Offshore

Wind Evidence + Change Programme

Offshore Wind Evidence + Change Programme Programme Steering Group Meeting Thursday 8th February 2023



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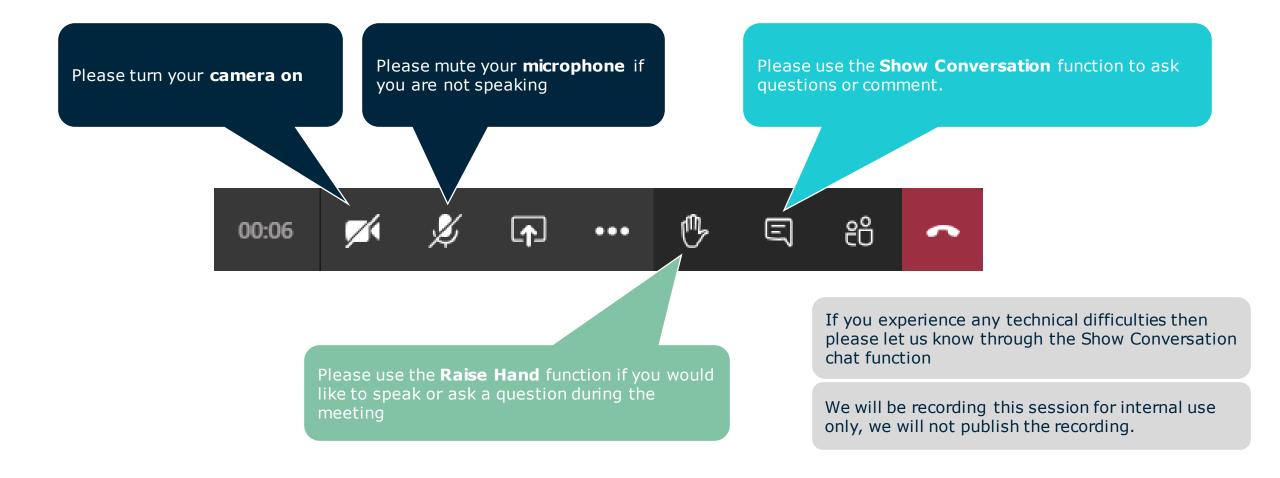
Offshore Wind Evidence + Change Programme

Welcome

Chair: Nicola Higgins

Head of Renewable Strategy for Offshore Wind, Department for Business, Energy & Industrial Strategy

Taking part in today's meeting – for virtual attendees



Agenda

14.00 - 14.10	Welcome from Chair – Nicola Higgins, Offshore Wind Programme Director, BEIS		
14.10 - 14.40	Programme and project updates		
	OWEC Programme Update – Mandy King, OWEC Programme Manager, The Crown Estate		
	• Delivering new fisheries sensitivity, floating offshore wind and nature enhancement projects – Andrew Gill, Principal Scientist,		
	Cefas		
14.40-15.10	Collaboration with other programmes		
	ECOWind and site access requirements – Dickon Howell, ECOWind Programme Champion, Howell Marine Consultancy		
	• Pathways to Growth – Rachael Mills, Pathways to Growth Coordination Group Manager, Offshore Wind Industry Council (OWIC)		
15.10-15:15	Q&A and DISCUSSION		
15.15 - 15.25	BREAK		
15.25 - 16.10	Marine spatial prioritisation and offshore wind co-location		
	Marine Spatial Prioritisation (MSPri) update – Jo Shayer, Head of Domestic Marine Strategy, Defra		
	• Shipping and Navigation Projects, Maritime and Coastguard Agency (MCA) update – Nick Salter, Offshore Renewables Lead,		
	MCA		
	• Virtual Floating Offshore Wind Planning with fishing industries – Sion Roberts, Marine Consents Manager, The Crown Estate		
16.10 - 16.20	Q&A and DISCUSSION		
16.20 - 16.30	Forward Look – Oliva Thomas, Head of Marine Planning, The Crown Estate		
16.30 - 16.35	Chair's closing remarks		
16.35	CLOSE		

Offshore Wind Evidence + Change Programme

Programme & Project updates

- **Programme Update** Mandy King, OWEC Programme Lead, The Crown Estate
- Four new projects led by Cefas Andrew Gill, Principal Scientist, Cefas

OWEC Programme

Update

Mandy King, Programme Lead, The Crown Estate

2022 in Numbers



£25 million

further committed, up to £50 million in total



new projects invested in throughout 2022, worth over £14 million



27

total projects now invested in across the programme, worth nearly ± 30 m, including partner contributions of over ± 10 m



pathfinder projects complete



2nd

major project call launched in September



new projects commenced (£1.4 million) and Intermediate Project Call concluded



Programme Steering Group meetings



27

Programme Steering Group member organisations



2022 Main Call – Applications received

Strategic Compensation Pilots for Offshore Wind

- Led by: Offshore Wind Industry Council (OWIC)
- Summary: Deliver strategic ecological compensation pilots applicable to foreseeable adverse effects from OWFs to designated sites, by developing of a suite of measures, and mechanisms.

Prevalence of Seabird Species and Collision Events in OWF (PrediCtOr)

• Led by: Carbon Trust (ORJIP)

• Summary: Trials to more accurately understand the variation in bird collisions with turbines, the factors influencing collision risk and how this relates to predictions made by models. In partnership with Dutch Government. Procellariiform (Shearwaters and Petrels) Behaviour & Demographics (ProcBe)

- Led by: Joint Nature Conservation Committee (JNCC)
- **Summary:** Aims to study the at-sea behaviour and demographic rates of these species. Relatively little is known about this, however, due to their flight paths over the Irish and Celtic Seas they are potentially a concern for floating OWF.

Reducing Seabird Collisions Using Evidence (ReSCUE)

- Led by: Natural England (NE)
- Summary: Lidar (Light Detection and Ranging) is a highly promising innovative method to measure seabird flight height which should become standard for the industry. ReSCUE will validate use of Lidar, removing risks associated with new techniques, and collate Lidar data on flight heights.

Applications no longer going ahead in this call:

- Integrated Assessment of Outcomes of Co-existence with OSW in the Marine Environment (InCOMarE)
 - Led by Cefas
 - Reason: Cefas required more time to re-work the project in light of PEB feedback.
- The impact of offshore renewable turbine layout on surface navigation and emergency response
 - Led by Maritime and Coastguard Agency (MCA)
 - Reason: MCA has withdrawn this "Layout" project from the 2022 Main Call.

2022 Main Call – Key indicative dates

Activity	Date	Notes
PIP-v2 Application submitted	By 27 Jan 2023	Four applications received
Recommendations from Project Evaluation Board (PEB) on priority projects for funding.	By 17 Mar 2023	Includes presentations to PEB; Establishing value for money; Agreeing main Funding Agreement terms; ranking of projects; and recommendations to TCE.
TCE consideration of recommendations and funding decision	By 9 Jun 2023	Includes TCE internal governance procedures, briefing papers and approval paperwork.
Informally let Applicants know the outcome of funding decisions	By 16 Jun 2023	
Funding Agreements executed and awards formally announced	By 14 Jul 2023	Includes finalising Funding Agreement terms and schedules in consultation with LO.
Project initiation calls take place	By 28 Jul 2023	
Projects commences	By 31 Jul 2023	

Making an Impact

- Tracking each project's impact typically at 6 months and 12 months post-project completion. Also throughout the project lifecycle via progress reporting and/or at agreed mid-points
- To capture the real-world, meaningful, lasting change brought about by the projects and OWEC Programme as a whole.
- **3 Project impact assessments complete** Project Impact Review 1 (six months post project completion)
 - Strategic Targets for Net Gain
 - East Coast Grid Spatial Study
 - Future Offshore Wind Scenarios (FOWS)
- 1 Project impact assessments in progress Project Impact Review 1 completing this February
 - North Sea Net Gain



Making an impact

Three projects have completed stage one of the Project Impact Review (PIR1). Achieved impact/s from PIR1 shown below.

East Coast Grid Spatial Study	Strategic Targets for Net Gain	Future Offshore Wind Scenarios (FOWS)
Impact as of November 2022	Impact as of November 2022	Impact as of January 2023
Led by: The Crown Estate (AECOM consultancy)	Led by: Strategic Net Gain Task and Finish Group	• Led by: BEIS, The Crown Estate, Crown Estate Scotland
 Influencing Policy: The project highlighted to key policy makers (BEIS, Ofgem) the importance of marine and terrestrial constraints when considering the development of offshore transmission infrastructure. Evidenced by: Informing the evidence base in BEIS and Ofgem consultations, with respective references made to the work. BEIS Consultation - Offshore Transmission Network Review Ofgem Consultation - Ofgem identified this work as a key input into NGESO's Holistic Network Design 	 Influencing Policy: Many of the strategic targets and recommendations made by the project Task & Finish (T&F) Group were included in the Defra consultation on principles of marine net gain. Cross-sector cohesion: The T&F group represented a broad spectrum of stakeholders which allowed for debate, discussion and cross-sector agreement on targets. Collaborative working to deliver the report resulted in adoption of many of the group's recommendations in Defra's marine net gain consultation. 	• Influencing Policy: The project provided the first illustrative view of 2050 levels of offshore wind deployment in the UK accounting for ge os patial, Levelised Cost of Energy (LCOE) and technological factors. This work has represented a step change in how future offshore wind can be viewed across government, The Crown Estate and the wider industry relating to original research questions. Wi de engagement, sharing, reposting and socialisation of the work across social media, partner we bsites and wider industry we bsites.
 Cross-sector cohesion: Excellent working relationships built up with the supporting organisations. Stakeholders welcomed this approach as it brought together respective expertise, which helped provide confidence that the final output was sufficiently robust and had been scrutinised from numerous angles. 	 Other (follow-on research): All stakeholders involved in the T&F group have committed to participate in a second study on marine net gain ('Delivery options for strategic marine net gain' – now commenced). This next phase will provide more detailed evidence of how the strategic targets identified by the Strategic Targets for Net Gain project can be delivered at a more local level. 	 Influencing Policy: FOWS was fundamental to designing the phase of modelling completed by the Marine Management Organisation and The Crown Estate, under the Marine Spatial Prioritisation programme over summer 2022and integral in informing the next phase of this work. Reducing Environmental Impact: FOWS was directly used by Natural England and NIRAS to produce their report on using scenarios to assess cumulative impacts – '<i>Future environmental scenarios for offshore wind expansion (NECR444)</i>'

Enabling Impact

- Impact Owners Organisations and roles responsible for:
 - Driving the project outcomes forward...enabling the project to effect real-world Impact
 - Completion of the Project Impact Review (PIR) (in coordination with The Crown Estate)
- Thank you to the project Impact Owners who play a key role in the impact review process, including completion of the PIR.
- PSG Member Representatives Championing Impact
 - Programme Steering Group members, acting as representative for the project's Lead Organisation/s
 - Playing a key role in championing the project and its outputs/outcomes, including post-project completion, to encourage and enable its ability to effect real-world change.
- **Take-away consideration:** How can the PSG member organisations support OWEC projects to enable real-world change, after the project finishes? Six months, one year and more post-project completion...
- Together we create real-world, meaningful & lasting change

Four projects led by Cefas

Andrew Gill, Principal Scientist, Cefas



Discretionary project

• EMF technical workshop



Fisheries Sensitivity Mapping & Displacement (FiSMaDim) September 2022 – August 2024









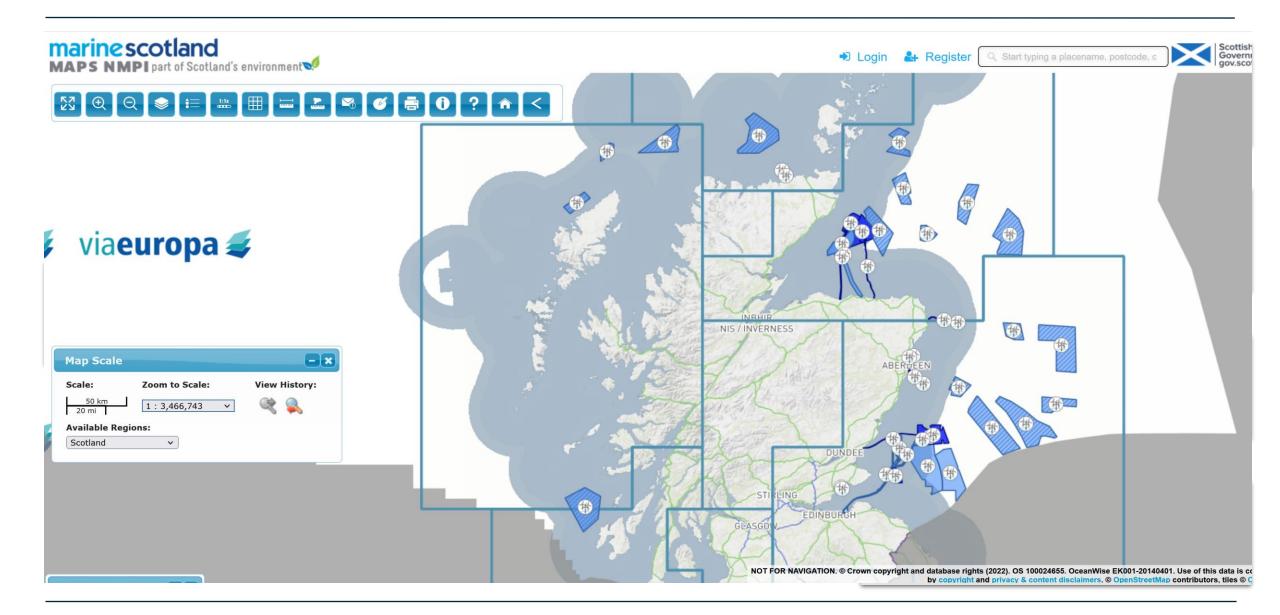
Project goals

- (1) Identify the recent spatial distribution of fishing activities of UK vessels in the UK EEZ based on individual vessels' positional tracking data, fisheries activity database and relevant ancillary data collected by MMO & Marine Scotland, ...;
- (2) Assess the constraints and opportunities for the fishing industry to adapt (including displacement) to the local development of OWFs;
- (3) Provide evidence to inform British Energy Security Strategy, 25-years Environmental Plan, Fisheries Act,



Project partners







The Nature Inclusive Cable Enhancement and Protection (NICE) project September 2022 – November 2024



Project aim and objectives

Aim: To provide evidence on the potential ecological impacts (focused on benthic epifauna), of NID technologies for cable protection, compared to existing 'standard' cable protection technologies.

Objectives:

- 1. Complete a data/literature review on cable protection options for offshore wind subsea cabling.
- 2. Deploy NID cable protection at a marine field site in the UK.

3. Use a Remotely Operated Vehicle (ROV) for surveys, gathering data on observations of epibenthic assemblages on the NID cable protection as well as standard cable protection.

4. To conduct analyses of the ROV data to investigate epifaunal colonisation, epifaunal community development, and identify the presence of invasive non-native epifaunal species.

5. A comparative assessment of NID and traditional cable protection methods, drawing on the ecological data collected during this project. Provide evidence of NID cable protection change (whether positive or negative), as well as consider different cable protection decommissioning scenarios.



Progress update

Phase 1 - Literature review underway

- Aims to concisely synthesise available evidence on impacts to benthic infauna and benthic mobile epifauna from the cable and cable protection installation, operation and decommissioning.
- Combined with a synopsis of NID solutions in an offshore wind energy context.

Phase 2 – Mattress deployment (NID and 'standard' mattresses); planning underway for Spring 2023 deployment. Planning for ROV monitoring survey (Summer 2023 tbc) underway

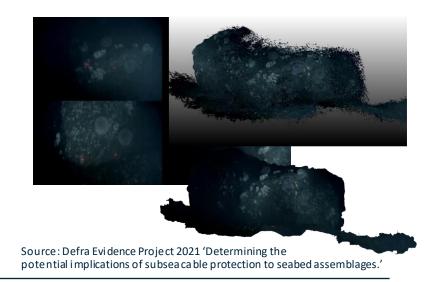
- Provisional confirmation from the operator to use part of the cable area of the MeyGen site (Pentland Firth, North Scotland), as the NICE project study site.
- Work underway to look at licence exemption, if the NICE project is to be based at the MeyGen site.
- Discussions progressing with potential subcontractors for installation and surveying activities for the MeyGen site.
- Work underway refining the ROV survey design, survey plan and data analysis plan.

PAG engagement

- Inception meeting completed (Oct 2022), productive progress review meeting completed (Dec 2022),
- Next PAG review meeting to take place in March 2023.



Marine Matt @ ARC Marine (Technology - Arc Marine)





Floating Offshore Wind Environmental Response to Stressors (FLOWERS) September 2022 – March 2025



Project aim and objectives

Aim: to reduce uncertainty of poorly understood stressors within OWF EIAs for floating offshore wind farms.

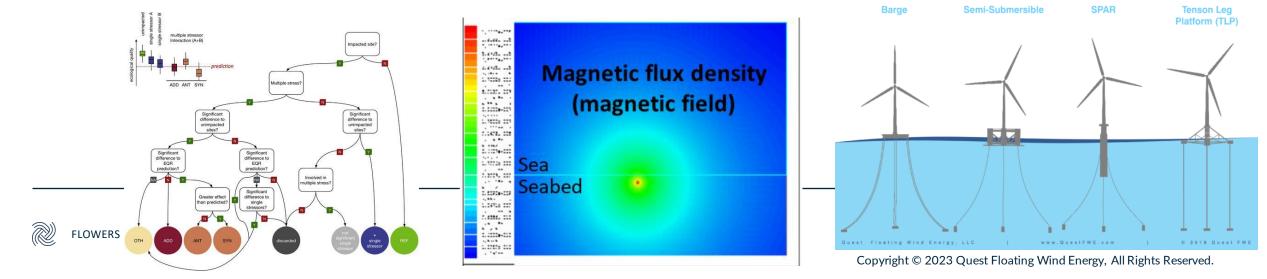
Objectives:

1. Sea-shelf scour addressing the hydrodynamic and physical changes associated with scour and potential ecological consequences.

- 2. EMF- Modelling assessment of encounter rate between sensitive species and EMF emitted by dynamic cables.
- 3. Multiple stressors and an initial framework to consider them.

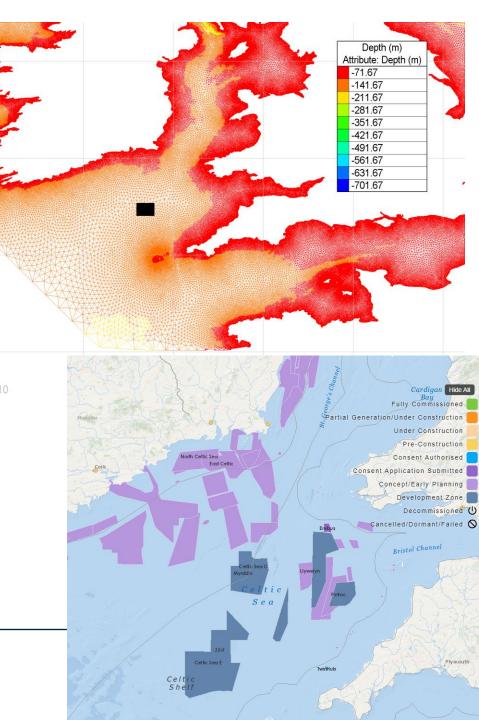
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Principle Floating Wind FTU Floaters



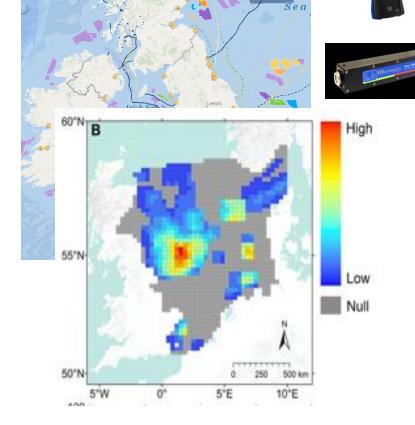
WP1. Scour - Progress to date

- Selection of known modelling site with observations
 Ongoing selection of suitable floating turbine in discussions with PAG
 Defining mesh refinement and mesh extent
- 2. Developing method to impose a pressure field on the water surface using validated approach (Parisi et al., 2019) with the caisson test case against preliminary CFD work done by HR Wallingford
- 3. Reproduce the turbine and cable behaviour under local climate, using OpenFAST model (tbc)
 - including local shear stress at touchdown areas
 - reproduce anchor effect





WP 2. EMF Field work and analysis relating to species encounter rate



- Planning series of surveys with magnetometers at operational cables
- Different geographic locations around the country (N,E,W,S)
 - AC and DC cables
- Post-field work use cable characteristics to model the EMF
 - Compare cable model with measurement

Species distribution

- Encounter rate between sensitive species and EMF emitted by dynamic cables
- Select species with data of distribution in areas we have measured and modelled the cables (Cefas and MSS data)
 - Create species occurrence and distribution models (2D)
- Produce first stage assessment of likelihood of encounter of species w.r.t. to cable EMF

EMF Technical Workshop

January 2023



EMF technical workshop

- OWEC discretionary project
- Project purpose to provide an agreed and standardised approach for estimating the environmental energy emission EMF from subsea electricity cables through expert agreement facilitated by a workshop
- Held over 2 days in person at Royal Institution, London (17th 18th January 2023)
- Power cable engineers and modellers, geophysicists, oceanographers, biologists
- Outputs:
 - Workshop report with recommendations for standardised approach
 - Online seminar
 - End of March





Thank you

Contacts

- FiSMaDim, Angela Muench (angela.muench@cefas.gov.uk)
- NICE, France Mynott (<u>frances.mynott@cefas.gov.uk</u>)
- FLOWERS, Jon Rees (jon.rees@cefas.gov.uk) & Jenny Graham (jennifer.graham@cefas.gov.uk)
- EMF, Andrew Gill (andrew.gill@cefas.gov.uk)





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Collaboration with other programmes

- EcoWind and site access requirements Dickon Howell, EcoWind Programme Champion, Howell **Marine Consultancy**
- Pathways to Growth Rachael Mills, Pathways to Growth Coordination Group Manager, Offshore Wind Industry Council (OWIC)

ECOWind and site access

requirements

Dickon Howell, ECOWind Programme Champion, Howell Marine Consultancy



ECOWind update

- Impact
 - Impact workshop 23/11
 - 173 targeted actions (owners, indicators, outcomes, timeframes) across 3 projects and ECOWind champions
 - Rationalise these to form an ECOWind Impact Action Plan
 - ECOWings first deliverable has been delivered, modelling tool
 - Coordinating with P2G on strategic compensation
 - Coordinating with POSEIDON and PrePARED on project delivery



Site Access

- Questionnaires on site access requirements and expectations from offshore wind developers and research community
- Site Access workshop on 8th February
 - To discuss the needs and requirements for site access of OWF developers and academic researchers
 - To build an understanding, necessary to progress the development of agreed ways of working in future

Site Access

- Co-operation and collaboration needs to happen at all levels
 - Strategic Programme / Policy / Planning to demonstrate how OW research can contribute to UK outcomes within required timescales and for industry to be an integral part of that discussion
 - Commercial Demonstrate the commercial need for OW research and the value to industry in cooperating, including co development and coordination of research
 - Operational Work to align cultures as well as operational requirements as far as possible



Site Access

- Next steps
 - Analyse the workshop findings and produce a plan of action for the next 6 months whilst continuing to support current live projects





Pathways to Growth (P2G)

"Collaboration with Other Programmes"

OWEC PSG meeting; Thurs 9 February

Pathways to Growth (P2G)

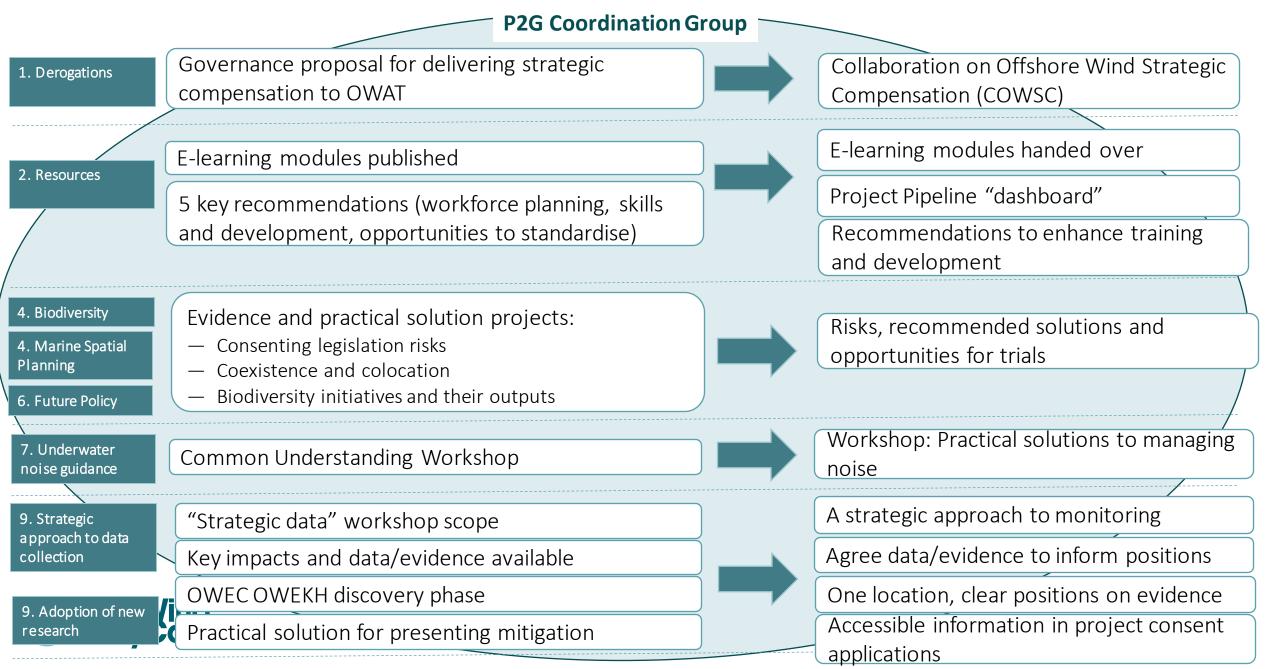
- ➢ Guided by the P2G Coordination Group.
- > 10 prioritised issues, the "P2G Barriers".
- A 'roadmap' for each issue identifying key activities needed.
- > A resolution target date for each issue.

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P2G Collaborative Delivery in 2022 and Looking Ahead to 2023

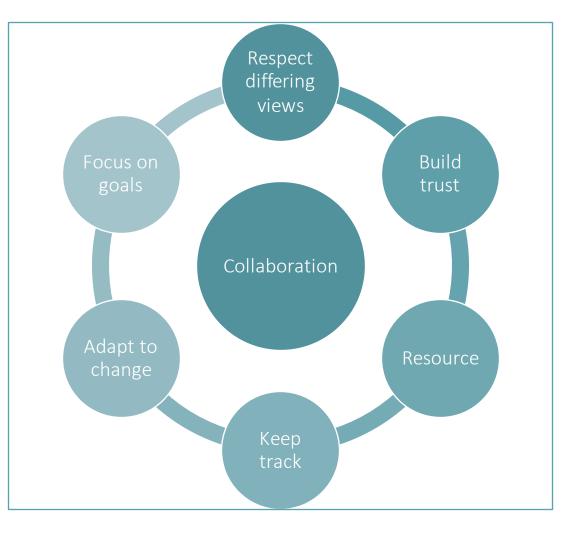


Collaboration Challenges

Collaboration doesn't just happen - it is hard work.

For the P2G team it has required:

- Building trust.
- Articulating the goals and remaining focused on them.
- Looking for solutions that are applicable across the UK (or recognising that might not happen).
- Respecting and navigating the differences in position.
- Understanding and keeping updated on new work and progress.
- Finding ways to minimise input.
- Reacting and adapting to change.



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Pathways to Growth: Prioritised Barriers to Growth

1. Derogations	There isn't sufficient UK Government and Devolved Administration guidance available to define how to present a Habitats Regulations derogation case, define and deliver compensatory measures.
2. Resources	There is a shortfall in the required volume and range of skilled resources within the SNCBs and regulatory bodies to meet the demand in case work to deliver offshore wind 2030 and net zero targets.
3. CIA on Seabirds	There is a lack of certainty and consistency in the approach taken to estimate cumulative impacts on seabirds during the construction and operational phase.
4. Biodiversity	Biodiversity policy targets may limit the amount of marine space available for offshore wind deployment required to meet 2030 and net zero targets.
4. Marine Spatial Planning	The existing approaches to marine spatial planning across the UK do not currently provide clarity on how decisions are being made about the use of marine space to ensure there is adequate area available to meet 2030 and net zero offshore wind targets.
6. Future Policy	Opportunities to resolve policy or legislative challenges or to make improvements to wider policy delivery are missed leading to delays meeting UK net zero targets.
7. Underwater noise guidance	There is a lack of clear guidance on underwater noise management within harbour porpoise SACs (England and Wales specific).
8. Proportionate EIA	The volume of information required for offshore wind EIAs will continue to impact decision makers' resource availability, leading to delays during both consent application and preconstruction discharge of consent conditions.
9. Adoption of new research	There isn't a defined process or transparent way of communicating when and how evidence and research outcomes inform Government, SNCB and regulatory body positions on the impacts of offshore wind farms.
9. Strategic approach to data collection	The different approaches to collecting monitoring data at project sites across the UK is preventing development of a more coordinated, robust evidence base to support the understanding and potential resolution of uncertainty in offshore wind development.

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Q&A and DISCUSSION

15.10 - 15.15



Break Time

See you in 10 minutes



Welcome Back





Marine spatial prioritisation and offshore wind co-location

- Marine Spatial Prioritisation (MSPri) update Jo Shayer, Head of Domestic Marine Strategy, Defra
- Shipping and Navigation Projects Maritime and Coastguard Agency update Nick Salter, Offshore Renewables Lead, MCA
- Virtual Floating Offshore Wind Planning with fishing industries – Sion Roberts, Marine Consents Manager, The Crown Estate

Marine Spatial Prioritisation (MSPri)

update

Jo Shayer, Head of Domestic Marine Strategy, Defra



Shipping and Navigation Projects

Maritime and Coastguard Agency (MCA) update – Nick Salter, Offshore Renewables Lead, MCA



Shipping and Navigation Projects

Three initial project proposals:

- 1. "Cumulative" The cumulative impact of offshore renewables on shipping and navigation.
- 2. "Equipment" Wind farm turbine impact on vessel navigation equipment and communication systems.
- 3. "Layout" The impact of offshore renewable turbine layout on surface navigation and emergency response.

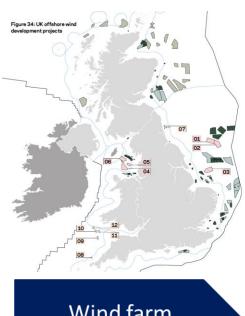
Internal MCA approvals are in discussion.





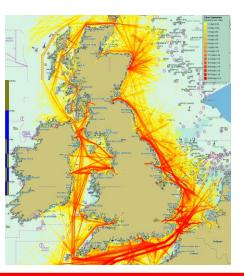
Cumulative Project

Supporting the expansion of OREIs and safe, efficient & clean growth in shipping



Wind farm developments

Scale of developments cumulative/in-combination Geospatial boundaries Recognising all types of OREI and other marine users





Mitigation

Routing Guidance/Rules Technology



Shipping developments

More/larger ships Autonomy (MASS) JIT & integrated logistics Technology for clean shipping Operational concepts

Cumulative Project - approach

- Collaboratively define future UK maritime operating environment with growth of OREIs and maritime traffic
 - all categories of vessel & mariner (including MASS)
 - hypothesise Future Maritime Technologies & Services (FMTS)
- Develop innovative models to predict/visualise future traffic patterns
 - at cumulative OWF scale (regional and up to UK EEZ)

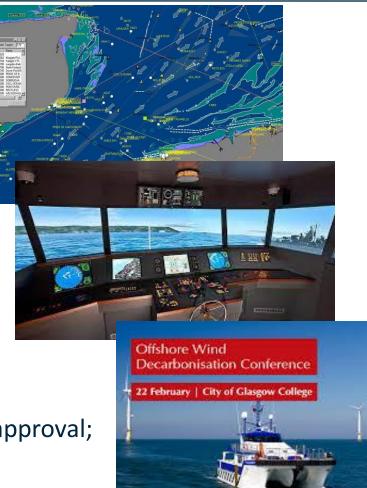
- Link models to (extended) maritime navigational risk analysis tools
- Use models to analyse mitigating impacts of routing and technology
 - potential advanced Aids to Navigation (AtoN), e-Navigation, Sea Traffic Management (STM) and extended Vessel Traffic Services (VTS)





Cumulative Project - approach

- Assess mitigation capabilities at the human (mariner) level for realistic OWF scenarios with varying mariner experience
 - passage planning exercises, bridge simulator exercises, VTS simulations
- Evaluate effectiveness of routing, operational, policy & technological interventions
 - generic large scale but with regional examples
 - consideration of technology standards, maturity, timescales, risks
 - implications for vessel equipment (e.g IMO regulatory and IEC type approval; • development of apps for fishing/leisure craft)
 - impact of government strategy (Carbon Net Zero, Maritime 2050, UK PNT)
- Produce recommendations, safety requirements and guidance





Virtual Windfarm Planning – Collaboration between offshore wind and Fisheries on a floating offshore wind project Sion Roberts, Marine Consents Manager, The Crown Estate



Why?

- Fisheries and offshore wind, are two industries with the largest current or potential footprint in the marine space.
- Fisheries have concerns about losing opportunities to ply their trade through loss of available grounds, often described as spatial squeeze.
- Offshore wind is anticipated to significantly expand in coming decades, using both fixed and floating turbines.
- Floating wind is a new challenge, with a lot of technology diversity, and a smaller evidence base for the impact on fishing.





30 JUNE 2022

The loss of fishing grounds across UK waters points to a frightening outlook for the future of the

VIEW MORE →



NFFO/MMO meeting on a Joined-Up Approach to managing 'spatial squeeze'

The accelerated expansion of offshore wind and the pace of application of management



Accelerated Offshore Wind increases the Spatial Squeeze of Fishing

7 APRIL 2022

The Government's response to the energy security provoked by the Russia's invasion of Ukraine has now

mound the coase - but the NFFO's continuing noise of the ports is huaring, over and over upon, shour dispropertionate orderecommunity of hereichouse in what was preventing a	 one kind or another, and fisheries manageroris within the district new takes species place to management manageroris within APP's. The visk of the second place is an angement managerorism based of all the second place. 	on the consent of shone whose activities are being moragoid. When finite mean fact presentation is a fact of the theory of an effect of the	menagement from top to bottom in the coming years. Sector torres	 Same – threadd he tanderstakers, or may rose and openent robationships. The industry robation between WC has reach to put an application because at
Interacting the second	Icrest of paperwork associated with MPA assessments. Critically, because the burden of proof lies with the regulator and the industry, and the default is closure of	produce positive MPA assessments, the law says that the fisheries must close. It is this that is driving the way in which the IFCAs' role has changed	commingement, and the dialogue between Defra/MMO and inshore fishers is improving. There is so much to prepare for, including fisheries management plans that	 orntre IFCAs should not be tasked by central government to undertake tasks that they are not resourced fo or equipped to deliver.
Wind power:	Being asked,	and being liste	ned to, are dif	ferent things'
EV reported recently on early	moves by the Crown Estate to e	engage the industry in discussion	about the future siting of floating	o turbines in the Celtic Sea.
	ve Mike Cohen, who took part in			
The Crossen Estate has annowneed the arease that is a googt to consider leasing for wind farm development in the Cellic Sec. Understandably, inevitably, this has caused significant alarm for the many fishermen who depend on those productive and valuable grounds.	CONTRACTOR OF THE OWNER		affect the concome. We should not be mixed into thinking of this horitic charge to industrialise the Celtic Sea as the cells way that the UK can ackle climate charge or secure the future of its energy stuppic Offshore wind certainly has its part to play. So does beauty, does conduct wind, So does	we damage key food resources in exchange for an untried, relatively small, and short-lived contribution to a docened attempt to maintain ou unstatainable status quor? The gold-rush mentality that has seen source developers start planning applications before the ureas of search were even
The Crown Estate's next step will be to decide exactly which parts of these areas will be developed. We have learned that meeting the povernment's target of 4GW of	a. Newtyn harbour on the day of the Crewn Estate neeting, with the diverse array of vessals underthing its importance as one of the UK's top landing ports. an opportunity to comment on the array of available the developer turned up, with a array of available and field in the parts charts, also of survey dates, and a		nuckar. Arid, ultimately, so too should efforts to reduce our energy demands. We cannot seriously be expected to believe that this immense construction programme	announced demonstrates eloquently how profitable the – mostly foreign owned – energy multinationals expect this opportunity to be. Yet agoin, a common resource is being
electricity production capacity will require around 1.500km ² of the solida to be given over to wind farm construction. Hundreds of square Momentre more will be ploughed up for the export cables that will link, these was power stations so the nanceal and.	of those areas that are particularly	charn, a list of softwy calles, and a sense of entilferment. We have had to fight for every inch of progress towards getting fishing taken seriously in the marine planning process, and undersiable progress has been made. Let's not dehade ourselves.	interface constructions programme will have no impact on the health of the marine environment that our industry – and its vital contribution to the URX food security – depends on. The statutory nature conservation bodies are adamant that floating wind firms should not	converted to private profit, and the public is being persuaded to see it as a noble gesture. Nothing about the current programme is predestined or inevitable. It is the result of policy decisions deliberately user, and it
Earlier this month, the Crown Earlier this month, the Crown Enter talked to fishermen in Comwall and North Devon about these areas of search, and see understand it will be visiting Bridnem and Millord Haven scon. Attendies at these meetings have	opportunities ensures in our goal conflict some certain. That fishermen are being asked about wind farm siting at all is to be applauded. This is a far cry from how previous leasing rounds were run. Then, often the first we knew about a new wind farm was when	though it is one thing to be acked and quite another to be listened to. When the final decision about where to put these hundreds of turbines is taken, our purticipation in the process will only have been meaningful if we have been able to	be built in conservation zones. Their evident belief that these arrays are envircementally damaging is not reassuring. We are often told that business as usual is impossible in the age of climate change. Why, then, would	imperative that we keep helding the policy-makers to account for what they are choosing to do to our environment and our industry. There are other ways to address our energy concerns, but we can only catch fish in the sea.
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Introduction

- Initiated by fisheries <u>and</u> the OW industry
- Led by the NFFO, funded by The Crown Estate's Offshore Wind Evidence and Change programme
- Key objective, to facilitate knowledge transfer between industries, and learn lessons for the OWF planning and design processes
- 3 workshops, covering spatial design, and detailed engineering design of OWF, with direct input on fisheries activities



Key outcomes

- A report! Published recently, available through the Marine Data Exchange.
 - Fisheries are not uniform different fisheries, different scales, working differently with or across the tide
 - Based on current assumptions, resumption of significant fishing in a Floating OW farm is unlikely, particularly where catenary cabling is used.
 - Smaller, denser in areas of lower fishing activity is preferrable (for Floating OW), based on the above assumption

2022, NFFO, The Crown Estate, Offshore Wind Evidence and Change Programme, Virtual Floating Offshore Wind (FOW) Project | Marine Data Exchange

Summary report of the Virtual Floating Offshore Wind (FOW) planning project delivered by NFFO with support from The Crown Estate (TCE)



Delivered for NFFO by:

Nathan de Rozarieux Colin Warwick MBE Merlin Jackson

December 2022





Key recommendations

- A series of recommendations, to
 - inform better engagement (particularly early in project development).
 - · identify best available data
 - consider policy to ensure fisheries involvement
 - undertake further collaborative research to characterise displacement, identify opportunities for design mitigations

2022, NFFO, The Crown Estate, Offshore Wind Evidence and Change Programme, Virtual Floating Offshore Wind (FOW) Project | Marine Data Exchange

Summary report of the Virtual Floating Offshore Wind (FOW) planning project delivered by NFFO with support from The Crown Estate (TCE)



Delivered for NFFO by:

Nathan de Rozarieux Colin Warwick MBE Merlin Jackson

December 2022





What change, what comes next?

- Next steps in addressing recommendations through research are being addressed
 - Defra work on co-existence between OW and fisheries
 - ORE Catapult project proposed on Floating OW engineering
- We have engaged with Fisheries stakeholders in The Celtic Sea, using learnings from the project
- Fisheries stakeholders are actively working to • engage the OW industry



Current floating farms off the UK include just five turbines off Peterhead - Hywind, the first commercial floating wind farm in the world - and a similar installed in 2021, with larger

> urbines, of a size never seen before in UK water In contrast to deve een in Scottish waters, the industry has had early input into the proposals by the Crown suggested that even earlier Overall, though, we sho credit where credit is due, and with the Crown Estate in the ning days and weeks. "The next step will be to e that this constructive dialogu ontinues with the actual levelopers, and find a way orward, as early as possible development process, that generation of floating turbines of uses impacts on fishe whilst still allowing the energy argets to be met.

Kincardine, are classed at 9.5MW

each, anchored in water of 60m to

If the floating turbines to be

leployed in the Celtic Sea reach

10MW, this would still sugges

deployment of at least 400 floa

80m depth - considerably

shallower than the sites iden

53.

Q&A and DISCUSSION

16.10 - 16.20



Offshore Wind Evidence + Change Programme

Forward look

Oliva Thomas, Head of Marine Planning, The Crown Estate



2023 Main Call – Scope, Priorities and Timeline

Application processes and structures:

- Project Call to open on 01 Sept 2023.
- Governance to be similar to the 2022 Main Call including:
 - Application timeframe
 - Application processes
 - Funding limits
 - Co-funding requirements

Priorities for investment:

- 2022 Priorities for Investment remain valid.
- Focus on co-location as the overarching priority.
- Expand to include:
 - Broader marine interactions

Project Stage	Date
Project Call opens	01 Sept 2023
PIP-v1 (Outline Bid) submissions	By 13 Oct 2023
PIP-v2 (Full Bid) submissions	By 26 Jan 2024
PEB funding recommendation to The Crown Estate	By 15 Mar 2024
Funding awards announced	By 12 Jul 2024
Projects commence	By 31 Jul 2024



Offshore Wind Evidence + Change Programme

Thanks and close

Nicola Higgins

Head of Renewable Strategy for Offshore Wind, Department for Business, Energy & Industrial Strategy

Next Programme Steering Group meeting: Tuesday 23 May 2023