West of Orkney Windfarm

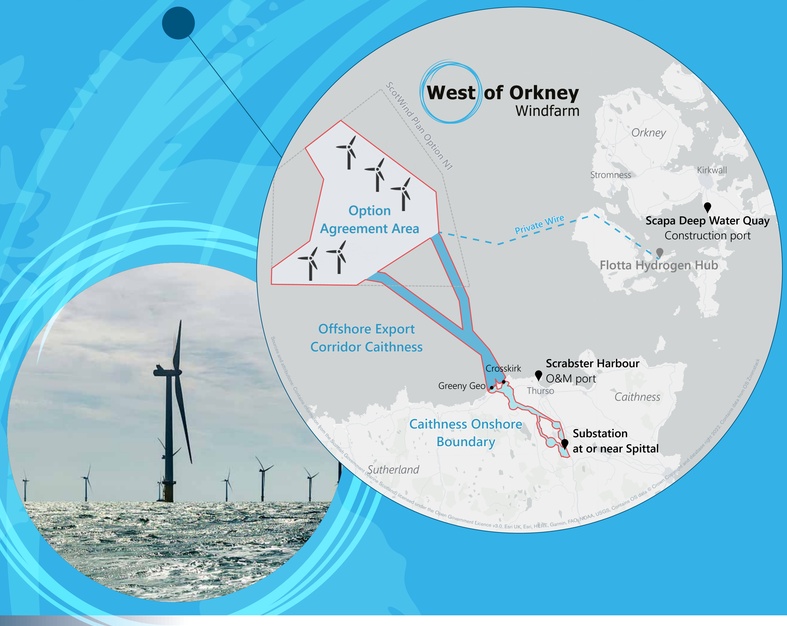
WEST OF ORKNEY WINDFARM

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

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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

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ONSHORE PROPOSAL

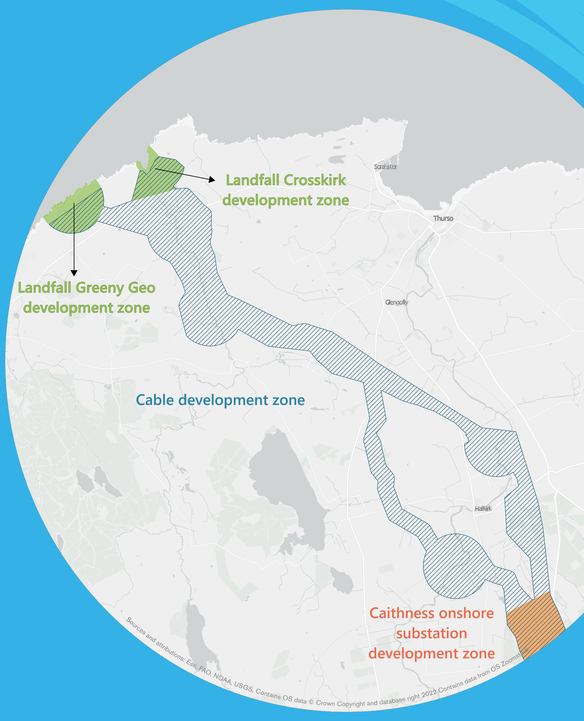
In November 2020, National Grid confirmed that the West of Orkney Windfarm's grid connection would be 'at or near Spittal'. The onshore cables will run from the two potential landfall locations Greeny Geo and/or Crosskirk. The onshore route has been split into three development zones: landfall, onshore cable route, and substation. The figure below indicates which activities will occur within each of the zones.

CABLE DEVELOPMENT ZONE

- Establishment of compounds
- Enabling works
- Horizontal directional drilling/main crossing works
- Cable trenching (including foreseen crossings)
- Ducts/duct bank installation
- Joint bay excavation and installation
- Cable installation
- Cable jointing and testing
- Cable trench backfilling
- Reinstatement of joint bay sites
- Removal of compounds and final reinstatement works

LANDFALL DEVELOPMENT ZONES

- Enabling works
- Horizontal directional drilling works
- Transition joint bay construction
- Pull in and jointing of offshore export cables



SUBSTATION DEVELOPMENT ZONE

- Enabling works
- Onshore substation civil works
- Onshore substation mechanical and electrical works
- Onshore substation cold commissioning
- Onshore substation energised and hot commissioning
- Grid connection enabling works
- Grid connection civil works
- Grid connection mechanical and electrical works
- Grid connection commissioning
- Final reinstatement and landscaping works

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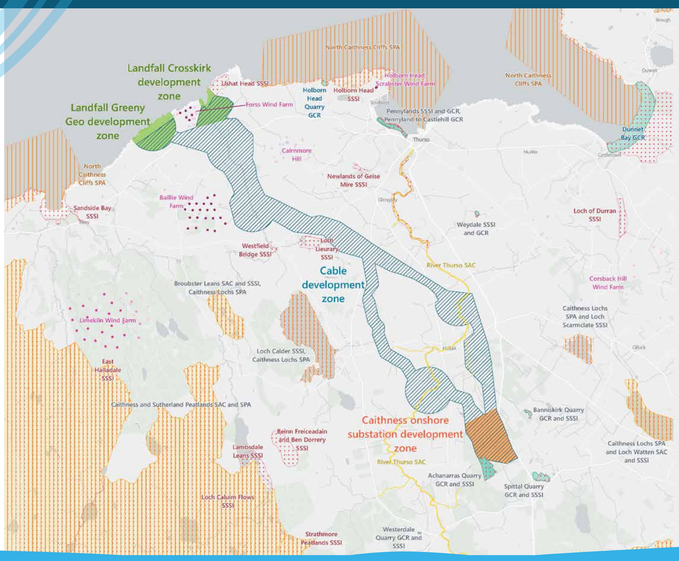

Protected sites

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

Development Zones

- Cable development zone
- Caithness onshore substation development zone
- Landfall Crosskirk development zone
- Landfall Greeny Geo development zone

Onshore windfarm status

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

CABLE ROUTE REFINEMENT

Following extensive assessment of six potential landfall options, it is now proposed that electricity from the West of Orkney Windfarm will be brought ashore at either Greeny Geo or Crosskirk. The onshore cable route will include up to 33km of buried cable to connect with a new substation near the existing SSEN substation at Spittal.

A range of mitigation measures has been devised to protect local environmental and archaeological features throughout the development zones illustrated above and details of these will be included in the planning submission.

In February 2023, SSEN Transmission commenced consultation about planned investments in the transmission network across the north of Scotland to support the significant growth of renewable energy forecast in the years up to 2030, particularly onshore and offshore wind. This includes upgrading existing lines, building new overhead lines, subsea cable infrastructure and a new substation in the Spittal area, and will include a new 400kV overhead line from Spittal to Loch Buidhe and on to Beauly.

More information can be found here:

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ONSHORE MITIGATIONS

All of the onshore surveys were completed in May 2023. To reduce potential impacts that may arise from the Project, mitigations measures will be put in place. The below table outlines some of the proposed mitigations for the onshore impacts.

ELEMENT AFFECTED	POTENTIAL IMPACT	MITIGATION
▪ Traffic and access	Damage to roads and road closures	▪ Implement Traffic Management Plan. ▪ Use dedicated haul roads to avoid using main roads. ▪ Undertake road repairs as required.
▪ Geology ▪ Hydrology	Impact on sensitive areas	▪ Avoid sensitive areas, such as peatland and designated areas.
▪ Freshwater ecology	Impact on freshwater fish	▪ Horizontal Directional Drill (HDD) under major river crossings.
▪ Onshore ecology	Impact on terrestrial ecology	▪ Avoid sensitive areas and designated sites. ▪ Adhere to a Species and Habitat Protection Plan (SHPP). ▪ Ensure a qualified Ecological Clerk of Works (ECoW) presence at sensitive locations.
▪ Landscape and visual	Visual impact of substation and cables	▪ Substation will be behind a bund. ▪ Screening and planting. ▪ Underground cables.
▪ Landscape and visual	Artificial lighting	▪ Sensor controlled lighting. ▪ Substation will be behind a bund. ▪ Screening and planting. ▪ Avoiding unnecessary lighting.

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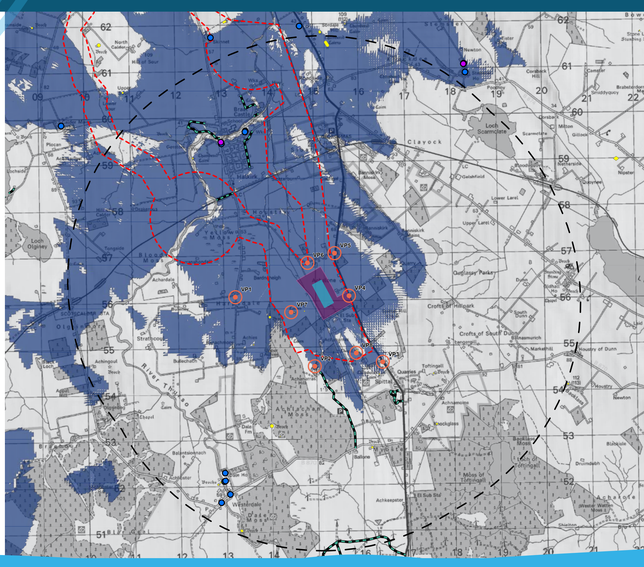
Note:
The ZTV is calculated based on the platform extents up to a height of 13.5m (i.e. 83.5m AOD) as a worst case scenario from a viewing height of 1.6m above the ground level.
The terrain model assumed bare ground and does not take into account the potential screening effects of vegetation and buildings. It is derived from OS Terrain 50m and 5m height data.
Earth curvature and atmospheric refraction have been taken into account.

ZTV & Visual Receptors: Substation

- Platform Location
- Onshore Substation Search Area
- 5km Study Area
- Onshore Project Area
- Core Paths

Listed Buildings
- B
- C

- Viewpoints
- Scheduled Monuments
- Zone of Theoretical Visibility



ONSHORE SUBSTATION VISUAL IMPACT

VISUAL IMPACT

The map above illustrates the likely maximum extent of the visibility of the proposed new substation based on a worse-case scenario in terms of size and scale of the substation.

The map also shows a selection of viewpoints for which photomontages have been prepared, as agreed with The Highland Council, Historic Environment Scotland and NatureScot.

SUBSTATION DESIGN

Electricity substations require to be insulated using either gas or air. Gas insulated switchgear (GIS) substations are constructed inside a building and the switch gear is insulated by gas, which allows transformers to be positioned closer together, reducing the overall size of the substation. As air insulated switchgear (AIS) substations are open to the elements, the transformers have to be positioned further apart so the substation takes up a larger footprint for the same capacity. Both options are currently being considered for the West of Orkney Windfarm.

The substation will be screened behind bunding (small embankments) and planting. In response to feedback received at the Pre-Application (PAC) events in May 2023, planting will be based on native species of trees, shrubs and pollinator-friendly flora suitable for local birds, insects and other wildlife. As we are applying for 'Planning Permission in Principle', further details regarding the design of the substation and associated mitigation measures will require to be submitted for approval.

- Substation
- Preferred onshore substation location
- Proposed bunding contours
- Planting - trees
- Planting - shrubs
- Existing woodland
- Recently felled woodland
- Existing vegetation to be removed

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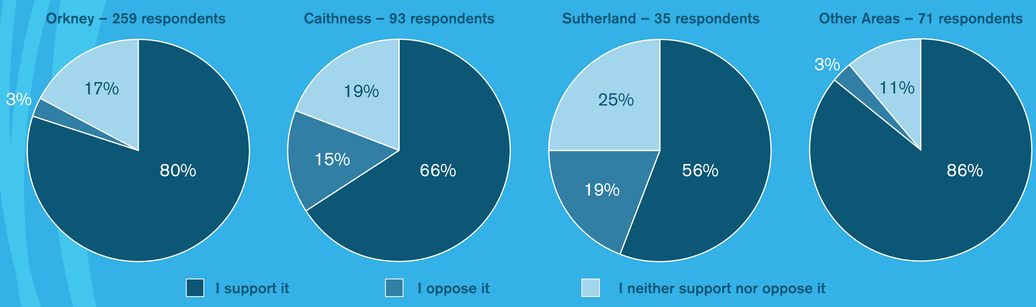
STAKEHOLDER CONSULTATION

The West of Orkney Windfarm project team continues to undertake extensive consultation with a broad range of stakeholders. This process began during preparation of the ScotWind bid to The Crown Estate Scotland. A summary of specialist meetings and consultation events that have been undertaken since the site was awarded in January 2022 is provided below.

MONTH/YEAR	EVENT
January 2022	West of Orkney Windfarm site awarded
March 2022	Virtual public exhibition, including live Q&A sessions
May 2022	Pre-Application Consultation (PAC)
	Technical Working Groups established
June 2022	1st round of topic-specific consultee meetings
	1st round of community panels (Orkney, Sutherland, Caithness)
July 2022	Durness Highland Gathering, Sutherland
	Halkirk Highland Games, Caithness
August 2022	Dounby Show, Orkney
	Orkney County Show
September 2022	2nd round of topic-specific consultee meetings
November 2022	1st round of public consultation events x7
January 2023	3rd round of topic-specific consultee meetings
	2nd round of community panels (Orkney, Caithness, Sutherland)
February 2023	One-to-one socio-economic stakeholder interviews begin
May 2023	1st round of onshore and offshore PAC events x7
June 2023	2nd round of onshore PAC events x2

Over 450 community questionnaires have been returned and respondents' reactions to the Project by location are presented below:

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



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COMMUNITY FEEDBACK

Feedback from local communities continues to play a key part in shaping our engagement activities and informing our final development plans. Specific feedback has been sought on the proposed onshore infrastructure associated with the West of Orkney Windfarm. Suggestions from local people are influencing the screening proposals for the new substation and concerns around environmental impact will be reflected in our mitigation measures for the onshore infrastructure.

The table below summarises feedback received to date and our responses:

YOUR FEEDBACK	OUR RESPONSE
Why did you choose to connect at Spittal?	We did not choose the location. National Grid undertook their own internal analysis and allocated us a grid connection at or near Spittal.
Will there be any overhead lines?	No, the electricity will be brought ashore and connected to a new substation at or near Spittal using underground cabling.
How did you determine the study area for the visual impact of the substation and did you consider cumulative effects?	Our specialist landscape architect discussed the study area with NatureScot Historic Environment Scotland and The Highland Council. Our assessment includes consideration of the cumulative impact of other projects and proposals in the area.
What are you going to do about reducing the visual impact?	The transmission cable will be buried underground. The substation will be screened behind bunds (small embankments) with appropriate native trees and shrubs, pollinator-friendly flora and meadow habitats suitable for local birds and insects. We will reinstate any land that is affected by our works.
What about St Mary's Chapel and other archaeological features at Crosskirk?	There will be no direct physical impact on St Mary's Chapel although there may be temporary impacts on the setting of the Chapel during the construction phase. A comprehensive assessment has been undertaken to identify known and unrecorded historic features which will be protected during construction.
What about geological features (especially at Crosskirk)?	We will avoid sensitive areas including designated sites.
Will you spoil our dark skies?	No, we will avoid unnecessary lighting and use sensor-controlled lighting at the substation to minimise times lights are on.
Why do you want to screen the substation?/Why have bunding?	Although we have received some very limited feedback suggesting that it is not necessary to screen the substation, the majority of responses have supported the idea of screening.
Will you develop a biodiversity action plan?	We will develop a biodiversity action plan for the onshore development zone alongside local stakeholders.
What about the interesting ecology at Crosskirk?	We will avoid sensitive areas/designated sites and adhere to a Species and Habitat Protection Plan (SHPP) with an Ecological Clerk of Works (ECoW) present, as appropriate. We will use Horizontal Directional Drilling (HDD) to go underneath rivers and watercourses.
Why are you not using overhead cables which would substantially reduce 'losses' of electricity?	Experience indicates that the vast majority of people prefer transmission lines to be buried where they cannot be seen. This has been further evidenced in the feedback we have received.
Will there be a visitor centre or signage at the substation?	We do not plan to create a visitors' centre but we will install information boards.
Why are you not including energy storage?	The West of Orkney Windfarm has an agreement to provide electricity to the proposed Flotta Hydrogen Hub in the future. This will be the subject of separate consent applications.

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COMMUNITY BENEFIT

Community benefit funds (CBF) are voluntary schemes created by developers to help local communities to benefit from commercial developments. The West of Orkney Windfarm is developing a CBF which will be available when the windfarm starts generating power in 2029. The CBF will be shared across communities in Caithness, Sutherland, and Orkney. Engagement with local communities will ensure that the fund is managed effectively and fairly. Discussions to date suggest a broad range of priorities from short-term to longer term strategic goals, as outlined below:

SUGGESTED PRIORITIES FOR COMMUNITY BENEFIT FUNDING		
SHORT TERM	**MEDIUM TERM**	**LONG TERM**
Supporting existing local initiatives, e.g. through sponsorship	Digital connectivity	Natural capital
Local business grants	Affordable housing	Community ownership
Support for energy bills	Sustaining communities	Sustaining the fund after the windfarm

In the meantime, the West of Orkney Windfarm has been involved in sponsoring some community events, such as supporting students from Kirkwall Grammar School to attend a Discover Engineering course and Orkney Athletics and Running Club for equipment in preparation for the Island Games 2025.

The West of Orkney Windfarm are keen to hear your views! If you have any further suggestions on how the CBF can benefit your community, please scan the QR code and complete the online form.

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INVESTING IN SCOTLAND

- Targeting 60% UK content of which 40% will come from Scotland
- Committing £140m during the initial development phase to develop the supply chain.
- Committing £900,000 along with other developers to expand the University of the Highlands and Islands (UHI) schools Science Technology, Engineering and Mathematics (STEM) outreach engagement programme.
- Exclusive EMEC innovation partnership around next generation technologies.
- Multi-million-pound contracts awarded to local companies.
- Agreement to create an operations and maintenance base at Scrabster Harbour, which will create ~140 full-time jobs for 35 years.
- Working with Orkney Islands Council to develop Scapa Deep Water Quay.

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WHAT'S HAPPENING NEXT?

May 2023

First round of onshore and offshore Pre-Application (PAC) events.

June 2023

Second round PAC events.

If you wish to respond directly to West of Orkney Windfarm, please write to Offshore Wind Power Limited by Friday 30th June 2023.

- Email: info@westoforkney.com
- Postal address: Freepost FCHANGE
- Phone: 01786 820 111

Summer 2023

Offshore consent application to be submitted to Scottish Ministers.

Autumn 2023

Onshore consent application to be submitted to The Highland Council.

2027

Onshore construction in Caithness is due to start.

Offshore construction to commence.

2029

First power generated.

Community Benefit Fund available when power generation begins.

Representations to relevant planning authority

Once the consent applications have been submitted, any representations should be made in writing to the Scottish Ministers for offshore elements and The Highland Council for onshore elements. Further details will be provided by the regulatory authorities, as appropriate.

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