also consider the following factors to ensure that any adverse local impacts on tourism are minimised:

- The number of tourists travelling past en route elsewhere
- The views from accommodation in the area
- The relative scale of tourism impact i.e. local and national
- The potential positives associated with the development
- The views of tourist organisations, i.e. local tourist businesses

The full study can be found at www.scotland.gov.uk/Publications/2008/03/07113507/1

Conclusion

Given the aforementioned importance of Scottish tourism to the economy, and of Scotland's landscape in attracting visitors to Scotland, VisitScotland would strongly recommend any potential detrimental impact of the proposed development on tourism - whether visually, environmentally and economically - be identified and considered in full. This includes when taking decisions over turbine height and number.

VisitScotland strongly agrees with the advice of the Scottish Government –the importance of tourism impact statements should not be diminished, and that, for each site considered, an independent tourism impact assessment should be carried out. This assessment should be geographically sensitive and should consider the potential impact on any tourism offerings in the vicinity.

VisitScotland would also urge consideration of the specific concerns raised above relating to the impact any perceived proliferation of developments may have on the local tourism industry, and therefore the local economy.

I hope this response is helpful to you.

Yours sincerely

Beth Thoms

Government & Parliamentary Affairs
VisitScotland

MAU

marinescotland

Green Volt Offshore Wind Farm

Marine Analytical Unit Response

The Green Volt Scoping report includes descriptions of a range of potential impacts. This response focuses only on the assessment of social and economic impacts.

Marine Scotland is producing guidance on how to carry out Socio-Economic Impact Assessments for offshore renewable developments. The guidance is still in draft form and so cannot be shared, but the recommendations included in this response align with the broad contents of the guidance document.

We recommend that a full Socio-Economic Impact Assessment be scoped into the Environmental Impact Assessment.

Human Environment

In the Scoping Report potential impacts as a result of the construction, operation and maintenance, and decommissioning phases of the project are detailed for each activity in subsections. The scoping report does not detail how the knock-on effects that these impacts could have on socio-economic factors will be assessed. At present the report gives a description of how certain activities may change, but not does not describe how these changes will create socio-economic impacts. For example, the displacement of vessels may have socio-economic implications such as increased fuel costs and longer hours at sea for crew members.

It is recommended that the potential socio-economic implications for all impacts described in the Human Environment are considered and, where relevant, assessed in the SEIA. We would expect to see descriptions of methods, data collection, and the overall approach to assess these impacts. Annexes 1 and 2 and may offer some indication of what we would expect.

Commercial Fisheries

It is noted that the scoping report highlights limited fishing activity within the majority of the project area, apart from the southeast corner. The report states that, *'Should this southeast corner be removed from the Project Area boundary, this results in a 40% reduction in the number of vessels actively fishing across the site.'* However, this southeast corner remains in the current Project Area boundary and it is our recommendation that the socio-economic impacts of the development be considered across the whole boundary. Furthermore, a 40% reduction in the number of vessels suggests that there is still a significant number of active fishers to consider across the rest of the boundary.

The possible socio-economic impacts on commercial fishing may not be limited to fishing activity that takes place directly within the site, as the development may also impact vessels

transiting through. For example, increased steaming times to alternative fishing grounds may have knock-on socio-economic implications for commercial fishers, such as increased fuel costs or changes to working patter, and these should be explored.

It is therefore our recommendation that the socio-economic impact of any reduction, displacement or disruption to commercial fisheries across the whole project area boundary is scoped into the SEIA.

Offshore Social-Economics and Tourism

On page 176, the report outlines 'several opportunities which could be considered to enhance the positive impacts' and goes on to list these specific opportunities. However, it is unclear from this text whether the development is going to take up these opportunities and to what extent. It would be helpful if the developer could provide more information about the extent to which these opportunities are going to be realised and the resulting socio-economic impact of this in the SEIA. For example, this may include details of the percentage of locally manufactured content that is going to be used throughout each stage of the project, the number of staff likely to be cross-trained from sectors such as oil and gas and the number of local people expected to be employed and trained.

The report has scoped out 'increased tourism/business interest to Scotland and local area'. While it is appreciated that the development will not be visible from the Scottish coastline, it is possible that there could be both negative and positive impacts on tourism as a result of the development. For example, accommodation normally used by tourists maybe used by workers, thus depriving other tourism businesses of custom, and increased congestion due to the transport of goods and people to the site may alter the character of the area. It is therefore our recommendation that this is scoped into the SEIA and explored further.

Annex 1

*Table **Error! No text of specified style in document.** Types of socio-economic impact (taken from Glasson 2017[1])*

1. **Direct economic:**
   - employment, including employment cohort and safeguarding of existing employment;
   - unemployment and underemployment
   - characteristics of employment (e.g. skill group);
   - labour supply and training; and
   - other labour market effects, including wage levels and commuting patterns
2. **Indirect/induced/wider economic/expenditure:**
   - employees' retail expenditure (induced);
   - linked supply chain to main development (indirect);
   - labour market pressures;
   - wider multiplier effects;
   - effects on existing commercial activities (eg tourism; fisheries);
   - effects on development potential of area; and
   - GVA and GNP.
3. **Demographic:**
   - changes in population size; temporary and permanent;
   - changes in other population characteristics (e.g. family size, income levels, socio-economic groups); and
   - settlement patterns
4. **Housing:**
   - various housing tenure types;
   - public and private;
   - house prices and rent / accommodation costs;
   - homelessness and other housing problems; and
   - personal and property rights, displacement and resettlement
5. **Other local services:**
   - public and private sector;
   - educational services;
   - health services; social support;
   - others (e.g. police, fire, recreation, transport); and
   - local authority finances
6. **Socio-cultural:**
   - lifestyles/quality of life;
   - gender issues; family structure;
   - social problems (e.g. crime, ill-health, deprivation);
   - human rights;
   - community stress and conflict; integration, cohesion and alienation; and
   - community character or image
7. **Distributional effects:**
   - effects on specific groups in society (eg: by virtue of gender, age, religion, language, ethnicity and location); environmental justice

[1] Glasson J (2017a) "Socio-economic impacts 2: Overview and economic impacts" in Therivel R and Wood G (eds.), Methods of Environmental and Social Impact Assessment, Abingdon: Routledge

Annex 2

Key components of a socio-economic impact assessment

Participatory approach

Creating participatory processes and a deliberative space to facilitate community discussions about desired futures, the acceptability of likely negative impacts and proposed benefits, and community input into the SEIA process.

- Assess community capacity to engage – capacity building may be necessary
- Appoint Community Liaison Officer(s) for each affected community
- Set up governance structures so that communities feel they can voice opinions and be listened to
- Begin community engagement as soon as possible, brief communities on project with as much detail as possible so that they can prepare
- Ensure that community engagement is done with sensitivity to avoid causing stress or anxiety

Baseline

This is the starting point for the economic assessment and the benchmark against which to measure impacts. It is important to gain a good understanding of the communities and stakeholders likely to be affected by the project (i.e. profiling) including their needs and aspirations and any key social issues that may arise as a result of the project.

- Develop social and economic profile of the area including:
    - history, culture and context
    - Industrial structure i.e. existing businesses in the area
    - Socio-economic conditions i.e. levels of employment, income etc.
    - Related industries i.e. fishing, tourism
    - Local planning policies, where relevant
- Select a range of indicators, e.g.:
    - Employment and unemployment levels
    - Structure of working age population/skills/qualifications
    - GVA
    - Wellbeing
    - Community cohesion
- Engage with community to learn of any other important features/indicators to include in baseline. There may be useful local datasets
- Analysis may draw on a combination of existing datasets and primary data

Prediction or Appraisal

Forecasting the social and economic changes that may result from the project and the impacts these are likely to have on different groups of people. A list of potential socio-economic impacts can be seen in Table 1. Many of these impacts can be considered from a social and economic perspective. In the following sections we describe in more detail how this could be done.

- Identify potential/anticipated socio-economic impacts including:
    - Impacts related to GVA
    - Impacts related to employment, skills and training
    - Impacts on related industries – tourism, fishing, etc.

    - Impacts relating to wellbeing
    - Impacts relating to culture

- Identify suitable method for predicting impacts
- Collect necessary evidence to conduct analysis
- Engage with community to check predictions and assign significance to predicted impacts
- Impact prediction should include
    - Assessment of different phases of the project (development, construction, operation & maintenance, decommissioning) and phases within phases (early construction, peak construction)
    - Consideration of transition between phases
- Impacts may be direct, indirect and induced
- It is important to look at the distribution of impacts at the national, regional and local level, and across different groupse.g. businesses, individuals, income levels, organisation, women, youth, elderly, disadvantaged etc.

Other economic considerations may include:

- Displacement - an assessment of the effect of the intervention on the structure of local factor and final goods markets
- Substitution - where the intervention causes an employed factor to be replaced by a currently unemployed factor
- Deadweight - This is the net impact, after taking into account what would have happened in the absence of the intervention
- Cumulative effects - effects from multiple pressures and/or activities

Mitigation and enhancement

Identifying ways of mitigating potential negative impacts and maximising positive opportunities.

- Engage with community to develop strategy for enhancing benefits and mitigating against impacts
- This may involve Community Benefit Agreement (CBA)
- Care should be taken to ensure that CBA and any associated funds should have accessible application procedures so that allocated funds can be used

Monitoring and management

Developing a monitoring and management plan to track and manage implementation, success of mitigation actions, and any unanticipated social changes, especially negative impacts.

- Develop management plan and monitoring strategy
- Engage with community – especially with regard to both
    - Community may have concerns that they particularly want to be monitored
    - There may be local considerations regarding timing of monitoring and methods used e.g. access to internet for particular groups

- Link management plant to governance structures so that community can continue to engage with the project

MSS

T: +44 (0)131 244 2500
E: MSS_Advice@gov.scot

Stephanie Sweeting
Marine Scotland Licensing Operations Team
Marine Laboratory
375 Victoria Road
Aberdeen
AB11 9DB

4 February 2022

GREEN VOLT OFFSHORE WIND LTD - CONSULTATION ON REQUEST FOR A SCOPING OPINION AND HRA SCREENING REPORT

Marine Scotland Science (MSS) have reviewed the relevant documentation and have provided the following comments.

Marine Ornithology

MSS have considered the submitted scoping and HRA screening reports from Green Volt Offshore Windfarm Ltd and related responses from the Royal Society for the Protection of Birds (RSPB) and NatureScot (NS). Marine Scotland Science (MSS) agree with and wish to emphasise the recommendation from NS towards advising timely consultation with key stakeholders to ensure best available information is captured in methodology, assessment scope and reference populations in sufficient time for agreement.

With respect to species screened out, MSS agree with NS and RSPB comments that both two full years of survey data should be considered in accordance with other data sources (examples given in RSPB and NS responses) to ensure evidence and context is provided to justify any exclusion of certain species such as storm petrels and skuas, and to enable full understanding of the rationale beyond no or few detections from aerial surveys.

We support NS recommendations that all qualifying features of the Buchan Ness to Collieston Coast SPA are screened in, based on proposed HDD works in the area. We further support NS advice on key temporal periods where work would be more likely to cause an impact. In addition, we support NS in their recommendation that gulls from this SPA should be screened in for construction and decommissioning.

We support NS advice regarding distances and breeding season connectivity with SPAs including the figures in Table 1 provided (by NS). Further we consider the response from NS with respect to non-breeding season connectivity to be appropriate in conclusion of a step being missed and AEOSI being pre-judged. We support NS recommendation of providing additional information and not excluding species based on assumptions. We support this statement from NS: *Likely significant effect is where there is a plausible pathway to impact, and that it would result in a significant impact (i.e. mortality of individuals, or productivity loss due to prevention of successful breeding). It is for the Competent Authority to determine if no adverse effect on site integrity can be concluded, based on the evidence supplied*.

With respect to Ornithology, MSS agree with the list of impact pathways to be scoped in to the EIA.

We agree with NS comment that disturbance and displacement should be considered separately going forward in HRA. In addition, MSS consider that entanglement risks associated with mooring lines should also be scoped in for ornithological features. MSS agree with NS comments regarding the assessment of collision of migratory or passage birds.

MSS also note that the current minimum blade clearance is proposed to be 22 m above MSL. MSS would support an increased air gap as this will reduce collision risk by reducing the expected proportion of seabirds at collision risk height.

Marine Mammals

EIA Scoping

With respect to marine mammals, MSS broadly agree with the list of impact pathways to be scoped in / out of the EIA (as summarised in section 6.3.3.9), with the exception of the following points:

- MSS recommend that if barrier effects from both underwater noise and physical presence of windfarms are to be included in the EIAR (for their respective stages), they should also be considered cumulatively together with other developments in the project region.
- MSS recommend that should any further geophysical survey work be required during construction, then the effects of underwater noise arising from this activity should be scoped in to the assessment.
- We note NatureScot's advice that EMF cannot be scoped out due to the cables suspended in the water column. MSS advise that there is no evidence of impact of EMF from suspended electrical cables on marine mammals, but we support a qualitative assessment of potential electromagnetic effects from these cables.

As noted by the applicant, some of the activities proposed (e.g. foundation installation, geophysical surveys, potential UXO clearance) may require an EPS licence because of the potential to disturb or injure cetaceans. Although a separate application will need to be made for this licensing, we recommend that appropriate underwater noise modelling techniques are used for the assessment in the Environmental Appraisal, and that is done so in a way that the information can also be used for the EPS and HRA process. Guidance on EPS licensing process is available on the Marine Scotland website (Marine European protected species: protection from injury and disturbance - gov.scot (www.gov.scot)).

MSS agree with the list of marine mammal species expected to be taken forward for the Environmental Impact Assessment (as listed in section 6.3.2.6), whilst acknowledging that the additional species identified in this section may also be included, following the results of the baseline characterisation surveys and assessment. We also note NatureScot's advice to include Atlantic white sided dolphin. We advise that this species has rarely been observed in the Scottish North Sea (e.g. SCANS III surveys) and that any assessment will likely be qualitative, at best.

MSS are broadly content with the management units and reference population sizes identified in the scoping report in section 6.3.2.3, however we note that the bottlenose dolphin Coastal East Scotland MU abundance published in IAMWWG 2021 is incorrect and the version provided on the NatureScot website should be used instead (https://www.nature.scot/doc/east-coast-scotland-bottlenose-dolphins-estimate-population-size-2015-2019).

For seals, while we recommend using the Carter et al. (2021) maps as suggested, we note that these maps do not provide absolute densities. The correction factor for these, to convert from relative to absolute density will be provided in the upcoming SCOS (2022) report. In the interim, MSS will be able to provide this method on request.

HRA Screening

MSS are content that the Moray Firth SAC (designated for bottlenose dolphins) will be screened in. In agreement with NatureScot, due to the distances from the development site, we advise the following designated sites can be screened out:

- Southern North Sea SAC
- Isle of May SAC
- Faray and Holm of Faray SAC
- Firth of Tay and Eden Estuary SAC
- Dornoch Firth and Morrich More SAC

MSS broadly agree with the list of potential effects to be screened into the HRA (as summarised in Table 6.1), with the exception of the following points:

- MSS recommend that disturbance to marine mammals from the physical presence of vessels and other construction-related activities should be screened in for construction and decommissioning phases.
- MSS recommend that if barrier effects from both underwater noise and physical presence of windfarms are to be included in the HRA (for their respective stages), they should also be considered cumulatively along with other developments in the project region.

Marine fish ecology

MSS agree with the list of impact pathways to be scoped in to the EIA, however recommend the consideration and inclusion of impacts from electromagnetic fields (EMF) from both export cables and dynamic inter-array cables, and underwater noise impacts on marine fish from unexploded ordnance (UXO) clearance in the EIA.

MSS agree with the list of impact pathways to be scoped out of the EIA.

MSS agree with NatureScot's recommendations for consideration and inclusion of fish species that are Priority Marine Features (PMFs), and agree that the developer should consider the use of fish environmental DNA (eDNA) surveys to supplement baseline information.

Commercial fisheries

MSS note that there is a lack of fishing in most of the project area due to the historic presence of oil and gas infrastructure and that vessels generally only transit the area. MSS also note that there is a higher density of fishing activity in the southeast corner of the project area and that the developer has stated that 'should this southeast corner by removed from the project area boundary, this results in a 40% reduction in the number of vessels activity fishing across the site'. MSS recommend that while the south-eastern corner of the project area is still included the boundary area, the following potential fisheries impacts should be scoped in:

- Reduction in access to, or exclusion from established fishing grounds
- Displacement leading to gear conflict and increased fishing pressure on adjacent grounds
- Displacement of disruption of commercially important fish and shellfish resources
- Physical presence of offshore windfarm infrastructure leading to gear snagging

Regardless of whether or not the southeast corner of the project area remains or is removed, MSS do not agree that '*Construction activities leading to additional steaming to alternative fishing grounds*' should be scoped out of the Environmental Impact Assessment, and advise that it is scoped in. There appears to be some confusion around potential impacts to fisheries across the export cable as Section 7.3.4.3 states, 'In contrast fishing activity occurs across the export cable route and, therefore, impacts to commercial fisheries have the potential to occur and are scoped into the assessment'. This is not reflected in Table 7.8 as potential impacts to fisheries across the export cable are scoped out. MSS recommend that this is clarified and that all potential fisheries impacts are scoped in across the export cable.

Diadromous fish

MSS agree with all the main points made by NatureScot, but provide some additional points of detail below.

EIA Scoping

6.2.2.4 MSS agree that the species of diadromous fish that are identified (Atlantic salmon, sea trout, sea lamprey, river lamprey and European eel) are those most likely to pass through the development area and/or the offshore export cable corridor. Salmon would be expected to pass through the core project area frequently, rather than occasionally, and salmon and sea trout would be expected to pass through the offshore export cable corridor frequently, rather than occasionally.

6.2.2.6 MSS do not agree with the screening out of designated sites further than an arbitrary cut-off from the project boundary or cable landfall, which is presumably based on the assumption that fish further from their river of origin are more dispersed. Emigrating salmon smolts can be concentrated in particular routes rather than being uniformly dispersed.

Two riverine SACs have been omitted from Fig 6.12 and Table 6.9: River Tay SAC is designated for salmon, sea lamprey, river lamprey and brook lamprey, and River Evelix SAC is designated for pearl mussel. These SACs should be listed here (and included in the map) for completeness.

6.2.3.16 MSS largely agree with the potential impacts to be scoped in and out in Table 6.10 for the various phases of the project.

With regard to the colonisation of hard structures, MSS would note that the potential reef effects of the structures could directly affect the behaviour of migrating or foraging diadromous fish, or numbers and behaviour of bird, mammal and fish predators, which may subsequently impact on migrating or foraging diadromous fish. MSS suggest that this is also scoped in.

MSS also recommend that the applicant considers the resilience of the salmon and sea trout populations to loss of fish, in any population impact assessment for diadromous fish (see https://www.gov.scot/publications/salmon-fishing-proposed-river-gradings-for-2022-season/ for more details in relation to salmon).

HRA Screening

5.1, 5.1.1 MSS do not agree with the screening out of designated sites further than an arbitrary cut-off from the project boundary or cable landfall, which is presumably based on the assumption that fish further from their river of origin are more dispersed, or less likely to occur in the project development area. Emigrating salmon smolts can be concentrated in particular routes rather than being uniformly dispersed.

We agree that impacts to Atlantic salmon, sea lamprey and river lamprey should be screened in.

MSS have already commented on the omission of the River Tay SAC and River Evelix SAC from the EIA report (and from table 5.1 of the HRA Screening report). We advise that the River Tay SAC should be screened into the HRA, but we are content that this development will have no Likely Significant Effect on the features of the River Evelix SAC.

5.2 MSS agree with the potential impact pathways to be screened in and out in Table 5.2 for the various phases of the project, with the additions as suggested for the EIA report. However, all impact pathways require detailed consideration before any recommendation to screen out protected sites is made on the basis of a lack of connectivity or impact on the particular receptors.

General

In undertaking their environmental assessments, MSS recommend that the developer refers to information from recent salmon smolt survey and tracking studies carried out by MSS, which is becoming available. If this information is not in the public domain, summary information can be obtained from Marine Scotland.

Comments made with reference to purely marine fish in the Marine Fish Ecology section are also to be taken to apply to diadromous fish.

MSS recommend to MS-LOT that there should be a commitment for this developer to contribute to strategic research identified and prioritised through the ScotMER initiative.

6.2.1 ASFB is the Association of Salmon Fishery Boards, not the Atlantic Salmon Fisheries Boards. It is now superceded by Fisheries Management Scotland (FMS), which should be consulted.

Benthic Ecology

Data and information sources (6.3.1)

Further information on the distribution of *Sabellaria spinulosa* is available in Pearce and Kimber (2020) and Moore (2017).

Potential impacts (section 6.1.3)

In addition to those impacts already scoped in, MSS advise that the following are also scoped into the benthic and intertidal ecology assessment:

- Impact of scour on benthic communities arising from the mooring chains and anchors should be scoped into the benthic ecology section.
- Impact of open trenching for cable at the landfall site (if HDD is not possible).
- Introduction of non-native species: this impact should be scoped in for during all phases.

MSS also have the following comments.

Cable and scour protection. MSS advise that permanent habitat loss should include the introduction of scour protection and cable protection. As in standard NS advice, introduction of hard substrates such as rock dump or concrete mattressing should be minimised to protect benthic habitats. Consideration to matching the type of cable protection with substrate type should be given, e.g. sand or grout bags on soft substrate.

Electromagnetic fields. MSS advise that all mobile epifauna are included in the assessment of EMF. This assessment could sit in a standalone EMF chapter (considering effects across the ecosystem), or could sit within the benthic section. Note that there has been a proliferation of recent research on electromagnetic fields since since the Gill (2005) and Gill (2010) publications. Research suggests that even low levels of emissions (similar to background geomagnetism) are perceptible to sensitive species and may result in behavioural responses (e.g. Gill and Desender (2020); Hutchison et al. (2020a,b)). MSS recommend inclusion of a quantitative assessment of EMF emissions according to the type of cable and depth of burial (Hutchison et al. (2021)) and a qualitative assessment on species effects.

Research carried out by Scott et al. (2018; 2021) on edible crab should be included and preliminary results described by Scott et al. (2020) on brown shrimp and European lobster should be considered. MSS acknowledge that research on impact of EMF at relevant levels of emissions is lacking for many species common to these waters.

Annex I reef. MSS are pleased to read that micro-siting around sensitive PMFs is planned.

With regard to pockmark features, MSS advise MS-LOT that evidence should provided that the pockmark features are not active, i.e. that features associated with methane derived authigenic

carbonate (MDAC; an Annex I feature and PMF) are not present. As such, MSS recommends asking the developer to share relevant sections of the benthic surveys mentioned in the scoping report to ascertain whether they are sufficiently comprehensive to be certain that MDAC is not present.

Additionally, MSS request that the developer provides a description of the geological feature in picture ENV18 Fix 413? Although it does not resemble the usual flat structures associated with MDAC, we query whether there is any possibility that it it have formed in this different form?

MSS advise that *Sabellaria spinulosa* (Sabellaria) reef habitat (on the OSPAR List of Threatened and Declining Species and Habitats) is known to occur within the development area (Pearce and Kimber 2020). In particular, an extensive outcrop of Sabellaria reef has been found north of Rattray Head which fits the description of high reefiness with regard to the Gubbay (2007) criteria. Off the coast of Buchan, a variety of Sabellaria has been found growing in isolated clumps on otherwise soft sediment. It has a high ecological value in terms of biodiversity, but does not necessarily fit the Gubbay criteria (2007). MSS advise that the descriptions in Pearce and Kimber (2020) together with the broader habitat descriptions under OSPAR should be used to assess reefiness of this clumped variety. MSS recommend that all instances of Sabellaria reef are avoided (including low, medium and high grade reef). The habitat is rare in Scottish waters and all Sabellaria reef has a high ecological value.

For recognition of Annex I stony reef habitats, MSS recommend that Golding (2020) should be used together with Irving (2009).

MPA assessment. MSS advise baseline data should be sufficient to inform the MPA assessments that will be required for the Turbot Bank NCMPA with regard to the conservation objectives for sandeels and the Southern Trench NCMPA with regard to the burrowed mud and habitats within the shelf deeps. We note that the highest concentration of the protected benthic features of the Southern Trench NCMPA do not occur in the vicinity of the proposed cable route, but this does not mean that these features do not occur in the vicinity of the cable route.

Physical environment / coastal processes

With respect to section 5.1.3, MSS agree that changes to bathymetry with 12 nm during construction and operation (i.e. along the cable route) should be scoped in to the EIA.

With respect to section 5.2.3, MSS do not agree that increases in suspended sediments and seabed scour should be scoped out of the EIA. The installation of cables within the windfarm site and along the export cable routes will entrain sediments and the ultimate fate of these sediments should be scoped into the EIA. Deposition of entrained sediments could be a potential pathway to impact on the benthic ecology. Regarding scour around the systems, MSS note that the Ettrick and Blackbird oil and gas decommissioning survey data suggest this is likely to be minimal. There is the potential for a large number of mooring lines and anchors (up to 6 per turbine, totalling up to 180), and this cumulative effect is unknown. MSS therefor advice that suspended sediment be scoped into the EIA for construction and decommissioning and seabed scour be scoped into the EIA for construction, operation, and decommissioning. It may well be the case that there is sufficient evidence from the Ettrick and Blackbird survey data to dismiss these concerns during the EIA process, but this evidence should be presented.

There is no mention of the baseline water column conditions in section 5.3, metocean conditions, including whether the region is stratified or fully mixed. The region is likely to undergo seasonal stratification (van Leeuwen et al., 2015). The baseline water column conditions should be described in the EIA. Whether the windfarm is likely to change the extent and timing of seasonal stratification should be scoped into the EIA. The windfarm could change water column mixing by the presence of the structures and/or by altering the near sea surface wind speeds.

With respect to section 5.4.3, MSS agree that pollution of the water through

disturbance of the existing contaminated sediments during construction and decommissioning, should be scoped into the EIA. MSS do not agree that pollution of the water through disturbance of the existing contaminated sediments during operation should be scoped out of the EIA. This is because the catenary mooring lines will lie along the seabed potentially disturbing sediments. This disturbance is likely to be extremely minimal, but MSS advise that it is scoped into the EIA given that this is a new technology and there is the potential for a large number of mooring lines.

With respect to section 5.5.3, MSS agree that disturbance of existing contaminated sediments during construction and decommissioning should be scoped into the EIA. MSS do not agree that disturbance during operation should be scoped out of the EIA. This is because the catenary mooring lines will lie along the seabed potentially disturbing sediments. This disturbance is likely to be extremely minimal, but MSS advise that it is scoped into the EIA given that this is a new technology and there is the potential for a large number of mooring lines, and the possibility of high concentrations of contaminants (from the oil and gas operations) within the seabed. MSS also welcome the use of safety exclusion zones around plugged and abandoned well heads in order to minimise disturbance of contaminated sediments.

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Hopefully these comments are helpful to you. If you wish to discuss any matters further then please contact the REEA Advice inbox at MSS_Advice@gov.scot

Yours sincerely,

Renewable Energy Environmental Advice group
Marine Scotland Science