

**Our first annual report 2021**

Published in January 2022



# Offshore Wind Evidence + Change Programme

| Unlocking the sustainable expansion of  
offshore wind in the UK



HM Government

THE CROWN  
ESTATE

# Foreword

We set up the Offshore Wind Evidence and Change programme with support from governments from all four nations to target change by facilitating the sustainable and coordinated expansion of offshore wind, whilst supporting clean, healthy, productive and biologically diverse seas. This recognises the critical importance of addressing climate change and biodiversity crises at the same time. We can't be pursuing one at the expense of the other.

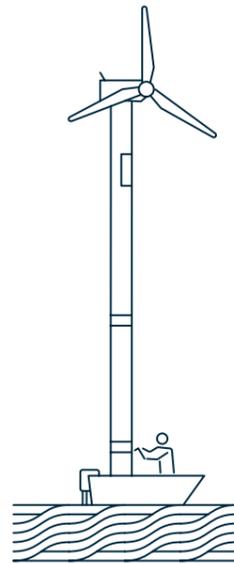
We've had an exceptionally strong start to this programme, propelled by the spirit, energy and commitment of our Programme Steering Group (PSG) members and project partners. In the year of COP26, we were in the spotlight, with offshore wind expected to play a profound role in helping the UK to reach net zero.

Thanks to our PSG member organisations, the programme is already achieving early success. From developing strategic net gain targets to testing new air defence radar mitigation, we've worked with partners over the past 12 months on projects to gather and harness data that, we hope, will bring about positive long-term change by driving forward the growth of the UK offshore wind at pace as it gears up to meet the Government's ambitions.

As we look to 2022, I'm excited to see the game-changing project proposals from our first year become a reality - giving us a better understanding of predator and prey relationships and how offshore windfarms might affect these; developing new spatial planning tools for the marine environment and testing novel technology to track seabirds. I also expect to see some cutting edge research projects coming forward under the auspices of the **EcoWind programme** - a joint initiative with the Natural Environment Research Council (NERC) to bring in the best academic brains in the country.

Critical to all of our success is collaboration and sharing ideas and learning. We will continue to work closely with our members, including our industry representatives, Renewable UK, the Offshore Wind Industry Council and the Seabed User and Developer Group who oversee and drive a number of related initiatives. Thank you to everyone who has played a part in the programme's success in its first year. This report provides highlights from 2021 and a glimpse into 2022 when I'm sure there'll be much more to come!

**Mandy King**  
Programme Manager



## Our mission

To facilitate the sustainable and coordinated expansion of offshore wind to help meet the UK's commitments to low carbon energy transition whilst supporting clean, healthy, productive and biologically diverse seas.

## Our themes

Each project supports the overall programme mission and is delivered through one or more of four core themes, which emerged from a process of collaboration between the Programme Steering Group. The four themes are:

- Finding space for offshore wind in co-existence with other seaspace activities and uses; and a thriving marine environment
- Improving understanding of environmental impacts
- Safeguarding Marine Protected Areas through environmental regulations
- Investigating environmental benefits



Credit: Natural England / Peter Wakely

## Our year in numbers



**Over £20.8 million**

funding committed to 25 projects



**3** projects completed



**13** projects underway



**27** member organisations in the Programme Steering Group including Scottish, Welsh and Northern Ireland government bodies, regulators, NGOs and industry



**3** Programme Steering Group meetings



Launched the first-of-its-kind **Offshore Wind Environmental Evidence Register** with the Joint Nature Conservation Committee and Defra



Established **EcoWind research programme** in collaboration with Natural Environment Research Council and Defra

\*Figures correct as of January 2022

# Working in partnership

## Programme partners

The Offshore Wind Evidence and Change programme is led by The Crown Estate, together with its programme partners, the Department for Business, Energy and Industrial Strategy (BEIS) and the Department for Environment, Food and Rural Affairs (Defra).

“As managers of the seabed around England, Wales and Northern Ireland, we are in a privileged position to help shape, innovate, inform and facilitate the development of offshore wind for the long-term benefit of the nation. The Offshore Wind Evidence and Change programme is a key part of this.

Through collaboration, together we are laying the foundations for the future, gathering data, sharing knowledge and informing change that can help us accelerate the delivery of sustainable offshore wind and maximise economic, social and environmental value.”

**Dan Labbad**  
Chief Executive, The Crown Estate

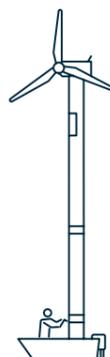


## Who else is involved?

The Programme Steering Group (PSG) provides oversight and direction, supports in the delivery of projects and helps us achieve the outcomes that underpin success. PSG members include Scottish, Welsh and Northern Ireland government bodies, the industry and key stakeholders.

- Centre for Environment, Fisheries and Aquaculture Science
- Crown Estate Scotland
- Department for Business, Energy and Industrial Strategy
- Department for the Economy, Northern Ireland
- Department for Environment, Food and Rural Affairs
- Department of Agriculture, Environment and Rural Affairs, Northern Ireland
- Historic England
- Joint Nature Conservation Committee
- Marine Management Organisation
- Marine Scotland
- Maritime and Coastguard Agency
- National Grid Electricity System Operator
- National Grid Transmission Owner
- Natural England
- Natural Resources Wales
- NatureScot
- Offshore Wind Industry Council / Pathways to Growth
- Office of Gas and Electricity Markets
- The Planning Inspectorate
- RenewableUK
- Royal Society for the Protection of Birds
- Scottish Government
- Seabed User and Developer Group
- The Crown Estate
- The Wildlife Trusts
- Trinity House
- Welsh Government

The programme also benefits from support from a number of other organisations including academic institutions, data and research experts and other representatives of the fishing industry such as the National Federation of Fisherman’s Organisations (NFFO) and the Scottish Fisheries Federation (SFF).

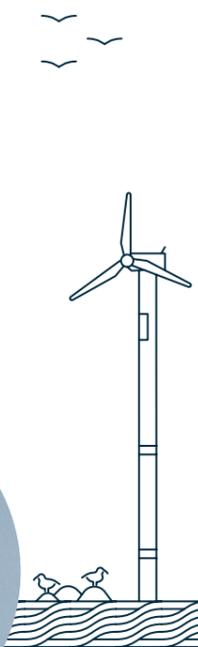


“The UK’s offshore wind sector is a vital part of the UK’s drive to tackle climate change.

The power of wind is delivering clean energy for millions, opening huge opportunities for green growth and high-quality jobs and ensuring greater energy independence by moving away from volatile global fossil fuel prices.

We have been bold in setting world-leading carbon emissions targets and the Offshore Wind Evidence and Change programme is allowing us to work with key partners so we can go further and faster than ever before in deploying the technology of the Green Industrial Revolution.”

**Greg Hands MP**  
Minister for Energy, Clean Growth and Climate Change



## What our members say

- **Jared Wilson**, Renewables and Energy Programme Manager for Marine Scotland Science in relation to the newly funded PrePARED project: “All this is only possible with the substantial financial support provided by the programme – without that we would have missed this unique opportunity to better understand environmental impacts and de-risk consenting of offshore wind in the UK.”
- **Tony Juniper**, Chair of Natural England: “This UK-wide project will help realise our vision of a thriving marine and coastal environment alongside low impact offshore wind energy, tackling both of the climate change and nature emergencies together.”
- **Melanie Onn** at Renewable UK: “The programme has enabled cross cutting and far-ranging conversations to address challenges.”
- **Dr John Goold**, Director of Marine Evidence and Advice at JNCC: “The Offshore Wind Evidence and Change Programme has been a timely initiative and enabled us to contribute to the challenges facing offshore wind deployment and biodiversity protection in a collaborative and impactful manner. We have been particularly pleased to establish the Offshore Wind Environmental Evidence Register and we have valued the opportunity to contribute to the EcoWind science case. The programme is providing a valuable focus for cross organisational working towards shared goals.”
- **Peter Barham**, Chair of the Seabed User and Developer Group: “The Offshore Wind Evidence and Change has produced real impetus and a catalyst for change.”

“It’s great to see the progress that the Offshore Wind Evidence Change programme has made in its first year, supporting the long-term adoption of offshore wind power. I am pleased that Defra is a key partner on this programme. Together we will work to achieve net zero commitments while protecting precious marine life.”

**Rebecca Pow MP**  
Environment Minister, Defra



# Project highlights



In the first year, with financing from The Crown Estate, the programme has committed to 25 projects, with three completed and 13 underway. Here are just a few highlights from across the year.

You can find out more about these and other projects on the programme website at:

[www.thecrownestate.co.uk/owec](http://www.thecrownestate.co.uk/owec)

## Strategic East Coast Grid Spatial Study

The seabed around the east coast of England has extraordinary potential for offshore wind development.

This project was designed to help optimise the sustainable use of this seabed for renewables while protecting the environment and delivering economic benefits. It looked at options for better coordination, land and sea infrastructure and connections into the national power grid. The **report**, published in April 2021, brought spatial considerations into the foreground and contributed to the Offshore Transmission Network Review, informing policy development specifically around the increasing importance of considering the marine spatial context for future development activity. The study is also referenced as forming part of the evidence base in this respect in recent Government consultations.

The project was led by The Crown Estate, National Grid ESO, National Grid ET and the Marine Management Organisation with consultancy support from AECOM.



## Improving seabird impact assessments

Published in summer 2021, this project was designed to develop a legal basis to support the development of a methodology, which will ensure that cumulative assessments of the impact of built and future windfarms on seabirds are as realistic as possible. This will help to avoid overestimates which could hamper future development.

The outcomes can help to improve planning and decision making by creating greater consensus on how cumulative impacts on seabirds should be assessed.

The outcomes were reflected in the Draft National Policy Statement for Renewable Energy Infrastructure (EN-3), published for consultation by the Department for Business, Energy and Industrial Strategy (BEIS) in September 2021, and within recently published Development Consent Orders. Through supporting an improved methodology for cumulative seabird impact assessments, this project is anticipated to have a significant impact in reducing the consenting risk of future projects and enabling offshore wind in areas where there is already significant development and consented capacity.



Credit: Andy Hay (rsps-images.com)

## Offshore Wind Environmental Evidence Register

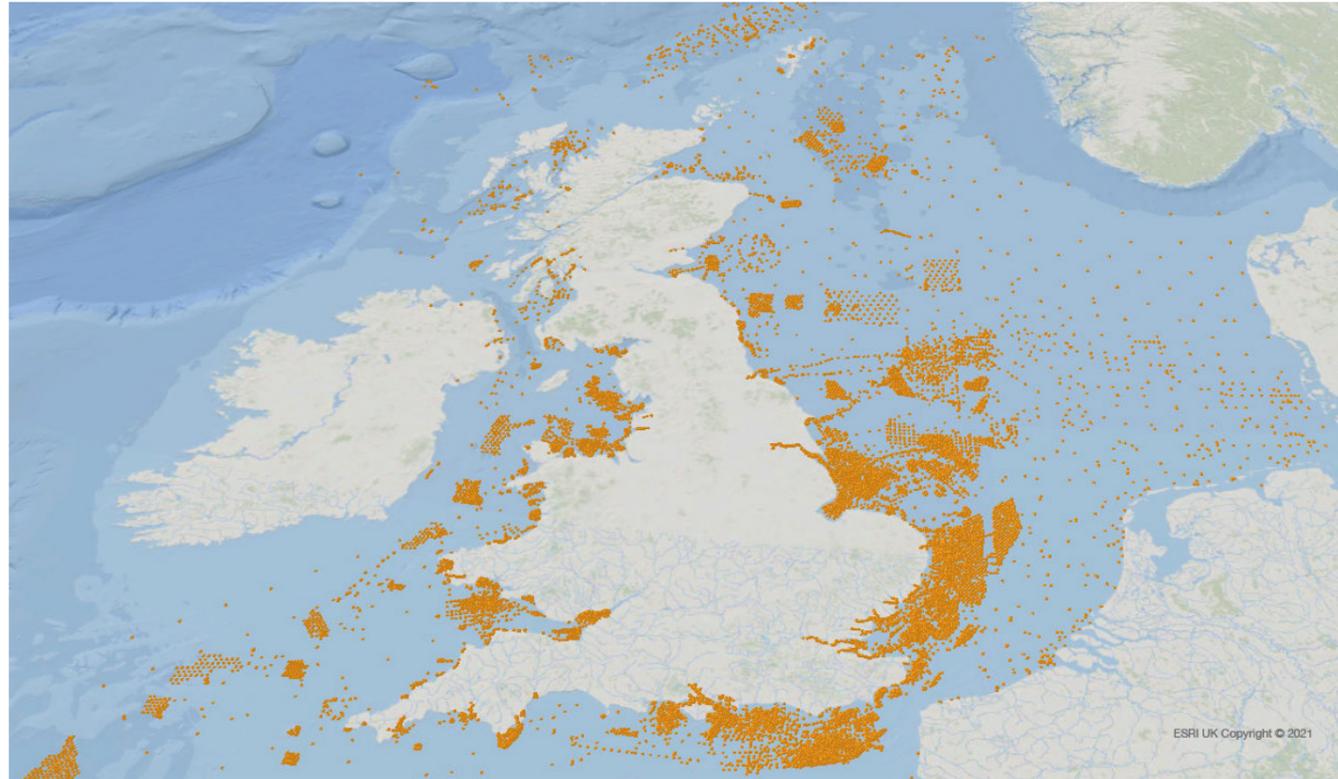
With the range of research projects being undertaken on offshore wind evidence gaps, it's vital that findings are shared widely to support the knowledge base for the sustainable development of new offshore wind farms.

The Offshore Wind Environmental Evidence Register has built, for the first time, a publicly accessible UK-wide register of evidence gaps and relevant research projects across four key areas – the seabed, marine mammals, seabirds and fish. It will increase understanding of the current breadth and scope of research, reduce duplication, and also raise awareness of current research to help facilitate debate, discussion and change. The second iteration was launched on the 20<sup>th</sup> January 2022 and you can view the register on the Marine Data Exchange (MDE) [here](#). So far, it has been downloaded over 400 times and is the second most downloaded series on the MDE.

JNCC has led the development of the register with the support of Defra and The Crown Estate.



Credit: Keith Hiscock



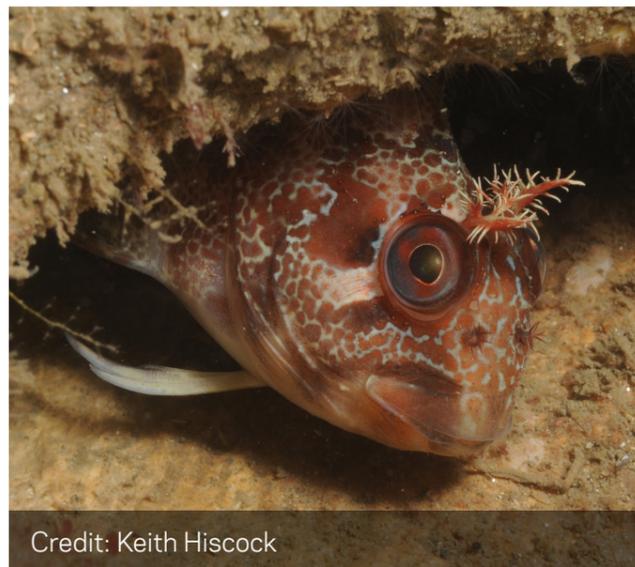
### North Sea Net Gain

This project began in 2021 and is an international collaboration to provide further evidence on how benthic biodiversity is distributed across the North Sea and around the UK into one dataset. It has produced new modelled data and an app to help ensure that decisions around offshore wind deployment can be made using the most comprehensive information.

Through a thorough data mining process, detailed maps were produced of habitats and distributions

of key benthic species in the North Sea. These will be publicly accessible via a new app, to be launched early in 2022, for industry, government bodies and anyone with an interest in marine life and space.

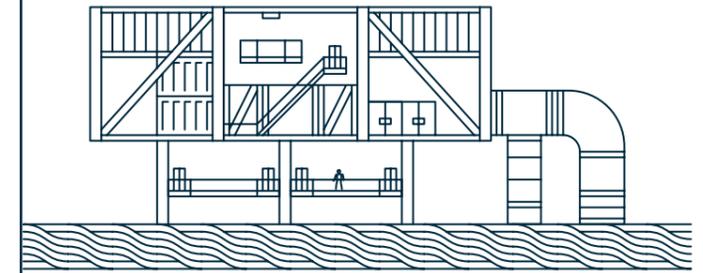
The Crown Estate is leading the project in partnership with The Rich North Sea Programme, delivered through Cefas and the Flanders Marine Institute (VLIZ), and supported by the Project Advisory Group including Natural England and JNCC.



Credit: Keith Hiscock

### Fish and Fisheries Evidence Gaps

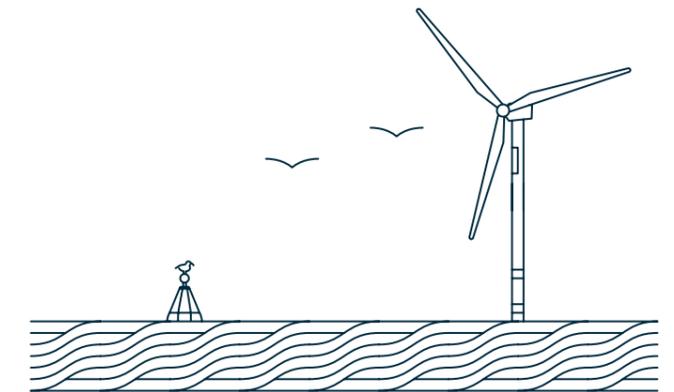
This project, led and joint funded by Marine Scotland, will set out the key evidence and data relevant to the consideration of fish and fisheries interactions with offshore wind, identifying key gaps and opportunities for these to be managed. The report is already influencing projects being brought forwards into the Offshore Wind Evidence and Change Programme and will, once formally published in early 2022, focus efforts to address the key evidence gaps across UK and regional government and industry.



### Air Defence Concept Demonstration

This **project** is helping to identify technical mitigations to ensure offshore wind projects can co-exist alongside air defence radar systems. It is being delivered by the Ministry of Defence, the Offshore Wind Industry Council (OWIC), The Crown Estate and BEIS.

A major project milestone occurred in September 2021 with the launch of the **Air Defence and Offshore Wind Strategy and Implementation Plan** at RenewableUK's Global Offshore Wind conference, providing an update on progress and highlighting the importance of strategic collaboration to address the challenge of co-location. It also identified specific surveillance technology that could be introduced to radar systems to more accurately distinguish wind turbines from aircraft. There'll be plenty more to come in 2022.



Credit: UK MOD © Crown copyright 2021

# 2022 – the year ahead

The programme enters 2022 – its second full year – with momentum, energy and focus. The programme will be supporting several new projects, delivered through wide-ranging collaboration and partnership, to improve understanding amongst the sector and key decision-makers of how offshore wind deployment could affect marine habitats and wildlife in combination with other activities. We can also look forward to updates and recommendations from many of the current live projects underway, considering how the individual project outcomes make a collective value, as the programme looks to deliver change and help the UK towards its net zero targets.

We were delighted to start January 2022 by announcing the latest projects that will receive funding from the programme. Together, these projects can improve understanding of environmental factors to unlock offshore wind growth in the most sustainable way.



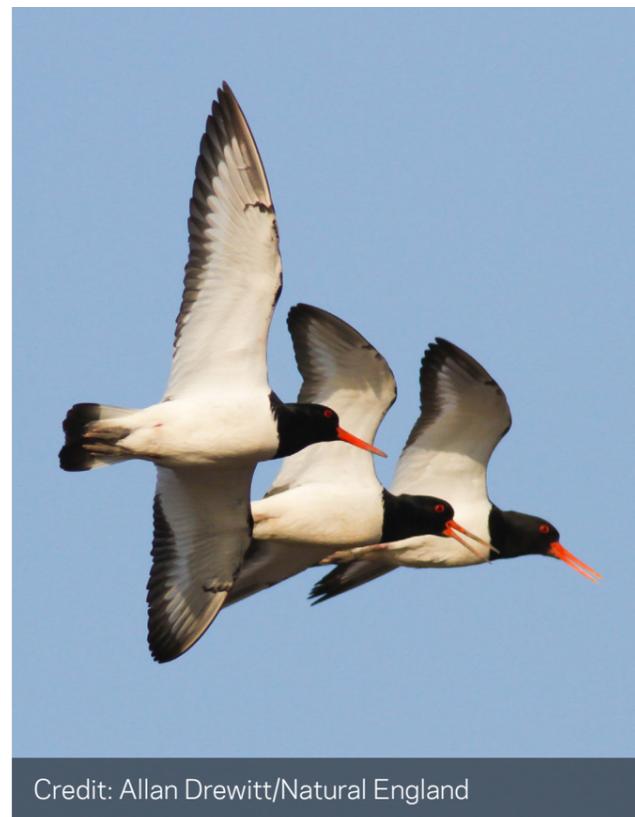
## PrePARED (Predators and Prey Around Renewable Energy Developments)

Offshore wind development is needed at pace and scale to meet net zero targets. However, this needs to happen in the right way to ensure seabirds and marine mammals are not adversely affected.

PrePARED will investigate how seabirds, marine mammals and fish change their behaviour in response to offshore wind development.

The Moray Firth and Firths of Forth and Tay regions of Scotland are ideal locations to carry out this research as offshore wind farms are currently being built there. By understanding how seabirds and marine mammals respond to these developments we can help ensure offshore wind development elsewhere does not negatively impact these species.

This five-year project is being delivered by a project team led by the Scottish Government's Marine Scotland directorate and comprising a wide range of environmental organisations and academic institutions. The list of support organisations can be found on the programme website.



Credit: Allan Drewitt/Natural England

## POSEIDON (Planning Offshore Wind Strategic Environmental Impact Decisions)

Different marine areas have different environmental sensitivities. To ensure new wind farms are built in the most sustainable locations, it's important to have a full picture of what those sensitivities – or risks – may be.

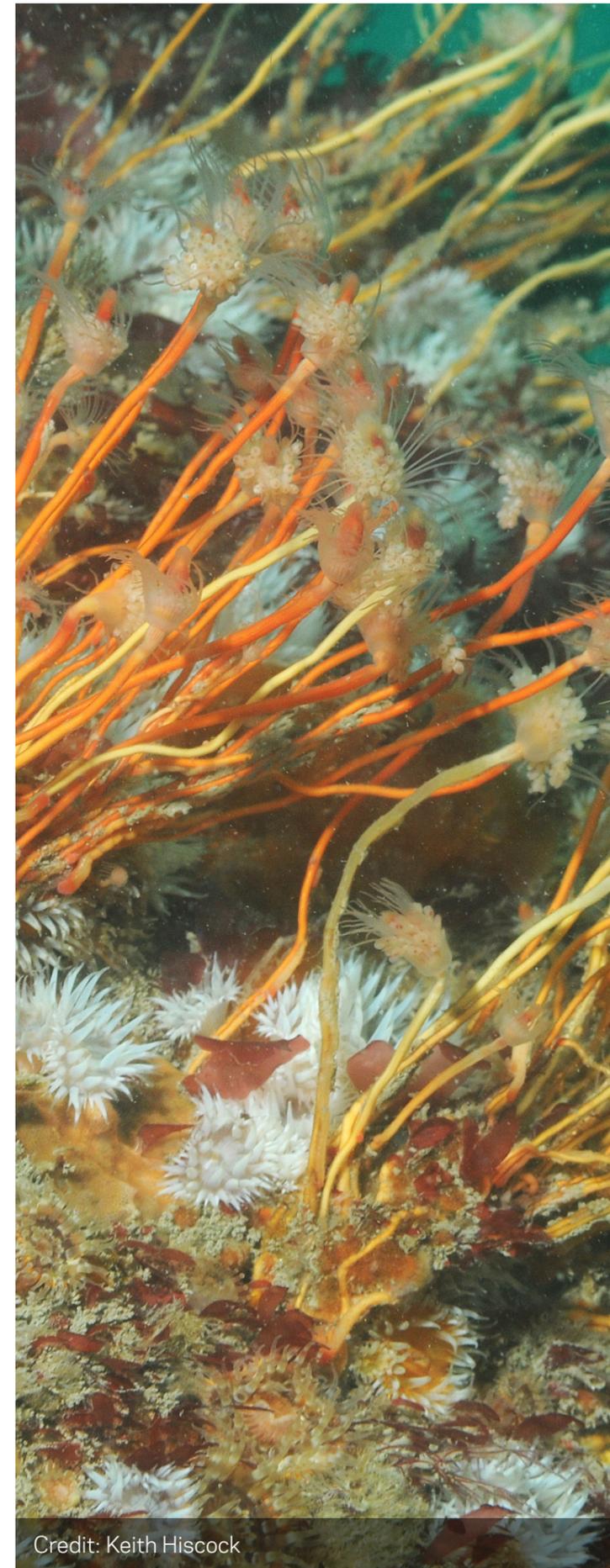
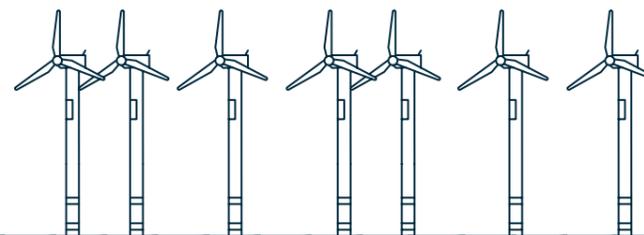
The POSEIDON project will conduct analysis to strengthen the knowledge base of the potential risks of developing wind farms on different environmental receptors, such as seabirds, marine mammals, marine landscapes and benthic seabed habitats. New and existing data on environmental sensitivities will be combined using existing web-based tools where possible, to provide a comprehensive environmental baseline. These tools will be used by marine managers, scientists, developers and all those with an interest in offshore wind to ensure that decisions on marine planning and project development can factor in environmental risk from the outset.

This collaborative UK-wide project is being led by Natural England, with support from an advisory group comprising Cefas, JNCC, the MMO, Natural Resources Wales, NatureScot and Bangor University. The project began in January 2022 and is due to continue until 2025.

## Remote Tracking of Seabirds at Sea

The RSPB will be leading – with a team of experts and government bodies – a pioneering project trialling tracking techniques to reveal more about seabird movements and survival in the North Sea.

This project is novel involving the development of new tag and receiver systems suitable for use on seabird leg rings and offshore turbines. If successful, it will be an international first, allowing the project team to collect ground-breaking data on currently-unmeasurable parameters. This will be invaluable globally to the offshore renewables industry and nature conservation. The project will focus on kittiwake due to the acknowledged cumulative impacts on this species and associated consenting risk.



Credit: Keith Hiscock



## Virtual offshore wind workshops

The fishing industry and fisheries have an important role to play in unlocking the potential of the UK seaspace for offshore wind. This series of workshops is led by The Crown Estate, in partnership with the National Federation of Fisheries Organisation (NFFO). The workshops are delivered by the NFFO and are aimed at improving understanding of fisheries, sharing knowledge, and integrating fisheries into the planning for new offshore wind growth. Alongside the review of existing data, the workshops will explore issues around co-location, the tides and other matters to improve knowledge and understanding of fisheries within the Offshore Wind and Marine Planning sectors.



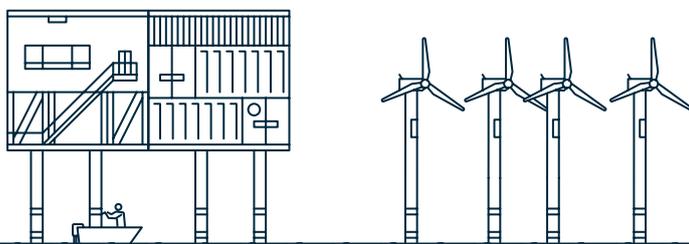
## A platform for sharing marine data and evidence

The **Marine Data Exchange** is a publically accessible data sharing platform designed to encourage evidence-based decisions. Developed in 2013 as the first of its kind and recently relaunched with a brand new look, it will host all outputs from the **Offshore Wind Evidence and Change programme** and also from the related **EcoWIND programme** to ensure that all project reports are easy to find and located in one place to encourage widespread sharing and use of findings in the long-term. The MDE also hosts offshore survey data collected by our customers.

The Crown Estate is committed to protecting and enhancing biodiversity across all areas of its activity. Both the Marine Data Exchange and the Offshore Wind Evidence and Change Programme are part of The Crown Estate's wider investment in marine spatial data and evidence to improve productivity, drive value and develop a holistic understanding of the seabed.



Credit: Natural England / Trudy Russell



## Find out more

Please explore the programme website at [www.thecrownestate.co.uk/owec](http://www.thecrownestate.co.uk/owec) to find out more including a full list of projects.

Feedback is important to us. If you have any comments or enquiries, please email:

[OWECenquiries@thecrownestate.co.uk](mailto:OWECenquiries@thecrownestate.co.uk)