

EPSRC Supergen Offshore Renewable Energy (ORE) Hub Flexible Fund - 1st Call for Proposals – April 2019

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1. Summary of call details

Anticipated Value per Proposal	£100,000 at 80% FEC*
Funding level available	80% of FEC
Total available resource available for this 1 st call	Up to £1,000,000 at 80% FEC**
Proposal call opens	17 th April 2019
Closing date for Proposals	12 th June 2019
Date for notification of successful and unsuccessful Proposals	w/c 15 th July 2019
Date for exchange of Flexible Fund grant conditions	w/c 29 th July 2019
Expected start date of successful proposals - post award	1 st October 2019
<p>*Please see section 5- Scope of flexible funding call for further details</p> <p>**If all monies are not allocated in the first submission round, the Supergen ORE Hub Board retains the right to re-allocate funds into subsequent funding calls</p>	

2. Context

The UK is at the forefront of the development, adoption and export of ORE technologies. To sustain this advantage, the UK must spearhead research and innovation in ORE, which will accelerate its adoption worldwide and widen the applicability of this technology. There are various organisations involved in coordinating this process, extending across the industry-academia spectrum, and the Supergen ORE Hub will integrate with these activities to guide and deliver fundamental and applied research to advance the ORE sector.

3. About Supergen ORE Hub

The Supergen ORE Hub provides research leadership to connect academia, industry, policy and public stakeholders, inspire innovation and maximise societal value in offshore wind, wave and tidal energy. The Hub vision is to bring together and stimulate synergistic adventurous research that supports and accelerates the development of offshore wind, wave and tidal technologies for society’s benefit.

The Hub is central to the UK ORE community, bringing together shared skills and expertise, allowing transfer of fundamental knowledge, shared learning and use of resources for inter-disciplinary research, taking a whole systems approach. Differing maturities of wave, tidal and offshore wind allow rapid advances towards deployment and societal benefit through timely sharing of expertise, strategies and best practice between the three sectors.

More detail regarding the Supergen ORE Hub can be found at: www.supergen-ore.net

4. About this Call

This is the first call for proposals from the Supergen ORE Hub Flexible Fund. We are seeking research proposals from Universities or other institutions eligible to hold UKRI awards to facilitate a programme of co-ordinated UK led ORE research projects aligned with, and in partnership with the Hub.

Many industry roadmaps have been developed for ORE. These roadmaps are generally on a sectoral basis (for offshore wind and marine, with wave and tidal often considered together). To develop the area strategy for the Supergen ORE Hub and its associated programme of Core and Flexible Fund supported research, these roadmaps have been synthesised through extensive consultation exercises with industry and other stakeholders, including the Hub Advisory Board and Research Alignment Group. These exercises have resulted in the identification of following key Research Challenge themes:

Key Research Challenge Themes	Description
A	Resource and environment characterisation
B	Fluid structure seabed interaction
C	Materials and manufacturing
D	Sensing, control and electro-mechanics
E	Survivability, reliability and design
F	Operations, management, maintenance and safety
G	Environmental and ecosystem aspects
H	Marine socio-economics and governance

The Flexible Fund will seed areas that complement existing research, fill gaps or add cross cutting activities to explore the transfer of research findings between sectors within ORE. **Proposals are invited across themes A to F that fit within the EPSRC remit, and where appropriate are encouraged to include elements of environment and socio-economics research themes G and H.**

A detailed list of research challenge titles under each of these themes for this call is provided in the Appendix. More detail regarding the Hub ‘Area Strategy’ and ‘Core Research Work Packages’ can be found at: <https://supergen-ore.net/our-work/area-strategy>. A series of video presentations about the Hub from the first Annual Assembly is also available [here](#).

5. Eligibility

For this call, full proposals are invited from eligible UK researchers, i.e. applicants based in UK Higher Education Institutions (HEIs), Research Council Institutes and Centres, and Independent Research Organisations (IROs) approved by UKRI. Potential applicants should contact Supergen ORE Hub in advance of the submission deadline if they have any queries concerning their eligibility. **No subcontracting is permitted.** Individuals may submit no more than one Proposal as Principal Investigator plus one as Co-investigator, or two as Co-Investigator, to this call. Principal and Co-Investigators within the Supergen ORE Hub may not apply.

6. Scope of first Flexible Funding call

Applicants are asked to make submissions for work **up to £100,000 at 80% FEC that can be delivered within 1 year.** However, this **does not exclude exceptional proposals up to a maximum of £140,000 at 80% FEC and delivered over eighteen months.** Project awardees can invoice 80% of the full economic costs at the end of the project. Costings for the proposals should be in accordance with standard UKRI rules¹. Eligible costs are as defined in the standard UKRI terms and conditions of grant awards and flexible funding can be used to cover the same cost categories.

Consortium bids and industry engagement and collaboration in proposals is encouraged. The funding is primarily for researcher salary costs but funding for equipment may be allowed if a fully justified case is made that demonstrates that equipment expenditure is a fundamental requirement to the research proposed. If purchased equipment is expected to outlast the project an explanation of how this will be of longer-term value to the ORE research community is required.

7. Application process

The Flexible Funding Call has only one stage (due by 12th June 2019 @ 1700 hrs GMT). Proposals should be submitted to SupergenORE.Flexi@plymouth.ac.uk, with the subject: **“Supergen ORE Hub Flexible Funding Call Round 1 – Proposal – (plus Principal Investigator surname)”**.

Proposals should consist of the following evidence:

- 1) Track record and additionality - **2 pages maximum.**
- 2) Case for support including - research challenge, novelty and timeliness, aims and objectives, programme of work including methodology, management including integration into Supergen ORE Hub, impact and dissemination, budget and schedule - **4 pages maximum**
- 3) Project Partner letters of support, including a statement of the financial value of support offered.

Please note that page limits must be strictly adhered to, or the proposal will not be considered.

¹ <https://epsrc.ukri.org/funding/applicationprocess/fundingguide/>

8. Review criteria and assessment process

Proposals will be assessed against the following criteria:

- 1) Quality and importance of the research and its ability to promote, support and advance the identified research priorities within ORE (quality and ambition).
- 2) Complementary or supplementary fit to the Supergen ORE Hub portfolio of research.
- 3) Demonstrable intent to engage and collaborate with the Supergen ORE Hub and its partners.
- 4) The capability of the project team to deliver the research proposed and management of the resources (balance of risk).
- 5) Identified opportunity for impact including the extent of industry engagement and potential for policy engagement.

Applications will be assessed through a two-stage review process, drawing on the Hub Co-Directors, Industry Advisory Board, Research Alignment Group members, and experts within the wider ORE community. In the first stage of the process, a peer review of the Case for Support will be assessed against criteria 1-3 and selected for panel ranking. In the second stage of the process, a panel will be convened, with an EPSRC representative present, to assess the track record of the project team and impact (criteria 4 and 5), and perform an overall review of criteria 1 to 5 and ranking of the proposals considered by the panel. Final award decisions will be made using the resulting panel ranked order by the Hub Director, Co-Directors and EPSRC.

All questions received will be answered publicly via a FAQ area on the website.

9. Funded projects required outputs

- 1) A final, publicly disclosable, report and slide pack (5 to 10 slides) that summarises key impacts, findings and follow on work from the research, which will be used to verify completion and inform future activities.
- 2) A project summary which could be published on the Supergen ORE Hub website on announcement of the Flexible Funding award.
- 3) A summary of funding opportunities that the investigators expect the award to enable.

Please note that the research undertaken as part of the Supergen Flexible Funding call is also subject to:

- 1) Discussion and feedback from the Industrial Advisory Board at their 6-monthly meetings.
- 2) Successful applicants attending the Supergen ORE Hub Annual General Assemblies (or other dissemination events as required) to present the findings, impact and follow on work from their research.
- 3) The PI of flexible fund research projects reporting on the research outcomes to the Supergen ORE Hub to input into ResearchFish, and attending intermediate project meetings (in person or remotely) to report on project progress as required.

Use of the flexible fund, subsequent outcomes and activities to support Early Career Researchers and/or Equality, Diversity and Inclusion will be monitored via the EPSRC annual reporting requirement and periodic reporting to the Hub Industrial Advisory Board.

10. Terms and Conditions

- Terms and conditions of standard UKRI FEC grant awards apply².
- In addition, all successful projects must engage with the Supergen ORE Hub and should describe in their application how they plan to do this.
- All project outputs and engagement should be branded as Supergen ORE Hub. Brand materials and guidance will be provided to successful applicants.

11. Additional information

Equality, Diversity and Inclusion

Supergen ORE Hub supports the value of the diversity of its staff and stakeholders, enabling all to realise their full potential by valuing the contribution of everyone and recognising and harnessing the benefits that differences can bring. Supergen ORE hub is committed to eliminating unlawful discrimination and promoting equality of opportunity and good relations across and between the defined equalities groups in all of their relevant functions. Accordingly, no eligible funding applicant will receive less favourable treatment on the grounds of gender, marital status, sexual orientation, gender re-assignment, race, colour, nationality, ethnicity or national origins, religion or similar philosophical belief, spent criminal conviction, age or disability. Equally, all proposals will be assessed on equal terms, regardless of the sex, age and/or ethnicity of the applicant. Proposals will therefore be assessed and graded on their merits, in accordance with the criteria and the aims and objectives set for the call. As long as you are employed by an eligible UK institution and satisfy EPSRC's current regulations on investigator eligibility you are eligible to submit a proposal, regardless of your nationality or ethnicity.

Management of Flexible Fund

Each call for proposals is developed by the Supergen ORE Hub Management board, guided by the advice of the industry Advisory Board and Research Alignment Group. The industrial Advisory Board and Research Alignment Group comprises of independent chairs and industrial and academic experts. The membership represents a range of disciplines and sectors relevant to the Supergen ORE Hub 'whole systems approach' research.

Details about the Supergen ORE Hub, industrial Advisory Board and Research Alignment Group membership can be found at: www.supergen-ore.net/about-us

Point of Contact for queries

Flexible Funding Enquiries – Supergen ORE Hub

Email: SupergenORE.Flexi@plymouth.ac.uk

Subject line: "Supergen ORE Hub Flexible Funding Call Round 1 – Queries"

Please note that all queries regarding the Supergen ORE Hub flexible fund must be directed via email in order to maintain a clear audit trail for reporting purposes where required, and will be answered publicly via a FAQ area on the Supergen ORE Hub website.

² <https://www.ukri.org/funding/information-for-award-holders/grant-terms-and-conditions/>

12. Appendix

	Theme and Research Challenge Description
Research Challenge	A - Resource and Environment Characterisation
A1	Better measurement techniques for forecasting and resource characterisation
A2	Improved modelling tools for resource assessment.
A3	Resource and environmental characterisation in physical modelling facilities.
A4	Long-term sediment transport measurement and modelling
	B - Fluid-structure-seabed interaction
B1	Realistic fluid-structure-seabed design tools that work together, not in isolation
B2	Novel device concepts – rethinking the mechanism of energy extraction
B3	Moorings, anchors and foundations
B4	Multi-purpose hybrid systems for ORE and ocean resources.
B5	Design of reliable cabling systems.
	C - Materials and Manufacturing
C1	Integrity in the marine environment (corrosion, fatigue, coatings etc.)
C2	Serial (volume) manufacturing of complex structural systems
C3	Design for safe and cost-effective installation methods
C4	New materials and coatings
C5	Recycling/reuse of composites
	D - Sensing, Control and Electromechanics
D1	Control of ORE farm
D2	Smart sensor system use
D3	Drive train design
D4	Power Electronic Conversion

	E - Survivability, Reliability and Design
E1	Higher and more consistent reliability through risk-based design
E2	Extending limits to operation or performance by mitigating extreme actions
E3	Innovative subsystems to provide higher and more consistent reliability and / or performance
E4	Sustainable whole-life design method
E5	Design tools for arrays
E6	Whole systems approaches to operate large scale ORE
	F - Operations, Management, Maintenance and Safety
F1	Analysis of remote sensing and condition monitoring data
F2	Use of autonomous systems for inspection
F3	Data and digital cyber security
F4	Increased use of automation to reduce risk in installation and operation (O&M)

	G - Environmental and Ecosystem Aspects
G1	Fit for purpose approaches to environmental monitoring
G2	Development of population level environmental impact models
G3	Ecosystem Modelling
	H - Marine Socio-Economics and Governance
H1	Communication: Ocean literacy and public perception of ORE
H2	Interaction with other marine users
H3	Development of market mechanisms for ORE
H4	Reducing uncertainty of both technology and social costs of ORE