

Bridging Science, Engineering, Practice and Policy: Cumulative Impact of Electromagnetic Fields on Marine Ecosystems



IMPACTS OF EMFS SCOPING MEETING

24 November 2025
The National Robotarium
Edinburgh

WHAT WE KNOW

As part of the UK's net-zero goals, its offshore wind sector is expected to expand rapidly in the coming years.

However this is also raising concerns about potential ecosystem impacts, especially by Electromagnetic Fields (EMFs) from subsea cables, as well as potentially offshore substations and generating equipment.

There are many natural sources of EMFs on Earth and species have evolved to detect and respond to them. Receptive marine species, such as lobsters and crabs, sharks, rays, eels, salmon, dolphins, whales and sea turtles, amongst many others, may be either electro-receptive, magneto-receptive, or both. Animals can detect changes in intensity and use natural cues to aid navigation, communication, feeding or finding mates.

The full consequences of the presence of EMFs from offshore wind on marine ecosystems is still poorly understood. Improved knowledge of what it does and how it, both, affects animals and can be detected by them would provide fundamental understanding that very feasibly could be fed back into cable design and monitoring.

This could also determine marine stewardship, and inform industry practice and government policy.

WHAT WE AIM TO ACHIEVE

This stakeholder meeting brings together voices from science, industry, and policy to explore current evidence, identify knowledge gaps, and discuss practical and regulatory approaches.

Cross-sector collaboration is essential to ensure that marine biodiversity is safeguarded while supporting the responsible growth of renewable energy.

Meeting Objectives:

- Facilitate cross-sector dialogue on the current understanding of the impacts of EMFs on marine ecosystems.
- Identify critical knowledge gaps and shared priorities across science, industry, and policy sectors.
- Build a shared understanding of the cumulative effects of EMFs, integrating cross-sectoral perspectives and engaging cable designers and manufacturers, offshore wind installers, and operators from the outset.
- Explore practical approaches to mitigating potential impacts and co-developing evidence-based recommendations to inform future research agendas and technical development programmes, and their respective funding strategies.

Please see page 2 for the preliminary Meeting Agenda

IMPACTS OF EMFS SCOPING MEETING - AGENDA

- 09:45 - 10:00 *Registration*
- 10:00 - 10:15 **Welcome & Opening Remarks**
Speakers: Iain Shirlaw (Heriot-Watt University) & Stewart Miller (The National Robotarium)
- 10:15 - 10:30 **“Bridging the gaps between EMF science, industry practice, and decision-making”**
Chair: Iain Shirlaw (Heriot-Watt University)
Speaker: Jack Poleykett (Xodus Group)
- 10:30 - 12:00 **Panel Discussion: Sectoral perspectives on challenges and knowledge gaps**
Chair: Alastair Lyndon (Heriot-Watt University)
- “The ELASMO Project: Establishing the ElectroSensory Ecology Laboratory at Queen’s University Belfast” | Speaker: Patrick Collins (Queen’s University Belfast)
 - “From the Lab to the Sea: Understanding and Overcoming the Challenges of EMF Research” | Speaker: Kevin Scott (St Abbs Marine Station)
 - “Signals in the Sea: Inshore Fishers’ Perspective on EMFs and Cumulative Impacts” | Speaker: Andrew Whiston (CIFA/Communities Inshore Fisheries Association)
 - Industry perspectives | Speaker: Alan Dobson (TechnipFMC)
 - Government perspectives | Speaker: Zoë L Hutchison (Offshore Wind Directorate, Scottish Government)
 - Open Discussion Round
- 12:00- 12:45 *Lunch Break*
- 12:45 - 13:45 **Breakout Session A: Identifying Knowledge Gaps**
Chair: Kevin Scott (St Abbs Marine Station)
- 13:45 - 14:45 **Breakout Session B: Identifying Research Needs & Funding Areas**
Chair: Matthew Wale (Edinburgh Napier University)
- 14:45 - 15:00 *Coffee Break*
- 15:00 - 16:00 **Report-Out & Plenary Discussion**
Chair: Moya Crawford (The D’Arcy Thompson Simulator Centre)
- 16:00 - 16:15 **Closing Remarks & Next Steps**
Chair: Iain Shirlaw (Heriot-Watt University)



Date & Time: 24 November 2025, 09:45 - 16:15
Location: The National Robotarium (Multiflex Suite), Boundary Rd N, Third Gait, Edinburgh EH14 4AS

Catering will be provided, please advise us in advance of any dietary needs. For any questions please contact us via masts@st-andrews.ac.uk.

This meeting is organised by MASTS, the Marine Alliance for Science & Technology for Scotland. MASTS is a consortium of 18 organisations engaged in marine science and promotes dialogue, co-ordination and collaboration between sectors to support the vision of clean, healthy and safe marine and coastal environments.