

# EPSRC / FOW CoE Scheme – Guidance Document

## **FOW CoE Overview**

The Floating Offshore Wind Centre of Excellence (FOW CoE) was established by the Offshore Renewable Energy Catapult with the vision:

*To establish an internationally recognised centre of excellence in floating offshore wind which will work towards reducing the Levelised Cost of Energy (LCOE) from floating wind to a commercially manageable rate, cut back development time for FOW farms and develop opportunities for the local supply chain, driving innovation in manufacturing, installation and Operations and Maintenance (O&M) methodologies in floating wind.*

The FOW CoE is a collaborative programme with industry, academic and stakeholder partners. At the time of writing, the following organisations are Industry Partners in the FOW CoE. The FOW CoE is primarily funded by these industry partners, with a further element of funding provided by other stakeholders including ORE Catapult. Each partner has a single representative on the FOW CoE’s Executive Governance Board, which ultimately governs the programme.



As the programme of work develops, the FOW CoE will continue to establish collaborations and formal partnerships with relevant academic and stakeholder partners across the broader offshore wind industry. In doing so, the FOW CoE aims to amplify its impact and additionality within the sector by ensuring that the risks and opportunities specific to floating offshore wind both in the short term and at a broader level.

In order to guide and coordinate its research activities, the FOW CoE has developed an initial core work programme across four workstreams:

- Technology development;
- Supply chain and operations;
- Development and consent; and
- Delivering Net Zero.

Further detail on each of these workstreams, including an overview of the FOW CoE's initial project activity within each workstream, can be accessed [here](#).

In addition to its core work programme, the FOW CoE has also launched a number of Strategic Programmes in order to coordinate the development and delivery of project activity targeted in relation to specific priority challenge areas. These Strategic Programmes and other areas of focus are outlined below. This is not an exhaustive list, but simply serves to provide some suggested topics to help guide the applicant.

## Moorings & Anchoring Systems

- Array scale mooring system design optimisation (water depth, cost, reliability);
- Industry scale mooring system design standardisation optimisation;
- Mooring line replacement and repair methodologies (supply chain capacity, marine operations, vessel availability, cost)
- Mooring line reliability and consequences of failure
- Seabed/geotechnical dependencies for anchoring solutions
- Mooring design for local manufacturing, logistics, equipment and vessels

## Dynamic Cable Systems

- Coupled global to local mechanical and thermal analysis for dynamic cable systems;
- Development and validation of dynamic cable digital twin;
- Novel cable designs (core materials, bundling etc);
- Array scale cable system design optimisation (cost, reliability);
- Industry scale cable system design standardisation optimisation;

## Environmental Interactions

- FOW ornithological impacts (further offshore, dynamic motions, roosting on substructures)
- FOW marine growth impacts (incl. effect on local predator-prey interactions)

## Construction, Operations & Maintenance

- FOW project construction simulation using advanced full physics simulation tools;
- FOW WTG major component exchange simulation using advanced full physics simulation tools;
- Port utilisation optimisation;
- Impact of dynamic motions on personnel (modelling, controls and mitigations);

## Substructure Design, Manufacture & Assembly

- Manufacturing optimization for large scale concrete substructure manufacturing;
- Alternative materials for concrete rebar
- Low carbon concrete materials;
- No / minimal weld steel substructure component assembly;
- Advanced manufacturing of steel tubulars (towers, substructure components);

### **The FOW CoE and Supergen ORE Hub Collaboration**

Effective collaboration between the FOW CoE Industry Partners, stakeholders, supply chain and academia will be a key aspect of attaining the FOW CoE vision. As such, the FOW CoE and Supergen ORE Hub are collaborating to support joint academic and industrial research activities, bringing academic and industrial partners together to accelerate the commercialisation of floating offshore wind.

### **Objectives of the Collaboration**

The collaboration between the FOW CoE and the Supergen ORE Hub is specifically intended to support the development of relationships between academic and supply chain partners and accelerate the commercialisation of floating offshore wind.

In support of these aims, the FOW CoE and Supergen ORE Hub are running a floating offshore wind-focused funding call. Under this arrangement, applications for funding under the Supergen ORE Hub's Flexible Fund scheme are sought from consortiums including both academic and industry partners.

Subject to appropriate project proposals being approved by the funding partners, the FOW CoE will part-fund the industrial contribution and EPSRC (via the Supergen ORE Hub) will part-fund the academic contribution of a number of projects. The Supergen ORE Hub's Flexible Fund process shall be used as the framework through which this joint academic/industry project activity will be managed.

### **Assessment of EOIs and Proposals**

The EPSRC/FOW CoE scheme will be launched as an option within the next Supergen ORE Hub Flexible Fund Call, and applicants will be required to state at the outset which option they wish to apply for.

A full list of Supergen ORE Hub's research priorities is set out in the Flexible Fund Call for Proposals summary document. Whilst it is required that proposals submitted to either funding scheme will address one or more of these priorities, it is expected that applications to the EPSRC/FOW CoE scheme will have a specific focus on developments that are relevant to, and have the potential to impact, the rate of commercialisation of floating offshore wind in the short to medium term [0-10 years]. The summary of the FOW CoE's workstreams and initial project activity (see link above), and in particular the focus areas outlined above, provides a good overview of the FOW CoE industry partners' current innovation priorities.

There are three key phases to the Flexible Fund application process (a full overview of the process involved at each phase is set out in Section 8 of the Flexible Fund call summary document):

1. Expressions of Interest (EOI);
2. Full Proposals;
3. Review Panel.

The FOW CoE will participate in each phase of the review process for applications submitted to the EPSRC/FOW CoE scheme. Section 9 of the Flexible Fund call summary document outlines the criteria against which all applications will be assessed. For applications submitted to the EPSRC/FOW CoE scheme, the FOW CoE will also specifically consider if the applicant has demonstrated:

- The additionality of the FOW CoE funding (for example, whether and how the involvement of a supply chain partner in the research project improves the outcomes and relevance of the work and accelerates the route to commercialisation);
- The FOW CoE funding will support the development of medium- and long-term relationships between FOW CoE Industry Partners, supply chain and academia.

For the avoidance of doubt, the FOW CoE shall be under no obligation to fund any proposal submitted under this scheme. Any FOW CoE funding shall be approved, on a project specific basis, once appropriate project proposals have been assessed and identified.

## **Role of the FOW CoE**

Support offered to applicants seeking collaborative partner:

- The ORE Catapult welcomes being contacted by potential applicants in situations where there are seeking guidance on who might potentially be a relevant project consortium partner.
- In such a scenario, communications can be directed to Andrew Stormonth-Darling ([andrew.stormonth-darling@ore.catapult.org.uk](mailto:andrew.stormonth-darling@ore.catapult.org.uk))

In respect of projects that are successfully awarded funding under the EPSRC/FOW CoE scheme:

- All communication in relation to these projects shall be directly with the ORE Catapult, on behalf of the FOW CoE;
- The FOW CoE will not be required to provide input to a project to allow it to achieve its objectives, but where there is the potential for contributions to significantly improve outcomes this should be highlighted;
- It is not intended that the FOW CoE will own, or seek to own, outcomes from a project. However, it is desirable that the FOW CoE is offered enduring access to the outcomes of the project (albeit this is not expected to be on an exclusive basis). The principles of such arrangements should be outlined in the proposal;
- The project plan submitted during the proposal stage will form the basis of the agreement between ORE Catapult and the project consortium receiving the EPSRC/FOW CoE funding. As such, it should be absolutely clear what the objectives of the project are, what the expected outcomes are, and what the funding shall support;
- Any other potential enduring benefits to the FOW CoE partners should be highlighted.

## **Eligibility of Organisations to Participate**

Details of the eligibility criteria for academic partners are provided in the Flexible Fund Call for Proposals summary document.

The FOW CoE is able to consider applications including a broad range of industry partners and as such no specific definition is provided, other than that the industry partner(s) should not be eligible for funding under the terms afforded to academic partners in the Flexible Funding call (i.e. it is aimed at supporting the involvement of organisations which would not typically be supported under the Flexible Funding scheme).

## **Level of Funding Support**

It is envisaged the FOW CoE funding supports demonstrable direct costs to the industry partner(s) of delivering the project, up to a total value of £50,000 per project. This would include direct time and materials but not a contribution to overheads or profit. Funds requested from the FOW CoE in proposals are required to be matched on a one to one basis by the industry partner, with the FOW CoE therefore covering 50% of the industry partner's direct costs.