West of Orkney Windfarm

WEST OF ORKNEY WINDFARM

The West of Orkney Windfarm is located around 30km west of Orkney and 25km from the north coast of Scotland. The project is being developed by Corio Generation, TotalEnergies and RIDG, a consortium with deep Scottish roots, a commitment to delivery and a clear vision for the project.

2 MILLION
HOMES SUPPLIED WITH ELECTRICITY

2029
TARGET FIRST GENERATION

~2000MW
OF POWER WILL BE GENERATED

CORIO TotalEnergies RIDG

www.westoforkney.com

West of Orkney Windfarm

OFFSHORE

- Up to 125 wind turbine generators with a maximum tip height of 370m
- Fixed turbine foundations
- Up to five offshore substation platforms
- Inter-array cables linking the wind turbines and offshore substation platforms
- Up to five export cables to Caithness
- Up to five export cables to Flotta (future separate application)

ONSHORE

- New substation at or near Spittal
- Up to five underground cable circuits from landfall point to substation
- Orkney infrastructure subject to future separate application
- New substation near existing Flotta Oil Terminal/proposed Flotta Hydrogen Hub
- Up to five underground cable circuits to Flotta substation

www.westoforkney.com

West of Orkney
Windfarm

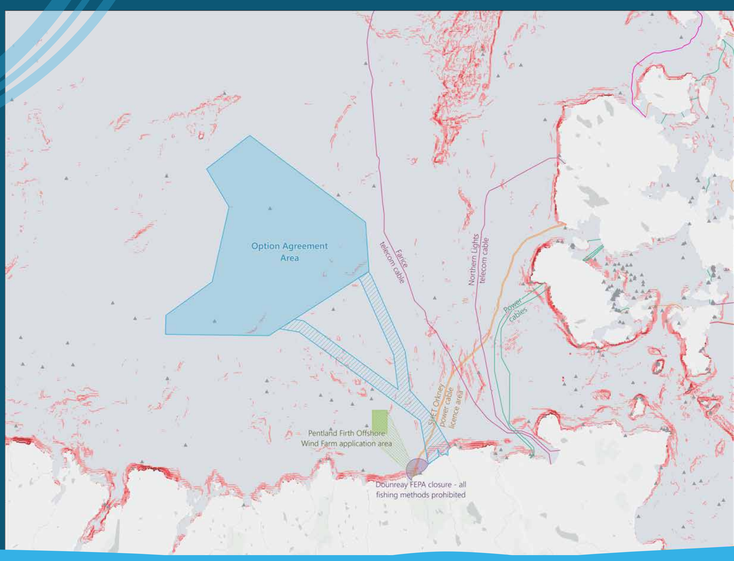
ONSHORE PROPOSAL

West of Orkney Windfarm originally received an offer from National Grid in August 2019 to connect to the electricity network at either Dounreay or Spittal. In November 2020, National Grid confirmed that West of Orkney Windfarm's grid connection would be 'at or near Spittal'. The proposed onshore infrastructure for the West of Orkney Windfarm will include:

- Cable landfalls – at Greeny Geo and/or Crosskirk
- One cable transition joint bay at each landfall
- Up to 5 underground onshore cables, buried to a depth of 1m, subject to ground conditions. The onshore cables shall extend for a distance of approximately 22km
- A new onshore substation, at or near the existing Spittal substation. This location was deemed suitable by National Grid and Scottish Hydro Electric Transmission Limited. The exact location and size will depend on ground conditions, landowner agreement and grid requirement
- Temporary construction compounds for the onshore substation and onshore export cables, subject to landowner agreements
- Potential new access tracks for the onshore export cables, landfalls and onshore substations, subject to agreement with land owners and The Highland Council.

www.westoforkney.com

West of Orkney Windfarm



Wreck/obstruction

Seabed slope (degrees)

- 0-2
- 2-5
- 5-10
- 10-20
- >30

CABLE ROUTE REFINEMENT

Potential locations for offshore substations have been a key factor in identifying suitable cable routes to bring the electricity to the shore. Other significant factors affecting the selection process for the offshore cable routes include:

- Shipwrecks
- Protected species and habitats
- Commercial fisheries
- Recreational users

The study area for the onshore cable route is illustrated below. Discussions and assessment to refine the route are ongoing and consideration is being given to a broad range of features including:

- Physical features, such as geology and hydrology
- Peatland areas
- Private water supplies
- Wildlife and their habitats, including protected sites
- Archaeology
- Existing and planned infrastructure, e.g. onshore windfarms

- Geological conservation review (GCR) site
- Special area of conservation (SAC)
- Special protection area (SPA)
- Site of special scientific interest (SSSI)

Onshore windfarm status

- Constructed
- Under Construction
- Approved
- Scoping/Screening; In Planning
- Status unknown

www.westoforkney.com

West of Orkney Windfarm

OFFSHORE SURVEY RESULTS
SHIPPING & NAVIGATION

Extensive work has been undertaken to understand the windfarm's potential impact on shipping and navigation. The Automatic Identification System (AIS) is an automatic tracking system that tracks the location of vessels. Analysis of data for the period from January 2021 to December 2021 show an average of 22 vessels per day through the study area, 4 of which were within the West of Orkney Option Agreement Area (OAA). The most frequent types of vessel present were cargo vessels followed by fishing vessels.

VESSEL DENSITY FROM JANUARY-DECEMBER 2021

The AIS data analysis clearly indicates that there is a high density of vessel traffic that passes to the south of the Project's OAA, with lower volumes of traffic passing through the OAA itself.

The analysis shows that there is little seasonal variation in terms of shipping and navigation with an average of 22 vessels per day passing through the survey area and 4 vessels per day in the OAA throughout the year. These values broadly align with a dedicated vessel traffic survey undertaken in August 2022.

www.westoforkney.com

West of Orkney Windfarm

OFFSHORE SURVEY RESULTS

BENTHIC SURVEYS

An environmental survey was undertaken from August-September 2022 over the West of Orkney Option Agreement Area (OAA) and Export Cable Corridor (ECC) to Caithness. This included a benthic survey to understand the composition of the seabed and identify any potential habitats that could be disturbed during construction.

The seabed survey data will be analysed alongside geophysical data in order to characterise and map the habitats and species that could be impacted by the Project.

Photographs, videos and samples of the seabed and water were taken, as follows:

- Grab samples and drop down video taken from 82 seabed locations
- Targeted video transects conducted at 17 locations
- 20 water samples for suspended sediments and environmental DNA (eDNA) analysis

Environmental DNA (eDNA) sequencing is a rapidly emerging method for studying biodiversity. As organisms shed DNA into their environments, eDNA analysis can provide clues about the species present without disrupting the ecosystem. The West of Orkney Windfarm is one of the first offshore wind projects to apply this survey method!

Out of the 17 video transects that were conducted, 13 of these were found to contain potential Annex 1 habitats, including stony and bedrock reef:

Stony reef

Bedrock reef

PRIORITY MARINE FEATURE (PMF) HABITATS

PMF Habitats are habitats that are listed as a priority for conservation. Some of the PMFs observed during the survey included:

- Atlantic offshore (deep) circalittoral habitats with fine sands or non-cohesive muddy sands
- Offshore (deep) circalittoral habitats with coarse sands and gravel or shell

PMF species observed included:

- Sandeels
- Blue Skate
- Ocean quahog
- Norway pout
- Cod
- Whiting
- Ling

Atlantic offshore

Offshore

www.westoforkney.com

West of Orkney Windfarm

Image of ocean sunfish taken during digital video aerial survey

OFFSHORE SURVEY RESULTS

ORNITHOLOGY & MARINE MAMMALS/MEGAFAUNA

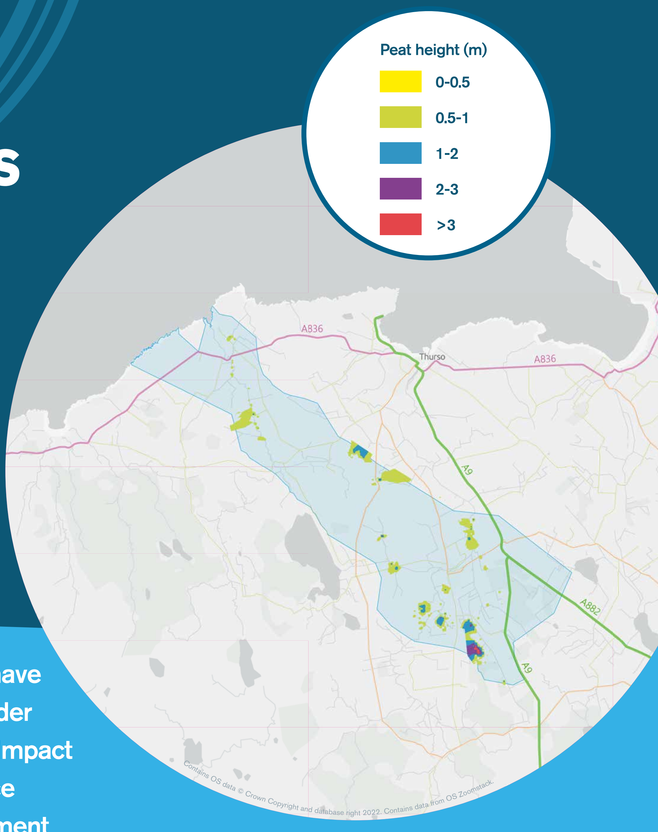
Digital video aerial surveys were conducted from July 2020 to September 2022 over the West of Orkney OAA, plus a 4 km buffer. The digital aerial surveys were supplemented by visual observations by Marine Mammal Observers (MMOs) during the geophysical and benthic surveys. The video footage is being analysed for birds, marine mammals, and basking sharks. The surveys analysed from July 2020 to June 2022 have recorded a total of 27,278 birds of 32 species and 415 non-avian, animals of 12 species, as listed in the table below. Over 97% of species were positively identified with 35 seals and 11 cetaceans unidentified.

SPECIES	TOTAL INDIVIDUALS
Common guillemot	10,011
Other bird species	17,267
Harbour porpoise	124
White beaked dolphin	96
Lion's Mane jellyfish	94
Common dolphin	42
Seal (unidentified)	35
Risso's dolphin	20
Grey seal	13
Cetacean (unidentified)	11
Basking shark	4
Ocean sun fish	4
Barrel jellyfish	3
Minke whale	3
Bottlenose dolphin	1
Porbeagle shark	1

www.westoforkney.com

West of Orkney
Windfarm

ONSHORE SURVEYS



An extensive programme of surveys have been undertaken or are ongoing in order to inform the onshore Environmental Impact Assessment (EIA) for the Project. Once surveys are complete, impact assessment studies will be undertaken in order to identify potential impacts and assess their significance. The results of the surveys and studies will be communicated in subsequent consultation meetings and events. Impacts will be assessed for all phases of the Project from construction, operations and maintenance, through to decommissioning.

LAND USE, AGRICULTURE & SOILS

A site walkover survey was undertaken to ground truth receptors including soils, land use, property and recreational areas present within the onshore project area and its surrounds. A separate woodland and forestry study is also being undertaken in order to identify woodland areas that could be impacted from the onshore Project.

VISUAL AMENITY AND LANDSCAPE

A range of viewpoints have been identified through site surveys and consultation which will be used to illustrate potential impacts on visual amenity through the use of wireline images and photomontages. The Project has also developed a 3-D model which can be interrogated by the public on what the Project will look like from different locations. Impacts on landscape character from the introduction of new infrastructure to the environment will also be assessed. The landscape character baseline is informed by publicly available reports, commissioned by The Highland Council and NatureScot, that have characterised the landscapes present in Caithness and Sutherland.

GEOLOGY AND HYDROLOGY

A field walkover survey was initially undertaken to identify the main topographical, hydrological and hydrogeological features within the project area and its surrounds, including drainage patterns, watercourse crossings, water catchments and supplies and peatlands. The survey was supplemented by a land owner questionnaire in order to identify private water supplies, amongst other things. Peat depth surveys have also been completed for areas where peat was considered likely or possible within the onshore Project area.

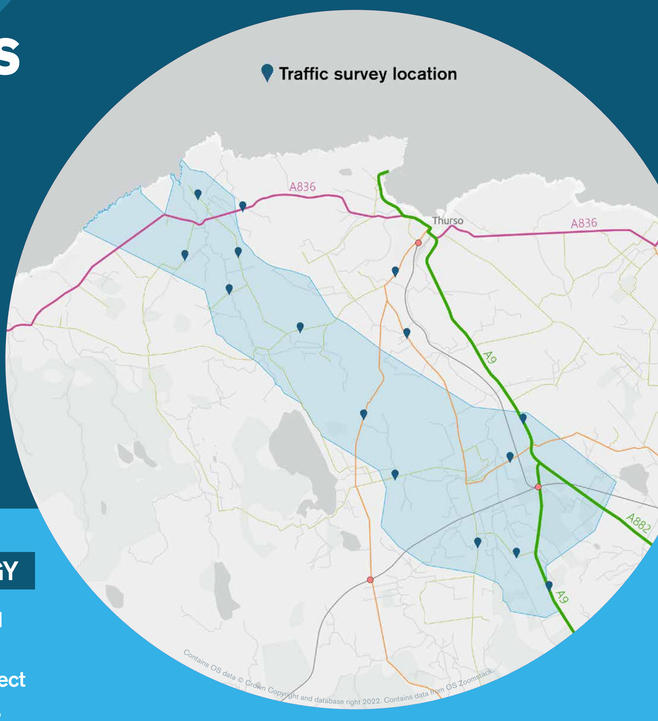
FRESHWATER ECOLOGY

Several watercourses in the Thurso and Forss catchments are present in the onshore Project area. As these are assumed to contain suitable habitats for Atlantic salmon, trout, eels, lamprey, and other important aquatic species, it was necessary to undertake surveys to understand the possible species distribution and any potential risk posed by the Project. An initial reconnaissance walkover survey was undertaken in May 2022, followed by detailed habitat surveys during July and August 2022. The results indicated the widespread distribution of good in-channel habitat, along with several channels with reduced habitat quality.

www.westoforkney.com

West of Orkney Windfarm

ONSHORE SURVEYS



TERRESTRIAL NON-AVIAN ECOLOGY

Initially a 'Phase 1' desk study was completed using aerial photography to characterise the habitats present throughout the onshore Project area and identify target areas for survey work. This was followed by a National Vegetation Classification (NVC) survey to map sensitive habitats and to classify ground water dependent terrestrial ecosystems. Other surveys undertaken have identified the presence / absence of protected species and habitats and include: Scottish Primrose; badger; otter and water vole; pine marten and red squirrel; bat roost potential; reptile habitat and great crested newt habitat suitability. A separate deer study is also being undertaken in order to identify potential impacts on this species from the onshore Project.

TRAFFIC AND ACCESS

A desk study traffic survey data has been undertaken and project specific surveys commissioned to characterise the existing traffic network. The map below indicates the locations where traffic count data is being collected.

TERRESTRIAL ORNITHOLOGY

A programme of bird surveys is ongoing to identify local ornithological features. Breeding bird surveys have been completed between March – September 2022 and wintering bird surveys started in September 2022 and will continue through to March 2023. Specifically, the following have been surveyed: breeding raptors and owls; targeted breeding birds, excluding habitats of low suitability (improved grassland and commercial forestry); divers; seabirds; corncrakes; goose; wintering birds; and wetland birds.

ARCHAEOLOGY & CULTURAL HERITAGE

Initially a desk study was undertaken to identify known archaeological and cultural heritage features within and surrounding the onshore Project area, this included data collected from record centres and archives. A walkover survey was then undertaken to evaluate the current state of any known sites and to determine whether there were any previously unrecorded historic features visible or present in the onshore Project area. Survey work will also assess potential impacts on the setting of historic features due to the presence of the onshore substation.

NOISE AND VIBRATION

The main source of noise from the Project is likely to come during the construction phase. Whilst noise during operations and maintenance is unlikely to cause significant disturbance, noise from the operational elements of the Project, such as the substation, does need assessed. A background noise survey has been commissioned in the area around the proposed substation location.

OTHER TOPICS

Although no Project specific surveys are required, the EIA will also study the potential impacts on air quality and climate change.

www.westoforkney.com

West of Orkney Windfarm

SEASCAPE, LANDSCAPE, AND VISUAL (SLVIA)

The potential visibility of the Project and subsequent effects on the coastal and landscape character, landscape designations, and on the visual amenity of people are being considered and assessed as part of the design and EIA process.

The initial SLVIA study area extends to 60 km from the outermost turbines which includes the Caithness and Sutherland coastlines, and the west mainland of Orkney and Hoy. The Study Area is informed by a zone of theoretical visibility (ZTV). A ZTV is a computer-generated tool that establishes the likely maximum extent of the visibility of a proposed development and enables key visual receptors and agreed viewpoints from which the impact of the development would be assessed to be identified. A ZTV based on preliminary design options has been prepared to inform the SLVIA.

The ZTV illustrates that potential visibility would be along the north coast of Caithness and Sutherland, and the west coast of Hoy, mainland Orkney, Rousay and Westray. It is not continuous visibility along the north coast of the Scottish mainland due to the fissured and rocky cliff character with many sheltered inlets and bays.

Inland in Sutherland, the visibility is very fragmented, largely within approximately 20km from the coastline and limited to the north facing elevated areas. This includes around Kyle of Tongue and north-west Sutherland. In the east, inland visibility is very limited, to within approximately 10 km from the coast, due to the lower moorland and flows landscape in this area which has very limited intervisibility with the sea. Inland on the Orkney Isles, potential visibility is illustrated along the moorland hills between Kirkwall in the south and Evie in the north.

www.westoforkney.com

West of Orkney
Windfarm


Beinn Ratha


Bay of Skaill


Ben Hope

SEASCAPE, LANDSCAPE, AND VISUAL (SLVIA)

A selection of viewpoints has been considered through desk and site survey and agreed with NatureScot, The Highland Council and Orkney Islands Council. These represent a variety of landscape and visual receptors, distances and directions from the Proposed Project. Wirelines and photomontages of the Project from these agreed viewpoints will be produced to accompany the SLVIA.

Early examples of these are shown here from a selection of locations across the Study Area to illustrate the likely appearance of the West of Orkney Windfarm. This is based on an indicative turbine layout and size. The photographic panoramas reflect an indicative worst case layout which is subject to change ahead of consent application.

www.westoforkney.com

West of Orkney Windfarm

WORKING GROUPS AND CONSULTEE MEETINGS

The Project team has established several Working Groups and has an ongoing programme of consultee meetings to discuss particular aspects of the proposed Project. The groups involve local and technical experts with relevant experience and knowledge of the area.

There is also an ongoing programme of meetings with specialist consultees to discuss the scope of the surveys and studies and share early results.

The key objective is to ensure that consultees are aware of all potential impacts and proposed mitigation ahead of application submission and that the application doesn't include any unexpected information. Topics discussed include, but are not limited to:

- Seascape, landscape and visual impact
- Shipping and navigation
- Ornithology
- Marine mammals and megafauna
- Marine habitats and species
- Archaeology
- Terrestrial ecology

COMMERCIAL FISHERIES

Local associations, federations and Independent Fisheries Groups representing local fishermen have been attending the Commercial Fisheries Working Group and liaising with the Project team. Topics discussed have included the cable corridor route, potential options for landfalls and mitigation measures, and the sharing of up-to-date relevant data.

SOCIO-ECONOMIC

The Socio-Economic Working Group was established to ensure that socio-economic activities within the region are represented and considered. The Group works collaboratively to share knowledge, exchange data sources and discuss ways in which the Project's potential benefits can be maximised.

SPECIALIST CONSULTEES INCLUDE:

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

Historic Environment Scotland | Àrainneachd Eachdraidheil Alba

Maritime & Coastguard Agency

The Highland Council Comhairle na Gàidhealtachd

Orkney Islands Council

www.westoforkney.com

West of Orkney Windfarm

COMMUNITY PANELS

Three Community Panels have been established to bring community leaders and representatives from Orkney, Caithness, and Sutherland together to discuss the proposals. The Panels include 26 Community Councils and 7 Development Trusts representing those areas most likely to be impacted by the Project.

The Panels have been discussing how best to engage with local people and how the Project can benefit local communities. Future discussions are likely to focus on the community benefit fund which will be established to provide financial contributions to local communities once the windfarm is operational.

Recurring themes have emerged during these conversations with particular interest in directing the fund towards initiatives which:

- Support affordable housing initiatives
- Improve the stability of the electricity supply
- Enhance employability through skills development
- Create employment opportunities

SUMMER EVENTS

Following discussions with the Community Panels, the West of Orkney Windfarm Project team attended the following summer events in July and August 2022:

Community Summer Events	Date
Durness Highland Gathering	29 July
Halkirk Highland Games	30 July
Dounby Show	11 August
Orkney Show	13 August

Over 1,100 people visited the stand where they were able to hear more about the Project, ask questions and provide feedback through our community questionnaire.

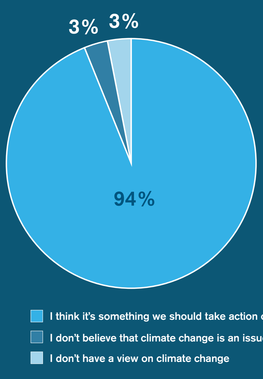
www.westoforkney.com

West of Orkney Windfarm

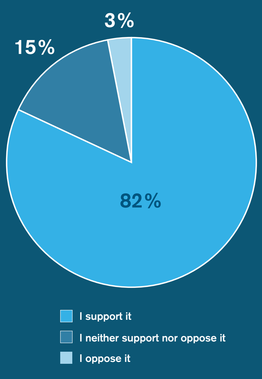
COMMUNITY QUESTIONNAIRE

To date, over 250 questionnaires have been completed. The charts and quotes below illustrate responses to some of the key questions asked. More detailed interviews are planned to explore these issues in greater depth.

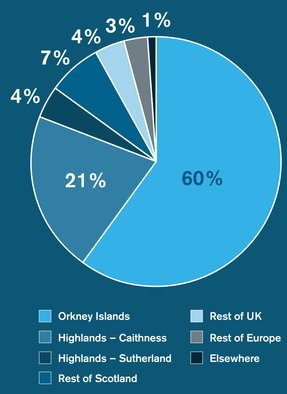
In general, what is your attitude towards climate change



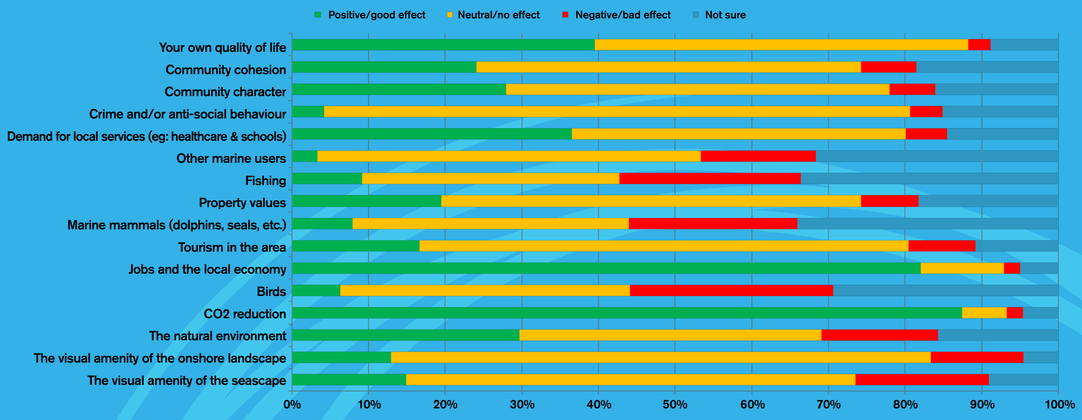
How would you describe your reaction to the West of Orkney Windfarm?



Where do you live?



IF THE PROJECT GOES AHEAD, WHAT EFFECT, IF ANY, DO YOU THINK IT WILL HAVE ON:



"Investment in renewables should urgently speed up."

"This is an important and exciting development for Orkney, I hope the positive sustainable development and economic impact are promoted."

"I am most concerned about the impacts of seabird, cetaceans and other marine life."

"Need this to tackle climate crisis – but would be good if it helped fuel poverty locally."

"How does it benefit local people?"

"Curious about job creation."

"Go for it!"

"I support offshore development, just have concerns about environmental impact and how it will directly affect Orkney residents (for good or bad)."

Community Benefit

Community benefit funds (CBF) are a voluntary payment provided by developers to local communities to benefit from commercial developments. The West of Orkney Windfarm is in the early stages of developing a CBF which will likely be available when the windfarm starts generating power in 2029. The CBF will potentially be split into three areas: Caithness, Sutherland and Orkney and early engagement will ensure that the fund is managed efficiently and fairly amongst the communities. Previous discussions have outlined some potential ideas on what to fund, ranging from short to longer term initiatives.

www.westoforkney.com

West of Orkney Windfarm

© MMT/ CH 2nd Officer Duncan Campbell

INVESTING IN SCOTLAND

- Targeting 60% UK content with 40% coming from Scotland
- Committing £140m during the initial development phase to develop the supply chain
- Investing in local port and harbour infrastructure
- Creating significant skills and employment opportunities
- Helping Scotland meet net zero targets
- Providing renewable power to generate green hydrogen at proposed Flotta Hydrogen Hub

To register your interest in getting involved in the West of Orkney Windfarm, please use the QR code.

www.westoforkney.com

West of Orkney Windfarm

WHAT HAPPENS NEXT?

INDICATIVE WEST OF ORKNEY WINDFARM PROJECT TIMELINE

COMMUNITY ENGAGEMENT	TIMELINE	ENVIRONMENTAL IMPACT ASSESSMENT (EIA) & SURVEYS			SCOPING & CONSENTS APPLICATIONS
	2022				
MARCH 2022 Public Consultation	Q1				MARCH Scoping Reports submitted
	Q2				MAY/JUNE Receipt of onshore Scoping opinions
	Q3	Q3 2022 Offshore aerial bird and mammal surveys complete	Q3 2022 - Q1 2023 Marine traffic surveys		JULY Receipt of offshore Scoping opinions
Q4/Q1 Pre-application public consultation events	Q4	Q4 2022 Seabed surveys complete		Q4 2022 - Q1 2023 Offshore EIA preparation	
	2023				
	Q1	Q1 2023 Onshore surveys complete			
Q2/Q3 Pre-application public consultation events	Q2			Q2 - Q3 2023 Onshore EIA preparation	JUNE Offshore consents application
	Q3				
	Q4				Q4 Caithness onshore consents application
	2024				Offshore consent determination
	2027	Commence construction			
	2029	First power			

www.westoforkney.com