

Welcome to ossian

Public Consultation for the Offshore Wind Farm Array

Who We Are

ossian



SSE Renewables Limited (SSER), Marubeni Corporation, and Copenhagen Infrastructure Partners (CIP) (Joint Venture partners) are combining their local experience and extensive global expertise in the development of the **Ossian Offshore Wind Farm**.

The Joint Venture partners hold a vast experience in the renewables sector and an ever growing portfolio in the offshore wind sector to deliver significant and enduring social, economic, and decarbonisation benefits to Scotland.



SSE Renewables is a leading developer and operator of renewable energy, headquartered in the UK and Ireland, with a growing presence internationally. Part of UK-listed energy infrastructure company SSE plc, its strategy is to lead the transition to a net zero future through the world-class development, construction, and operation of cleaner power assets across a diverse mix of renewable technologies. SSE Renewables is investing around £7bn to 2027, or almost £4m a day on average, to support the delivery of SSE's Net Zero Acceleration Programme to address climate change head on. This includes plans to increase installed renewable energy capacity to around 9GW by 2027.



Copenhagen Infrastructure Partners (CIP) is a fund management company specialised in offering tailor-made investments in energy infrastructure assets globally within the renewables and greenfield sectors. CIP is a trusted partner in projects across a wide range of technologies including offshore wind, onshore wind, solar PV, biomass, energy-from-waste, transmission and distribution, reserve capacity and storage, and other energy assets, such

as Power-to-X. They are known for execution certainty, with projects completed on budget and to specification. In the north of Scotland, CIP is developing both a floating demonstration project up to 10MW and a floating wind farm with a capacity of up to 100MW off the coast of Dounreay in the Pentland Firth.



Marubeni Corporation is a Japanese conglomerate with extensive interests in power generation and renewable energy. The company has built considerable offshore wind experience since its first investment into offshore wind in 2011 as the first Japanese IPP to enter the UK offshore wind market.

Marubeni brings a wealth of sector experience of delivering floating offshore wind to the consortium, including leading floating offshore wind demonstration projects in Japan with five different floating foundations. The Fukushima Floating Offshore Wind Farm was operational between 2013 and 2020, consisting of three floating turbines, with total capacity of 14MW, and one floating substation installed 20km off the coast of Naraha-town (Fukushima prefecture). The Kitakyushu Floating Offshore Wind Farm began operating in 2019, consisting of one floating turbine installed 15km off the coast of Kitayushu-city (Fukuoka prefecture).

Why?

With a potential capacity of up to 3.6GW, Ossian will become one of the world's largest floating offshore wind farms.

Scotland's ambitious climate change legislation sets a target date for net-zero emissions of all greenhouse gases by 2045. Net-zero emissions for Scotland would benefit our environment, people, and economy. Offshore wind power will be a significant contributor to this target, Ossian will play a key role in meeting this.

Estimated carbon emissions offset up to

7.5m tonnes*

Capacity up to

3.6GW

Site dimensions

858km²

Homes powered up to

6 million*

Aberdeen



Ossian wind farm

*Quoted 7.5m tonnes of CO2 reductions per annum based on expected annual output against average 440 tonnes CO2 per GWh for all non-renewable fuels, August 2021.

*6,000,000 homes powered per annum based on Typical Domestic Consumption Values (Medium Electricity Profile Class 1, 2,900kWh per household; OFGEM, June 2021), typical 50% projected wind load factor, and projected installed capacity of 3,600MW.

Map not to scale and for illustrative purposes only.

What is the purpose of this consultation?

As part of our project development, we are committed to undertaking extensive and ongoing engagement with all stakeholders to ensure their input is considered, and to help inform our ongoing Environmental Impact Assessment work.

This public consultation event is designed to keep the public and other interested parties up-to-date on the development of the wind farm Array, which focuses solely on the wind farm site, and to encourage feedback as Ossian progresses towards planning application submission.

We anticipate further events for the export cable and onshore infrastructure in 2024. These elements are subject to separate planning

application and are in the early stages of project development. We will keep the public, interested organisations and consultees updated as it progresses to the next phase.

Over the course of the month there will be four live question and answer sessions that will cover, project introduction, environmental assessments, supply chain and human environment.

It's important that we engage with as many people and groups as possible throughout public consultation, we look forward to hearing from you.

How to comment

We are hosting **4 live Q+A sessions** where the project team will be available to answer any questions you may have on the following topics:

- **Project Introduction**
- **Environmental Assessments**
- **Supply Chain**
- **Human Environment**

To access the live Q+A:

[Click Here](#)

We hope you find this virtual exhibition interesting and informative, and we look forward to hearing from you or seeing you at one of the live Q+A's.

Please note you can provide comment/feedback by **Friday 1st March 2024**. We would welcome hearing from you.

If you are unable to attend the Q+A sessions, please send through any queries to contact@ossianwindfarm.com.

Further information is also available on the project website at <https://www.ossianwindfarm.com>.



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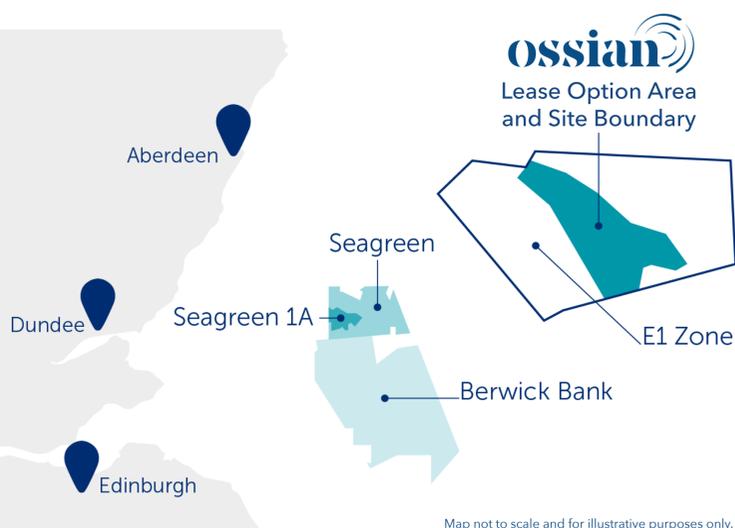
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Project Overview

Project Background

At 858 km² of seabed, Ossian is one of the largest lease areas to be offered by Crown Estate Scotland (CES) to any bidder in the ScotWind leasing round.

CES launched the first ScotWind Leasing Round in June 2020. This leasing round gave developers the opportunity to apply for the rights to build offshore wind farms in Scottish waters. The ScotWind application window for all registered applicants opened in January 2021 and closed in July 2021. Option to Lease Agreements were offered in January 2022, with Ossian Offshore Wind Farm Limited awarded an Option to Lease Agreement to develop Ossian, an offshore wind farm within the E1 East Plan Option (PO) Area as part of the ScotWind Leasing Round. You can find out more about the offshore leasing process on The Crown Estate website, [ScotWind leasing round | Crown Estate Scotland](#).



Map not to scale and for illustrative purposes only.

The wind farm Array, is located within the site boundary and includes the offshore infrastructure required to generate electricity including the wind turbines (including their floating substructures, as well as the mooring and anchoring systems), the fixed bottom Offshore Substation Platforms (OSPs), and inter-array and interconnector cables.

Although Ossian includes both the offshore and the onshore infrastructure required to generate, and transmit, electricity from the wind farm Array to an onshore grid connection point(s), the export cable route and Landfall(s) have yet to be agreed and will be decided following the outcome of the ongoing Offshore Transmission Network Review (OTNR) and National Grid Holistic Network Design Follow Up Exercise (HNDFUE) review.

Development Progress

40

Project Team members and growing

>100

Contracts signed

24

Months of Ornithological surveys

2023

- Environmental Impact Assessment (EIA) Scoping Report for the Ossian Array submitted to and opinion received from Marine Scotland setting out the approach to defining the environmental baseline and undertaking the EIA.
- Completion of two years of ornithology and marine mammal digital aerial surveys.
- Ongoing consultation with statutory and non-statutory stakeholders.
- Awaiting outcome of Holistic Network Design (HND) run by National Grid ESO for Ossian's grid connection(s).

Offshore Array Scoping Submission in March 2023: The Project has submitted an EIA Scoping Request to Marine Scotland which can be viewed at <https://marine.gov.scot/node/23664>.

To view the digital EIA Scoping Request please visit: <https://ossian-eia.com>.

Ossian has average water depths of 72m, making the site suitable for the deployment of floating offshore wind turbines to deliver up to **3.6GW** of new installed capacity - enough to be capable of powering up to **6 million homes** annually and offsetting up to **7.5 million tonnes** of carbon emissions each year.

Ossian will provide a significant proportion of the renewable energy capacity we need to meet government ambition and **help us reach net zero**.

Onshore and Transmission Infrastructure

The export cable route and Landfall(s) have yet to be agreed and will be decided following the outcome of the ongoing Offshore Transmission Network Review (OTNR) and National Grid Holistic Network Design Follow Up Exercise (HNDFUE) review. As such we are currently progressing the consent application and public consultation for the wind farm Array. Separate consent applications and public consultation will be held for the onshore and transmission infrastructure at an appropriate time.



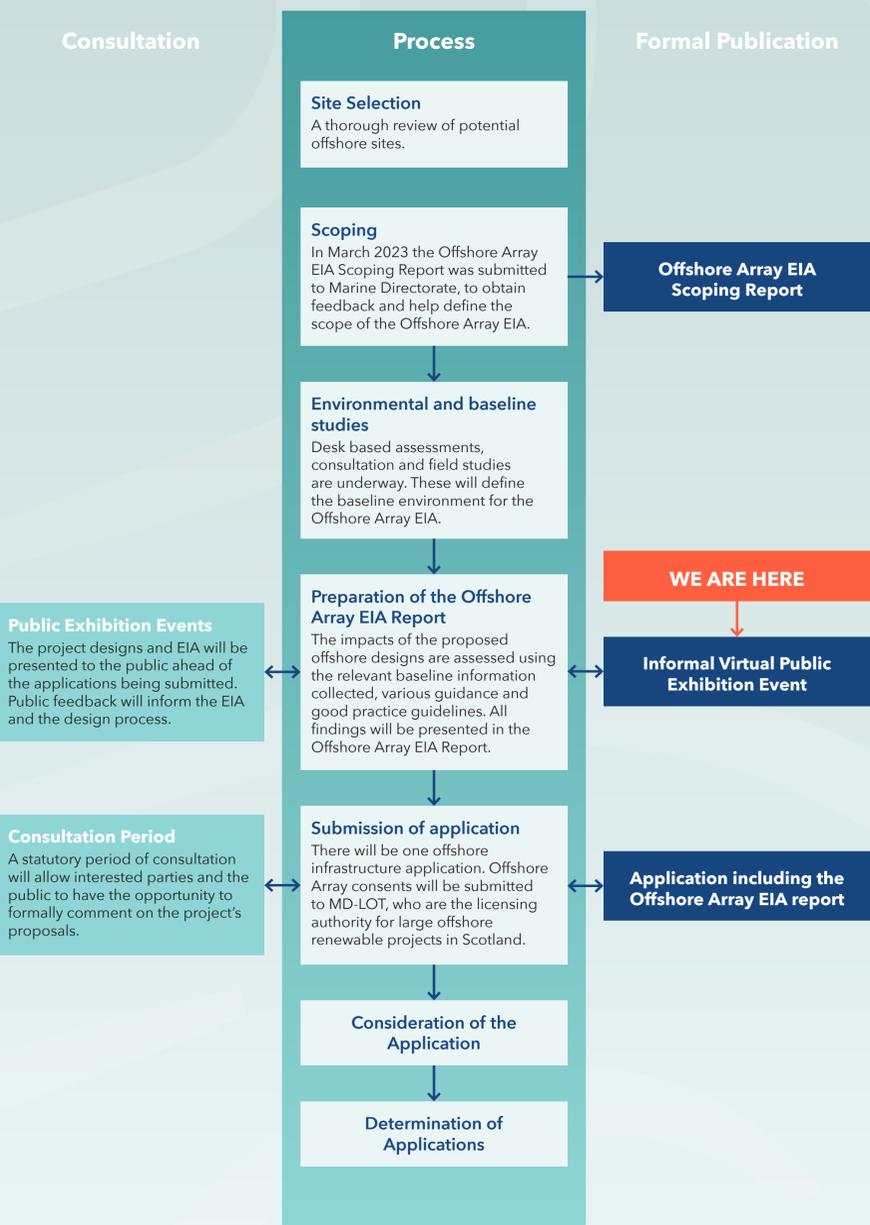
Offshore Wind Farm Array Public Consultation

Development and Consenting Process

The Consenting Process

We are seeking consent for the wind farm Array. The applications for consent will be submitted to Scottish Government's Marine Directorate - Licensing Operations Team (MD-LOT). We have been engaging in early discussions with MD-LOT, which will continue over the coming months up to the point of application.

The Development Process



Environmental Impact Assessment (EIA)

What is EIA?

EIA is a process which identifies and assesses the potential significant effects of a project, informs the design of the project from an environmental perspective, and sets out standard industry and additional mitigation measures to eliminate or minimise the project's effect on the environment.

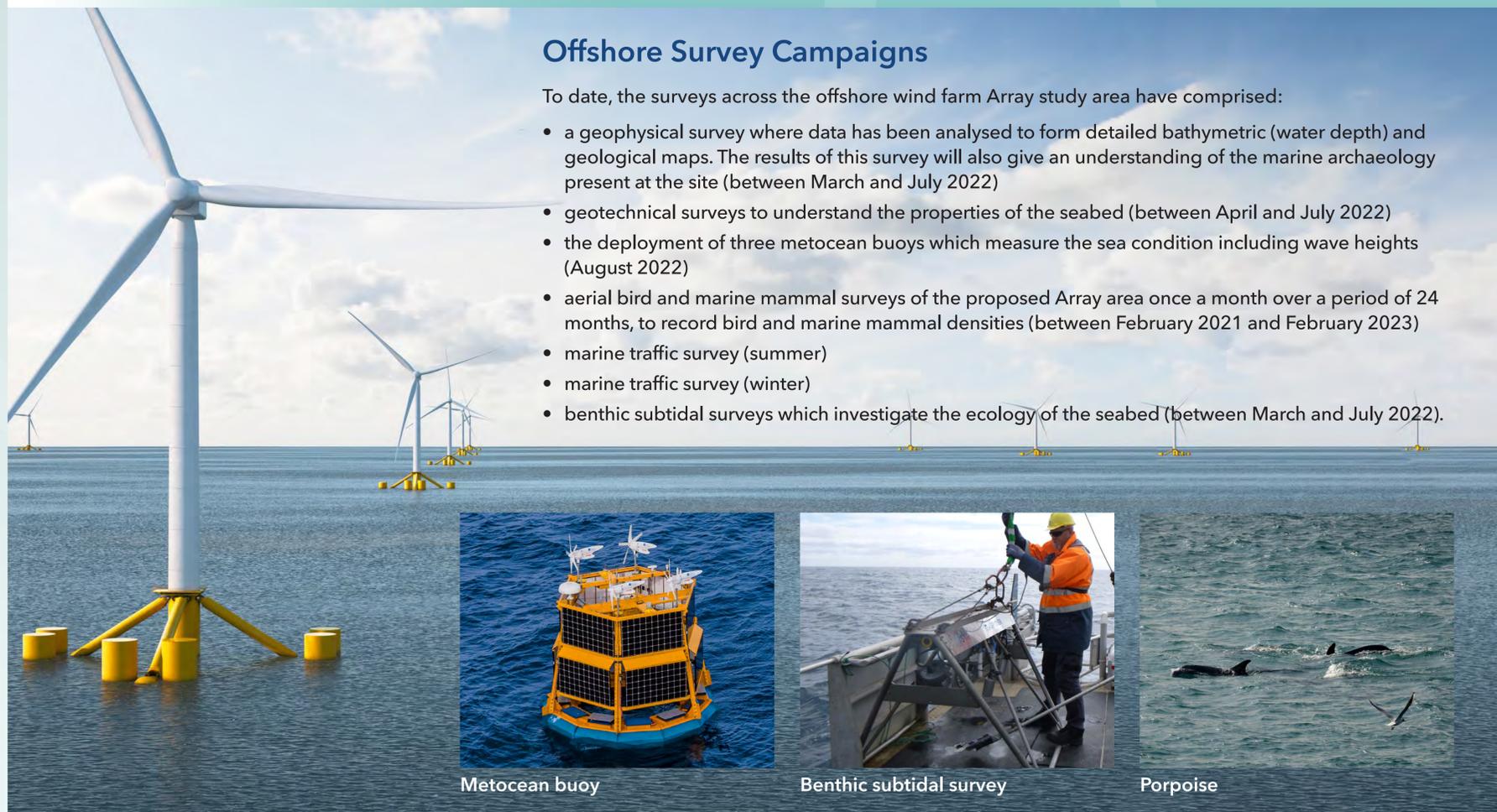
Ossian Approach to EIA

Our EIA approach reflects the consenting approach and distinguishes between offshore and onshore infrastructure, with separate EIA Reports to be prepared in respect of each. The Offshore Array EIA Report for the offshore infrastructure will be submitted to MD-LOT in support of the offshore proposals' consents application. Submission of the Offshore Array application for consent is anticipated Q2 2024.

Where are we in the EIA process?

We have been working to complete the Offshore Array EIA Report, covering topics in the human, biological and physical environment and plan to submit in Q2 2024. The topics included in this report have been decided after feedback from stakeholders, received as part of the EIA Scoping Opinion.

Human Environment	Commercial Fisheries
	Shipping and Navigation
	Aviation, Military and Communications
	Marine Archaeology
	Infrastructure and Other Users
	Major Accidents and Disasters
	Offshore Socio-Economics and Tourism
Biological Environment	Inter-Related Effects
	Benthic Subtidal Ecology
	Fish and Shellfish Ecology
Physical Environment	Marine Mammals
	Offshore Ornithology
	Physical Processes
	Underwater Noise
	Climatic Effects



Offshore Survey Campaigns

To date, the surveys across the offshore wind farm Array study area have comprised:

- a geophysical survey where data has been analysed to form detailed bathymetric (water depth) and geological maps. The results of this survey will also give an understanding of the marine archaeology present at the site (between March and July 2022)
- geotechnical surveys to understand the properties of the seabed (between April and July 2022)
- the deployment of three metocean buoys which measure the sea condition including wave heights (August 2022)
- aerial bird and marine mammal surveys of the proposed Array area once a month over a period of 24 months, to record bird and marine mammal densities (between February 2021 and February 2023)
- marine traffic survey (summer)
- marine traffic survey (winter)
- benthic subtidal surveys which investigate the ecology of the seabed (between March and July 2022).



Metocean buoy



Benthic subtidal survey



Porpoise



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Project Details

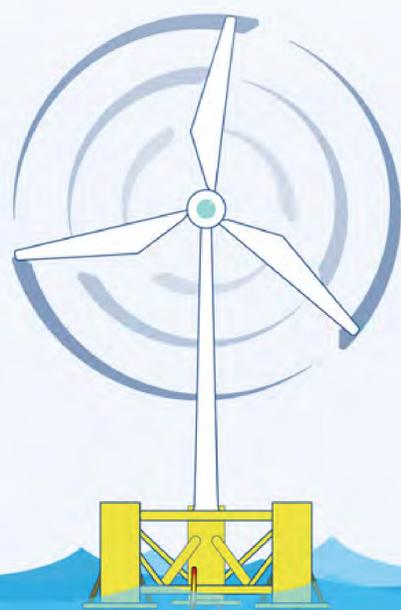
The Ossian wind farm Array area is located in the North Sea approximately 80 km east of the Aberdeenshire coastline and covers a total area of approximately 858 km².

The project will have a total generating capacity of up to 3.6 GW and comprise of wind turbine generators installed on floating foundations which will be tethered to anchor points on the seabed using mooring lines.

The wind farm Array infrastructure will comprise of the following key components:

- Up to 265 wind turbine generators installed on floating foundations constructed from steel or concrete;
- Up to 9 mooring lines that will be anchored to the seabed using an anchor. Various anchoring solutions are currently being considered.
- Up to 1261 km of inter-array cabling connecting strings of turbines to each other and to the substation platforms. The majority of the export cables will be laid on the seabed and protected through burial or using cable protection where burial isn't possible. Up to 116 km of electrical cable will be within the water column and will connect the static cable to the floating turbine.
- Ancillary equipment may be required to maintain the position of moorings and inter-array cables in the water column. These may comprise clump weights or buoys. Graded rock, or similar, may be installed to protect cables or where there is a risk of scour around installed infrastructure on the seabed.
- A number of offshore substation platforms that will sit within the Array and collect power generated from the turbines and convert this for export to the national grid via the Ossian transmission infrastructure. The OSPs will be installed onto steel jackets that will be installed onto the seabed using piled foundations.

At present Ossian have undertaken preliminary design work only and are exploring the technologies that will be used to construct and for operation of the wind farm and as a result consent is being sought for a design envelope that allows for flexibility in the final project design.



Key Parameter	Value
Maximum number of turbines	265
Maximum hub height*	224m
Maximum blade tip height*	399m
Maximum Rotor Diameter	350m

(* above Lowest Astronomical Tide)

Example of floating offshore wind turbine
Graphic not to scale and for illustrative purposes only.



Just under
80km
to shore at
nearest point



11.2m/s
mean wind
speed
(based on 155m hub height)



858km²
site area



64m-89m
water depth
range in the site



Up to
3.6GW
capacity

Joint venture between SSE Renewables, Marubeni Corporation and Copenhagen Infrastructure Partners

Map/graphic not to scale and for illustrative purposes only.

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SSE Renewables

Marubeni

CIP
Copenhagen Infrastructure Partners



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Wind Farm Array

Ornithology

The Ossian team have recently completed digital aerial bird surveys and have collected a large amount of data about the presence/absence and density of birds and marine mammals in the survey area. Many of these species, such as puffin, razorbill and guillemot fly close to the water's surface and are not at risk of colliding with the turbines. However, other species such as kittiwake and gannet fly higher. We are carrying out detailed modelling of likely effects of the project on bird populations to understand the magnitude of impacts. This will form part of our EIA and will inform the decision-making process and any mitigation to be incorporated.

Marine Mammals

During digital aerial surveys we were able to gather large amounts of data on marine mammals within the area. Assessing the use of the area by marine mammals is particularly important as they are sensitive to noise and may be impacted by works associated with the development.

Benthic Subtidal Ecology

As we are installing anchors for the mooring lines, it is important that we know what is living there. Therefore, we have undertaken an extensive benthic survey campaign defining the habitats and species present. During these surveys we identified ocean quahog, a bivalve mollusc, which can live to 150 years old.

Fish and Shellfish Ecology

We are also assessing the fish and shellfish ecology that is present as these can also be affected, positively and negatively, by the wind farm Array. This includes assessing any effects that the structures may have on fish behaviour and also the effects of the mooring lines and cables on the species present. The detailed survey work done to date will allow the team to propose the most environmentally sensitive design possible.

Fishing

Commercial fisheries are an important industry to the coastal communities around the UK. Ossian will liaise closely with those stakeholders to understand the types of fishing that may be affected by the Ossian wind farm Array, how important the area is to the sector and the concerns that they may have about the wind farm. By doing this we can understand the potential impacts that the project may have on the fishing industry during the different project phases (e.g. construction, operation and maintenance, and decommissioning).

Shipping & Navigation

We have engaged a specialist navigational consultant and are currently developing a Navigational Risk Assessment, which will be used to determine the potential effects of the wind farm on commercial shipping interests in the area. We will seek to develop appropriate mitigation, where required, in consultation with relevant stakeholders.

Visual Impact

The Ossian wind farm Array is located approximately 80 km at its closest point to the Aberdeenshire Coast, and as such we consider any potential visual impact from the shore to be minimal. Marine Directorate agreed that potential seascape and landscape impacts could be scoped out of the EIA.

Example of offshore substation platform



Kittiwake



Gannet



Anenome



Fishing boats

Habitat Regulation Assessment (HRA)

The Habitats Regulation Assessment (HRA) process is a step-by-step process that aims to determine the impacts of Ossian, both alone and in-combination with other projects, on ecological receptors of international importance protected within the UK National Site Network (formerly known as the Natura 2000 network). The three key steps in HRA are as follows:

- HRA Stage 1 - Screening: to determine whether there is potential for a Likely Significant Effect alone and/ or in-combination with other projects or plans, on designated sites).
- HRA Stage 2 - Appropriate Assessment: Provide the licensing authority with the required information to complete an assessment of implications on designated sites where there was potential for a likely significant effect on the conservation objectives to determine if the proposal will adversely affect the integrity of a National Site Network site.
- HRA Stage 3 - Derogation: Where it cannot be ascertained that the proposal will not adversely affect the integrity of a National Site Network site Ossian will be required to collate a derogation case in support of the application. It will need to consider the alternative solutions, demonstrate that there is overriding public interest for the project to progress and provide appropriate compensation measures to offset impacts on designated receptors.

What is the National Site Network (NSN)?

A network of internationally important nature conservation sites that aim to conserve and promote recovery of a range of habitats and species. The network was formerly known as Natura 2000 sites and comprises the following designations:

- Special Areas of Conservation (SAC) are designated under the Habitats Directive to promote the protection of flora, fauna and habitats; and
- Special Protection Areas (SPAs) are designated to protect rare, vulnerable and migratory birds.

Ossian wind farm Array - What are we doing?

The conclusions of the HRA will be presented in a Report to Inform Appropriate Assessment (RIAA) which will be submitted with the consent applications for the wind farm Array. The RIAA will assess the potential for adverse effects of the wind farm on designated features of NSW sites. The HRA will determine if the proposal would result in any adverse effects to the integrity of any designated site either as a result of the wind farm Array alone, or in combination with other developments.

Where there is potential for a conclusion of an Adverse Effect on Integrity on a National Site Network site, Ossian will also prepare a derogation case, with an associated package of compensation measures which will also be submitted alongside the Application.



Puffin



Kittiwake



Gannet



Razorbill

Project Benefits and Local Opportunities

Supply Chain

The Project Partners are implementing a Supply Chain Development Statement (SCDS) that builds on their long-standing experience with the Scottish supply chain and their success in driving localisation across several other offshore wind markets worldwide.

The SCDS will support the expansion of the Scottish floating offshore wind supply chain and help establish Scotland as a leader in this field. A multi-million-pound supply chain fund has been established to support the delivery of the SCDS.

The Project's Supply Chain strategy is underpinned by 4 key pillars:

- Maximising opportunities for Scottish suppliers
- Working with Scottish suppliers from oil and gas to transition into offshore wind
- Supporting new market entrants
- Developing the future workforce, skills, and employability.

The Project Partners are already exploring options to expand the Scottish floating offshore wind supply chain and have entered into collaboration agreements and Memorandums of Understanding with several supply chain partners.

Read our Supply Chain Development Statement here, [E1 East Floating Offshore Wind Farm SCDS Outlook Issued Post Award \(draft\) \(crownstatescotland.com\)](#) which formed part of the bid submission to the ScotWind leasing auction.

Ossian commenced early engagement with the supply chain during the ScotWind bid phase and continues to establish relationships with suppliers. As part of this commitment Ossian is working alongside the Scottish Offshore Wind Energy Council (SOWEC). This partnership brings together the Scottish public sector and the offshore wind industry, co-chaired by Gillian Martin MSP, the Scottish Government's Minister for Energy, Gillian Martin, and Brian MacFarlane of SSE. SOWEC's main objective is to coordinate and grow the offshore wind sector harnessing sustainability and ensuring a commercial focus.

For more information on SOWEC please visit, [Scottish Offshore Wind Energy Council | HIE \(offshorewindscotland.org.uk\)](#).

Suppliers can register interest and get in touch with us via our website www.ossianwindfarm.com or scan the QR code:



Education, Research and Community Benefit

Ossian's joint venture partners have accumulated a wealth of experience working directly with education and communities across the UK and globally. There is a shared vision that key to the successful delivery of renewable projects there must be a focus on skills development, research to enhance technology innovation and working closely with communities.

Ossian shares this commitment and has established a multi-million-pound Education, Research, and Community Benefit Fund.

As part of this, Ossian established a Memorandum of Understanding with the University of the Highlands and Islands (UHI) in 2021. With £500,000 having already been designated to fund a series of skills, employability, and research activities with the University of Highlands and Islands (UHI). In January 2023 UHI announced £960k of funding that 4 ScotWind projects have contributed to over 3 academic years. This is the largest gift donation UHI have received with the funds supporting targeted STEM outreach across 7 regions in the Highland and Islands. In June 2023, it was announced that 10 STEM coordinators had been recruited and next steps were initiating localised plans for each of the 7 regions. We look forward to working closely with UHI in the coming years to encourage young people to find out about the innovative and exciting opportunities in the Offshore Wind sector.

Local community engagement is very important to Ossian and linked to this is the outcome of National Grid ESO's (NGESO) Holistic Network Design Follow Up Exercise (HNDFUE). We anticipate that NGESO will be sharing the outcome of their plans to upgrade the grid later this year, at this time Ossian's grid connection location(s) will be confirmed and we can establish contact with those communities. Our commitment is to foster open and honest communication, ensuring that communities have the opportunity to feed into our project plans at early development stage. It is also critical that this dialogue supports shaping Community Benefit, working together to ensure that funds are tailored to residents and the locality.

Future engagement opportunities with local communities will be shared on our website www.ossianwindfarm.com in due course. If you do have any questions, we would encourage you to contact our team via this email address: contact@ossianwindfarm.com.

University of the Highlands and Islands STEM coordinators and funders

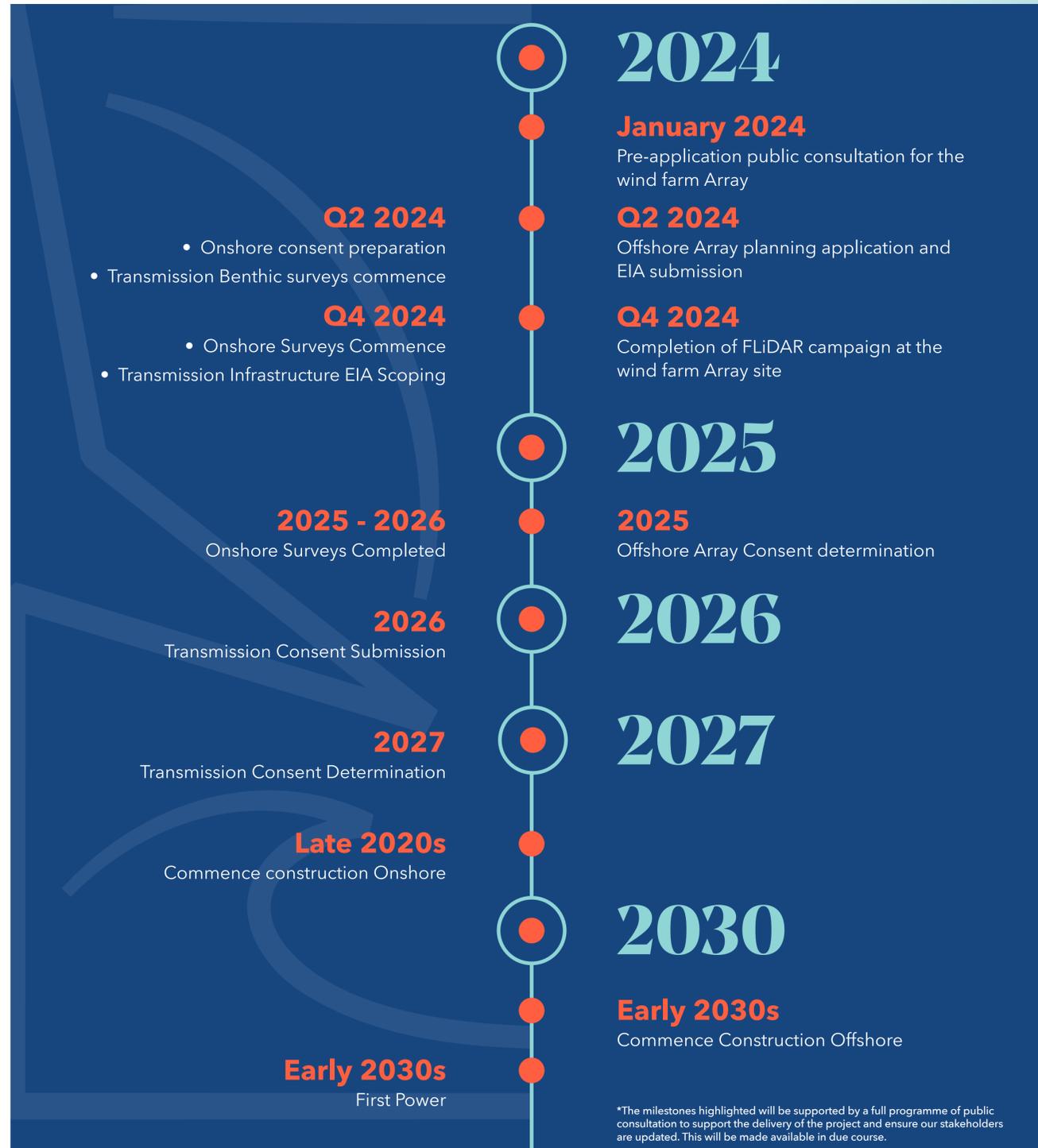


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Next Steps

Ossian is in the early stages of the development phase, currently focusing on the consent of the wind farm Array. This will be followed by separate public consultation and consent applications for the export cable and onshore infrastructure. The project will have a better understanding of programme and delivery post National Grid ESO's publication of the Holistic Network Design Follow Up Exercise expected later this year. Ossian continues to engage closely with stakeholders and will be providing updates on planned engagement activities on our website.

Indicative project timeline



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