



Supergen



Offshore  
Renewable  
Energy

# Supergen ORE Hub Seventh Annual Assembly: Accelerating Offshore Renewable Energy (ORE) to 2040 and beyond

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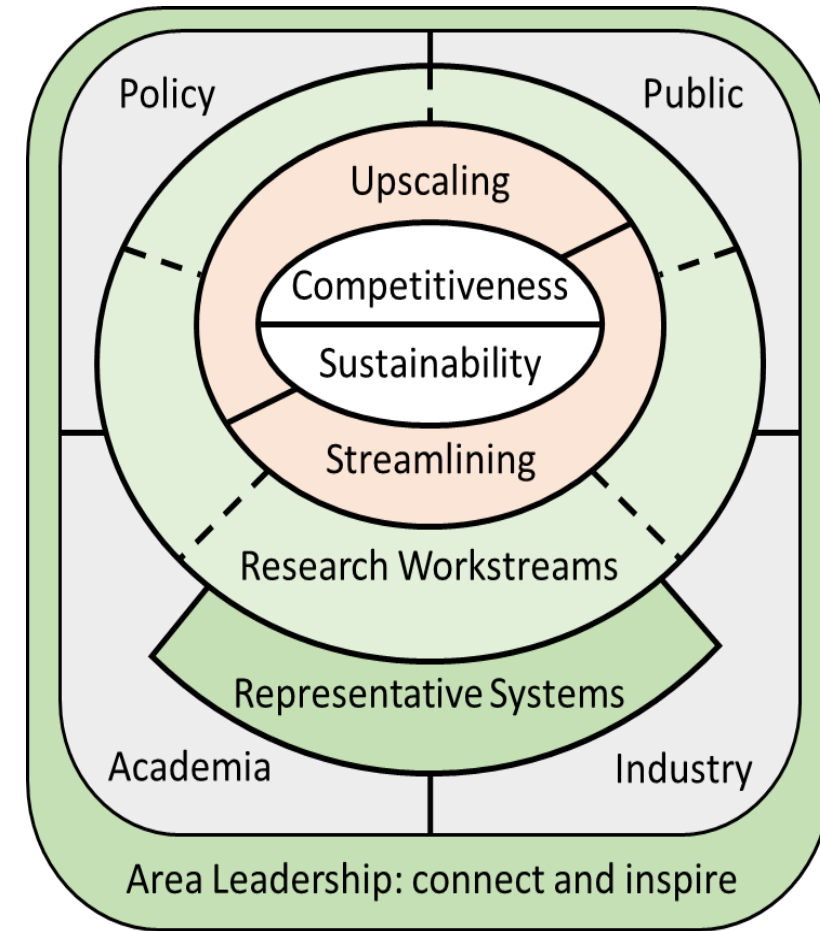
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# Supergen ORE Hub

- £16.5 million from EPSRC
- The Supergen Offshore Renewable Energy 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.
- **Networking:** building UK and international collaboration
- **Flexible Funding**
  - Seedcorn funding for projects aligned with the hub.
- **Impact**
  - Early Career Researcher Support
  - Equality, Diversity and Inclusivity Support
  - Industry Partnership
  - Policy Engagement



[www.supergen-ore.net](http://www.supergen-ore.net)

# Research Focus

## Streamlining Processes and Policies

- Meeting Capacity Targets.
- Policy Reform for Rapid Deployment.
- Leasing and Consenting Acceleration.

## Upscaling Infrastructure and Integration

- Holistic Network Delivery.
- Offshore wind design tools improvement.
- Grid Integration Research.
- Hydrogen-Wind Energy Convergence.
- Education and Skills Development.

## Enhancing Competitiveness

- Global Best Practices.
- Cost Competitiveness.
- Public Education and Engagement.
- Escalating global deployment of ORE.

## Fostering Sustainability

- Conscious Site and Environmental Management.
- Supply Chain Resilience.
- Circular Economy



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# Impact Highlights

## Working with Industry

- 74 industry partners engaged in 40 Flexible Funded projects
- 38 strong world leading advisory board

## Working with Policy

- Produced 11 policy briefings
- Contributing to COP26, 27, 28 and the G7 Summit
- Influenced ORE sector policy across UK

## Equality, Diversity, and Inclusion

- Children's book - over 500 copies distributed and now translated into Welsh
- Enhancing gender balance in the ORE sector
- More female applicants winning grants compared with EPSRC 2020/21 data.



## Early Career Researchers

- 200+ members in the community
- £200,000 invested into 46 projects developing research and skills

## Flexible Funding

- £4m invested into 40 projects
- £4.3m total industry match
- 250+ research publications
- Improved gender split in funding applications (30% female)

## Research Leadership

- Engaging 111 Universities (72 UK)
- Sharing UK ORE research landscape
- Fostering international collaborations

# Supergen ORE Impact Hub new Initiatives

- ECR Representatives appointed to provide a voice for the ORE ECR community
- New Impact Officers to link ORE research with end users
- Supergen Representative Systems introduced
- ED&I Survey and review
- Research Landscape online tool updates
- Greater flexibility in co-funding of research projects, placements and exchanges
- Expansion of the ECR network to include Early Career Industry (ECI) participants.
- Match of £4.68m against the £7.5m EPSRC investment



# Supergen ORE Hub Webinar Series

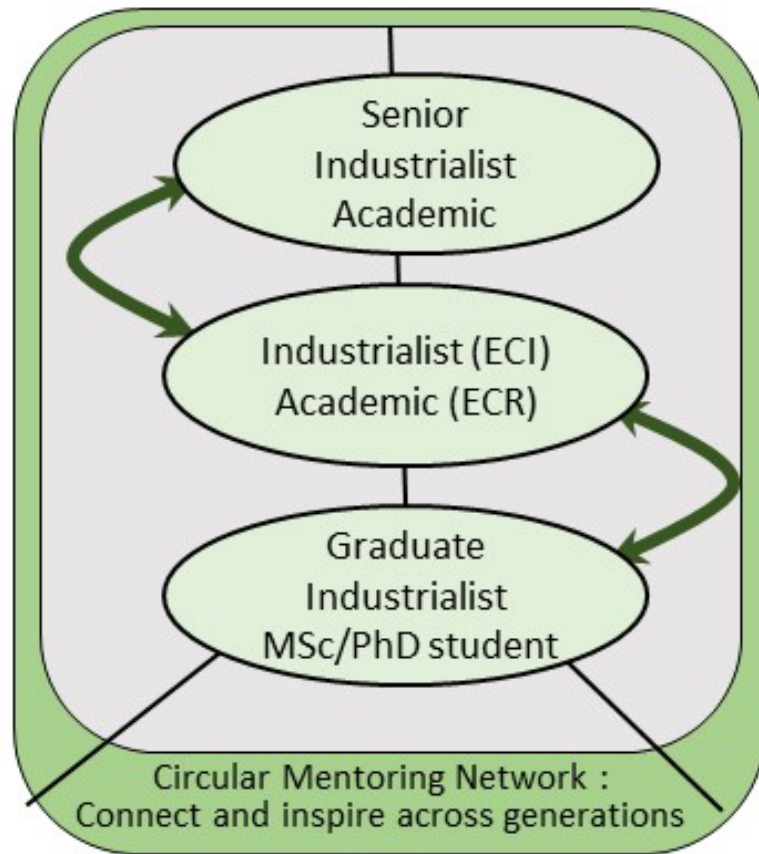
Bi-monthly lunchtime webinars

- AI-Based Modelling, Digital Twin, and Control for Offshore Wind Energy (November 2023)
- The development of a short design event approach for speeding up the prediction of design loads for floating wind turbines (January 2024)
- The impacts of wind energy extraction on the physics and primary production in Scottish shelf waters (March 2024)
- Testing the Critical Link - Physical Testing of Dynamic Power Cables. (May 2024)



<https://supergen-ore.net/news-and-events/webinars>

# SuperGenerations Mentoring Scheme



- **Reciprocal** – Learning from each other’s experiences
- **Intergenerational** – easier to relate to someone nearer your own age
- **EDI Sensitive** – encouraging all to take part
- **Networking** – the mentoring group will meet regularly – helping build a wider network
- **Industry and Academia** – open to both academic and industry participants

We are recruiting participants at all levels – if you are interested in getting involved **please get in touch**

# Supergen ORE Hub Masterclasses

Prospectus for series of 10 Masterclasses launched March 2024

- Advanced Experimental Fluid Mechanics for ORE
- Real-Time Hardware-in-the-Loop Experiments for Grid Integration of ORE Systems
- Flow Modelling for Offshore Wind Turbine Loading & Farm Yield
- Virtual Prototyping of ORE Technologies
- Offshore Structural Integrity
- Sensing for ORE Structures
- Offshore Geotechnics
- Environmental Contours & Extreme Value Analysis
- Optimising ORE Array Design and Locations for Safety, Fisheries CoLocation and Environmental Aspects
- Economic and Policy Analysis for Offshore Renewables



<https://supergen-ore.net/news-and-events/new-series-of-highly-specialised-masterclasses>



# Flexible Funding

- 10 Flexible Fund projects awarded c£998k in July 2023 call
- £1.4m of industry support and 19 UK Universities
- x2 Wave Energy Scotland and x2 Floating Offshore Wind Centre of Excellence co-funded projects, bringing £170k direct investment and £70k of industry match
- Three stage process
  - Stage 1: Expressions of Interest: anonymised and assessed
  - Stage 2: Full proposals: anonymised peer review by SMB, AB and wider Network
  - Stage 3: Review panel drawn from SMB, AB, EPSRC observer and co-funding partners.

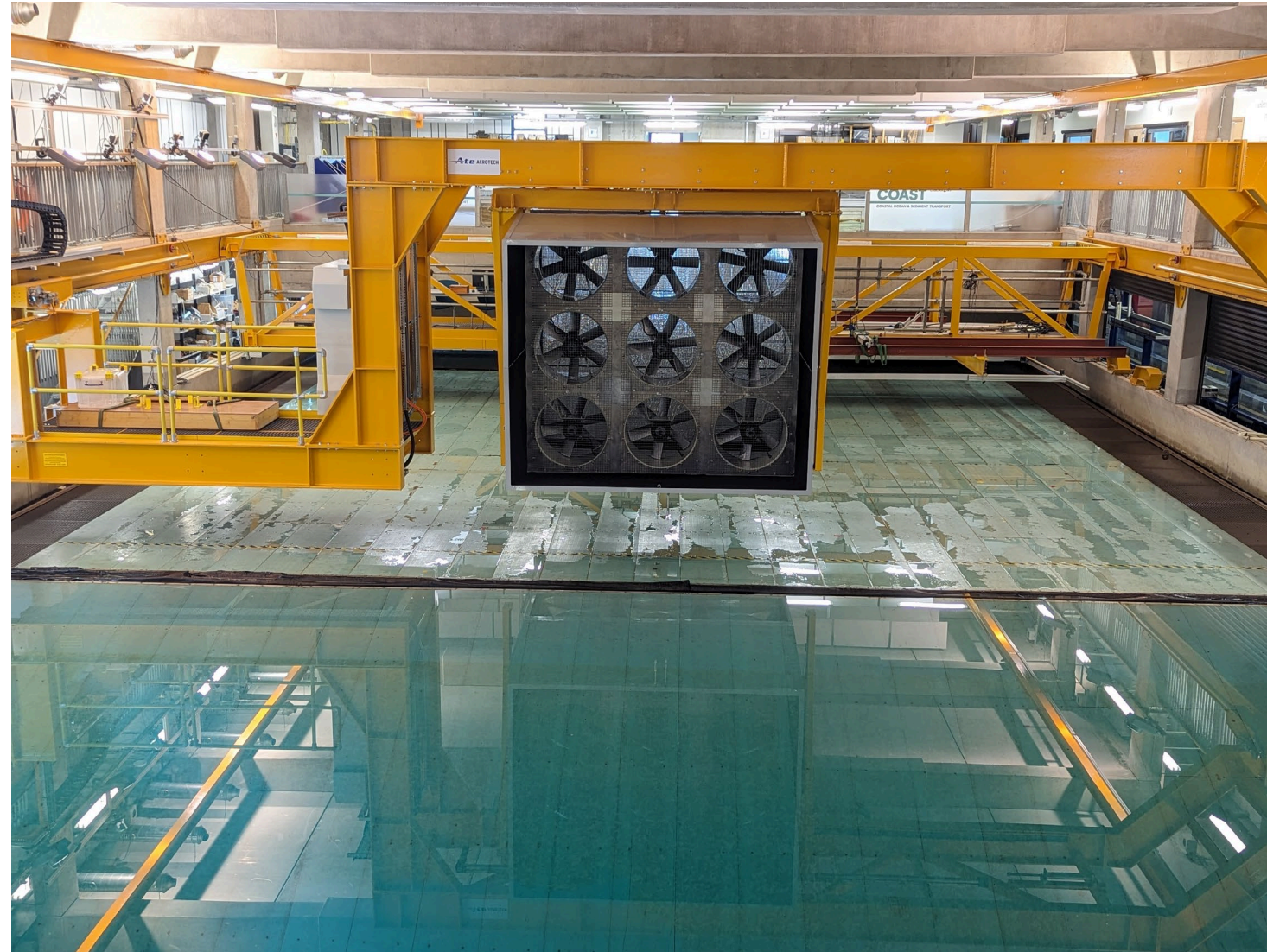


## Annual call for proposals – next call launch July 2024



# Launch of UKFOWTT – UK Floating Offshore Wind Turbine Test facility

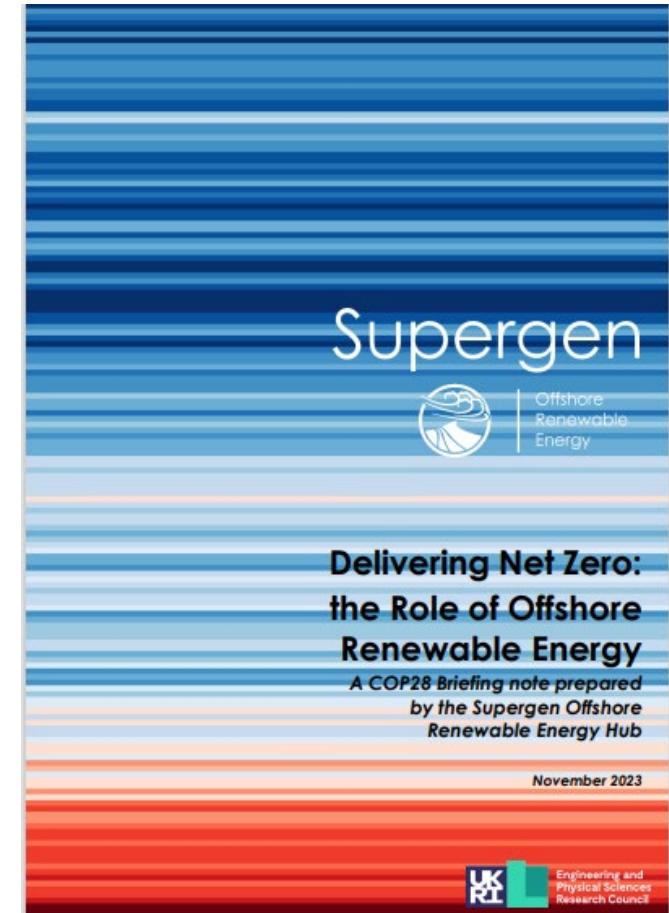
- EPSRC Strategic Equipment grant to improve physical modelling capability for floating offshore wind.
- New COAST lab wind generator, enhanced mass property measurement, optical tracking and load measuring capability.
- Enables scaled physical modelling experiments with wind, wave and currents simultaneously.



# Supergen ORE Hub COP28 Briefing



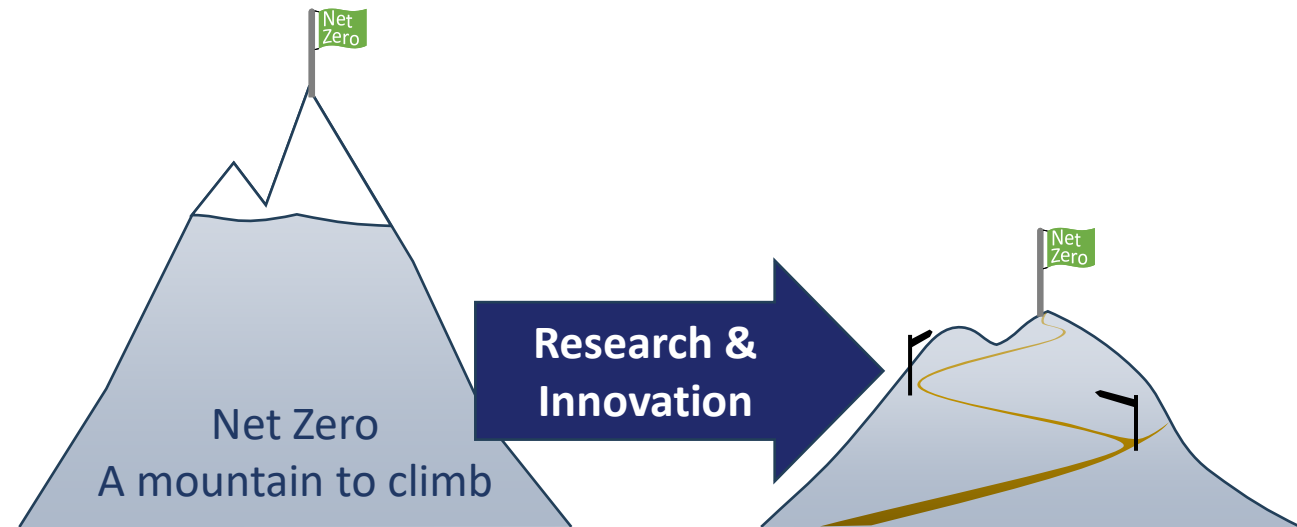
- 2022 was the warmest year on record for the UK
- Urgent need to reduce GHG emissions to Net Zero while satisfying growing demand (set to double by 2050)
- Huge global potential for offshore wind, wave and tidal stream, mostly untapped
- Each 2 GW ORE farm could save 77 MtCO<sub>2</sub>e over its 30-year operating life
- Accelerating the UK's offshore wind 2050 target by one year would save 236 MtCO<sub>2</sub>e



<https://supergen-ore.net/uploads/resources/Supergen-ORE-Hub-Delivering-Net-Zero-the-role-of-Offshore-Renewable-Energy-A-COP28-Brief.pdf>

# Supergen ORE Hub Accelerating to 2040

- ORE needs to be deployed 6 times faster than the current rate.
- Need for significant ramp up in underpinning research and skills.
- Supergen ORE Impact Hub Research is Accelerating to 2040:
  - Policy, Planning and Consenting
  - Transforming Practice
  - Supply Chain and people



# Stay in touch



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