# Call pack 2.2 – SOV design for turbine access

As part of the Offshore Wind Research and Innovation Programme, EMEC and platinum sponsor West of Orkney Windfarm are looking to fund several projects. Projects in the second innovation call, launched February 2025, must fall under at least one of the two identified themes: **weather forecasting** (call pack 2.1) or **SOV design for turbine access** (call pack 2.2). Applications from consortiums are welcome.

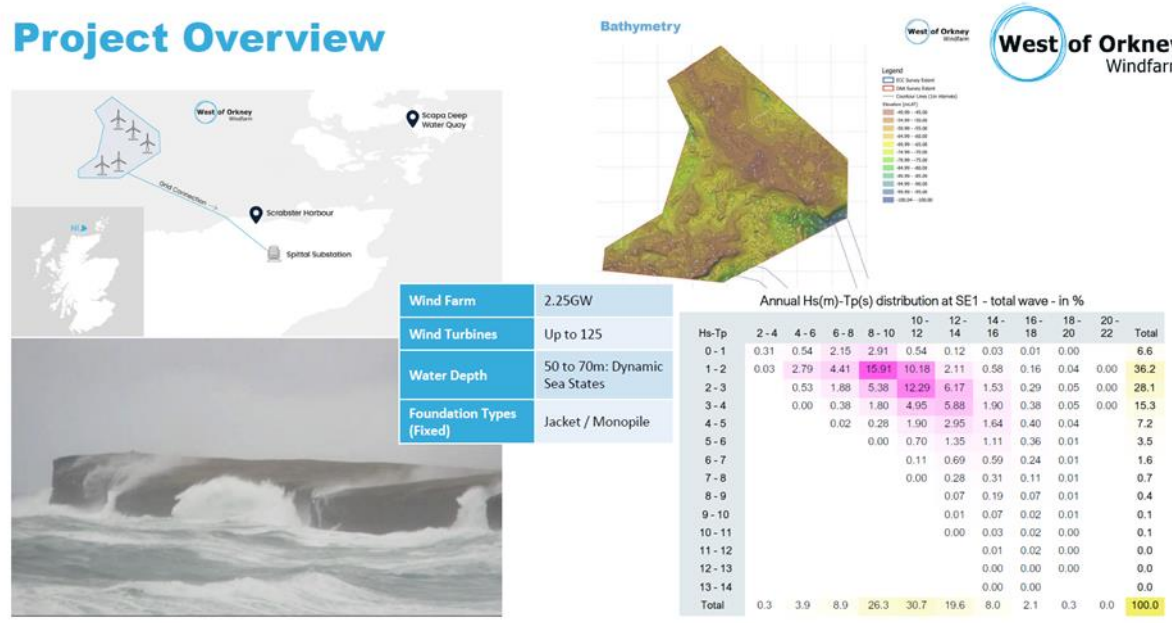
## Improved turbine access

### Background:

The West of Orkney Windfarm is a fixed bottom offshore wind farm off the North Coast of Scotland; it is exposed to waves from the Atlantic Ocean and is characterised by persistent periods of high wind speeds and sea states (see overview figure below).

Personnel access to the turbine via service operation vessel (SOV) is essential for the installation, commissioning, and operational phases. Turbine access improvements beyond those that are currently expected from SOVs in the new vessel build pipeline will provide a whole-life benefit to the project which is in a particularly challenging ocean environment.

The Offshore Wind Research and Innovation Programme has already contracted several projects (see call 1 winners press release). Applications to this call should be cognisant of these current projects. Applicants' projects in this call are expected to be substantially different from the current projects (however, new applications may build on, link with, or utilise the expected results of the current projects).




| Hs-Tp | 2 - 4 | 4 - 6 | 6 - 8 | 8 - 10 | 10 - 12 | 12 - 14 | 14 - 16 | 16 - 18 | 18 - 20 | 20 - 22 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 - 1 | 0.31 | 0.54 | 2.15 | 2.91 | 0.54 | 0.12 | 0.03 | 0.01 | 0.00 | | 6.6 |
| 1 - 2 | 0.03 | 2.79 | 4.41 | 15.91 | 10.18 | 2.11 | 0.58 | 0.16 | 0.04 | 0.00 | 36.2 |
| 2 - 3 | | 0.53 | 1.88 | 5.38 | 12.29 | 6.17 | 1.53 | 0.29 | 0.05 | 0.00 | 28.1 |
| 3 - 4 | | 0.00 | 0.38 | 1.80 | 4.95 | 5.88 | 1.90 | 0.38 | 0.05 | 0.00 | 15.3 |
| 4 - 5 | | | 0.02 | 0.28 | 1.90 | 2.95 | 1.64 | 0.40 | 0.04 | | 7.2 |
| 5 - 6 | | | | 0.00 | 0.70 | 1.35 | 1.11 | 0.36 | 0.01 | | 3.5 |
| 6 - 7 | | | | | 0.11 | 0.69 | 0.59 | 0.24 | 0.01 | | 1.6 |
| 7 - 8 | | | | | 0.00 | 0.28 | 0.31 | 0.11 | 0.01 | | 0.7 |
| 8 - 9 | | | | | | 0.07 | 0.19 | 0.07 | 0.01 | | 0.4 |
| 9 - 10 | | | | | | 0.01 | 0.07 | 0.02 | 0.01 | | 0.1 |
| 10 - 11 | | | | | | 0.00 | 0.03 | 0.02 | 0.00 | | 0.1 |
| 11 - 12 | | | | | | | 0.01 | 0.02 | 0.00 | | 0.0 |
| 12 - 13 | | | | | | | 0.00 | 0.00 | 0.00 | | 0.0 |
| 13 - 14 | | | | | | | 0.00 | 0.00 | | | 0.0 |
| Total | 0.3 | 3.9 | 8.9 | 26.3 | 30.7 | 19.6 | 8.0 | 2.1 | 0.3 | 0.0 | 100.0 |

## Call aim:

West of Orkney Windfarm is interested in innovative SOV design (and ancillary equipment) with a view to facilitating safe turbine access in the widest possible range of weather conditions, i.e., significantly higher wave conditions, longer swell and/or windspeeds than those expected to be achievable from SOVs currently deployed or in the new vessel build pipeline.

**Priorities:** Your application must include/deliver:

- A comprehensive description of your innovation, the stage of the innovation (concept (TRL1-3), basic validation (TRL4-5), prototype demonstration (TRL6-7)), how it compares to current practice*, and how it addresses this specific innovation call.**
- A design that either uses existing motion compensated (Walk to Work) systems or integrates the novel SOV design with the design of a suitable (e.g., similar) system to provide safe turbine access.
- A description of how your innovation would be implemented in a windfarm project such as West of Orkney Windfarm, and how it would reduce the time, cost, or risk of delivering the project, and/or increase generation revenue.
- A description of Scottish and UK benefit, including impact on supply chain capacity.
- Tailored solutions specific to the West of Orkney Windfarm (applicability to other projects is welcome).
- A description how your organisation will deliver your project, including risks, mitigations, and any key dependencies.
- A statement explaining why grant funding is required for your innovation, and of any match-funding, in-kind, or other contribution that you are willing to contribute, as set out in the Scope and Guidance Document.

* Applicants should demonstrate knowledge of the current and emerging techniques used for personnel access to wind turbines in the offshore wind sector, and ideally other similar access arrangements that could be applicable.

**This call is targeting innovations at lower TRL but applications which can deliver significant progress in a one-year project towards a novel SOV deployment around 2030 will be favoured.

## Examples:

- Novel hull designs.
- Modifications to existing hull designs.
- Stabiliser systems.
- Stability control systems.

**Additional information:** Further publicly available information, including on the wind, wave and current conditions at the West of Orkney Windfarm, can be found at https://www.westoforkney.com/document-library. If there is more information that would be beneficial to inform your innovation that the West of Orkney Windfarm might already hold, please provide a detailed description to emec@offshoreinnovation.scot. If such information is not already held but is essential for developing your innovation, please include within your application where such information might be obtained and at what cost.