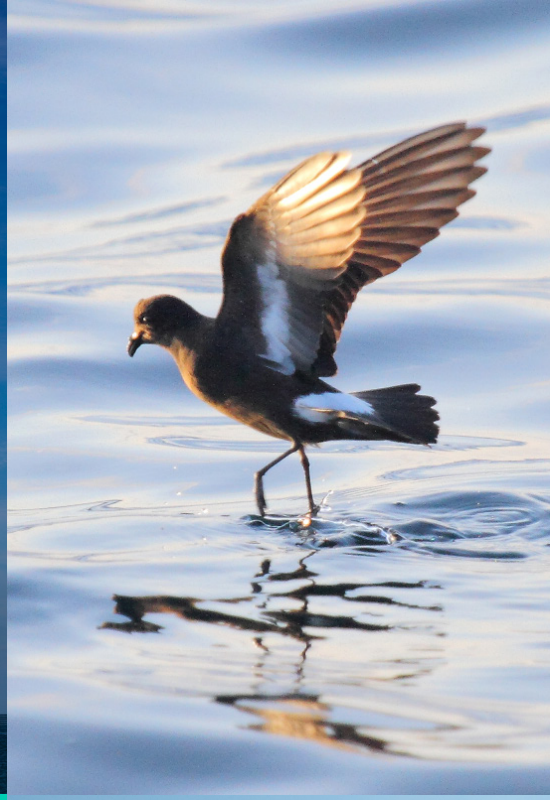
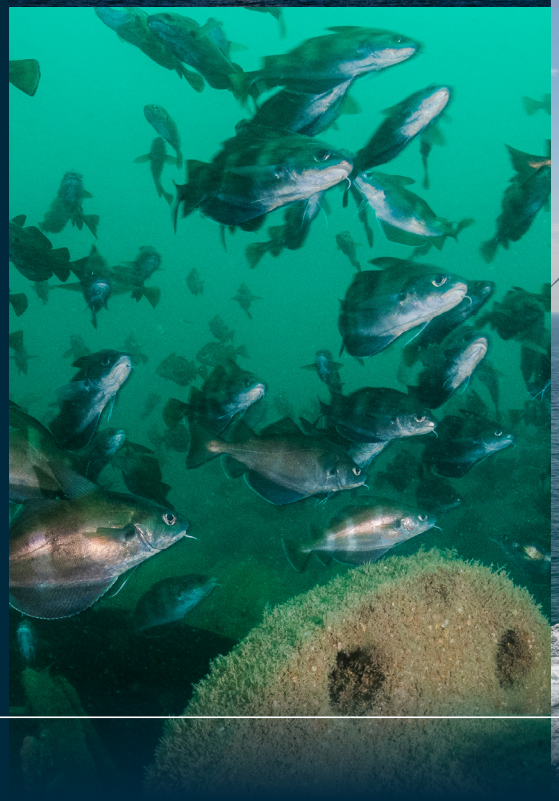
The Offshore Wind Evidence and Change Programme

Annual Report 2024

Driving Sustainable
Offshore Wind Development





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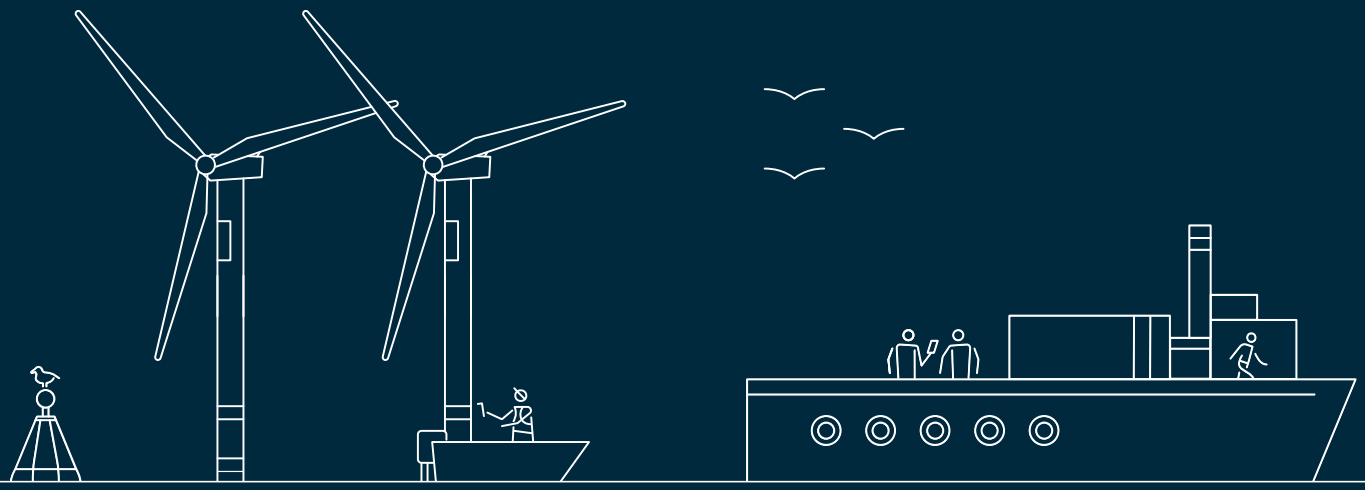

Joint Ministerial Foreword

Offshore wind is central to delivering clean power by 2030, supporting the Plan for Change to help bring bills down for good and create clean energy jobs. By accelerating the deployment of offshore wind projects and enhancing marine biodiversity, we are ensuring the UK can meet its 30 by 30 goals whilst delivering economic growth.

As programme partners, DESNZ and Defra are proud to support The Crown Estate's Offshore Wind Evidence and Change (OWEC) programme. OWEC plays a crucial role in bringing together industry and government to bridge knowledge gaps needed to accelerate the delivery of nature-positive offshore wind development. We look forward to seeing the programme's continued impact throughout 2025 and beyond.

Michael Shanks MP

Minister for Energy, DESNZ

Emma Hardy MP

Minister for Water and Flooding, Defra

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The Crown Estate Foreword

Across marine, urban and rural environments, we have the privilege and responsibility of managing some of the nation's most diverse and vital assets – bringing together organisations to tackle long term challenges and secure a sustainable, prosperous future for all. The Offshore Wind Evidence and Change (OWEC) programme is central to our work and approach to coordinating action across marine sectors to deliver on net zero and nature policies while delivering economic and onshore benefits. The opportunities and challenges of our marine environment are immense and OWEC is helping to unlock evidence, data and new approaches to drive impact.

We are focused on leading the clean energy transition and strengthening the UK's energy security, taking a leading role in stewarding the protection and restoration of nature, and creating inclusive communities and economic growth. As managers of the seabed and much of the coastline around England, Wales and Northern Ireland, we play a central role in shaping a thriving and sustainable marine economy. The seabed is under increasing pressure, supporting a vast range of industries, communities, and ecosystems. To manage these demands, we need a long-term, collaborative approach. That's why we are developing our Marine Delivery Routemap (MDR), a holistic and long-term view that brings together government, industry, and stakeholders to plan and coordinate action across the whole marine space to 2050. Underpinned by our world leading data and evidence base, this initiative is designed to balance net zero ambitions, economic growth and nature recovery.

Bringing together academic, government, and industry experts, OWEC has been playing a crucial role in feeding high-quality data into this evidence base. By doing so, it helps to inform the spatial pathways and forward management plans outlined in the MDR, ensuring informed decision-making for the future of our marine space. By integrating robust evidence and cross-sector collaboration, we can achieve the ambitious outcomes set out in the MDR, including supporting the UK's energy security commitments, ensuring a thriving marine environment, and optimising the marine space for economic and community benefits. Our £50 million investment in OWEC is a testament to the power of collaboration in bringing together expertise, data, and insights to accelerate nature positive offshore wind deployment.

We are immensely grateful to all OWEC partners for their continued support; driving impact from this shared evidence base we are developing. Together, we are shaping the future of offshore wind and ensuring the UK remains a global leader in sustainable marine development.

Gus Jaspert
Managing Director of
Marine, The Crown Estate

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OWEC in numbers

The journey so far

2019

Offshore wind and net zero ambitions set

The Crown Estate commits to establishing a partnership to boost offshore wind and help achieve UK's net zero goals by 2050

Offshore Wind Sector Deal launches, uniting industry and government to expand UK offshore wind power

December 2019

Stakeholder workshop

40+ organisations collaborate to define outcomes, priorities and planning

September 2020

Inaugural Programme Steering Group outlines programme's objectives and identifies key themes:

- Finding space for offshore wind Understanding environmental impacts
- Ensuring sensitivity to marine areas
- Investigating environmental benefits

December 2020

The Crown Estate makes £25 million investment to kickstart programme

26 organisations sign up to Programme Steering Group

June 2022

The Crown Estate doubles its investment to £50 million

July 2024

Reviewing OWEC's impact

An independent assessment of OWEC's value and impact across the industry found:

Recognised as highly valuable by industry

Agile model drives groundbreaking research

Project impacts are enhanced by access to a broad stakeholder network through the Programme Steering

September 2024

The Crown Estate launches Marine Delivery Routemap and accompanying Future of Offshore Wind report

- A collaborative, long-term strategy for marine planning supporting net zero, nature recovery and economic growth.
- OWEC data strengthens the evidence base behind MDR and future leasing.

September 2024

Governance reset for greater impact

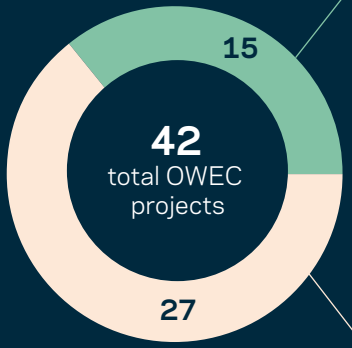
A new Technical Steering Group boosts cross-project collaboration alongside the Programme Steering Group

December 2024

Project impact review

A comprehensive review standardises impacts, defines actions and ensures continuous monitoring

OWEC in 2024



Includes **one project completed** in 2024, HPAI Seabird Surveys. OWEC was a contributor to this RSPB led project that substantively increased understanding the impact of Avian Flu, the most immediate conservation problem facing UK seabirds.

Includes **five new projects** that received £7.3m funding in 2024, find out more here.

50+

senior policy and industry representatives engaged in steering impactful evidence outcomes

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Supporting the sector

Reliable, accessible data is essential for the sustainable development of offshore wind. It streamlines the consenting process for project promoters and stakeholders alike, supports innovative environmental design measures and enhances our understanding of the spatial needs of user groups. Guided by its mission to drive change, OWEC is already making a substantial impact by filling knowledge gaps and providing a robust evidence base that informs policy decisions, reduces consenting times, minimises environmental impact and ensures the efficient use of the seabed, among other benefits.

Highlights include:

Strategic Marine Net Gain (MNG) Delivery

Led by the Seabed User and Development Group, the projects recommendations informed Defra's summer 2022 consultation on the principles of MNG as part of the development of MNG policy.

Ornithological Headroom

Led by Natural England, the project contributed to the development of the updated position on headroom in the National Policy Statements.

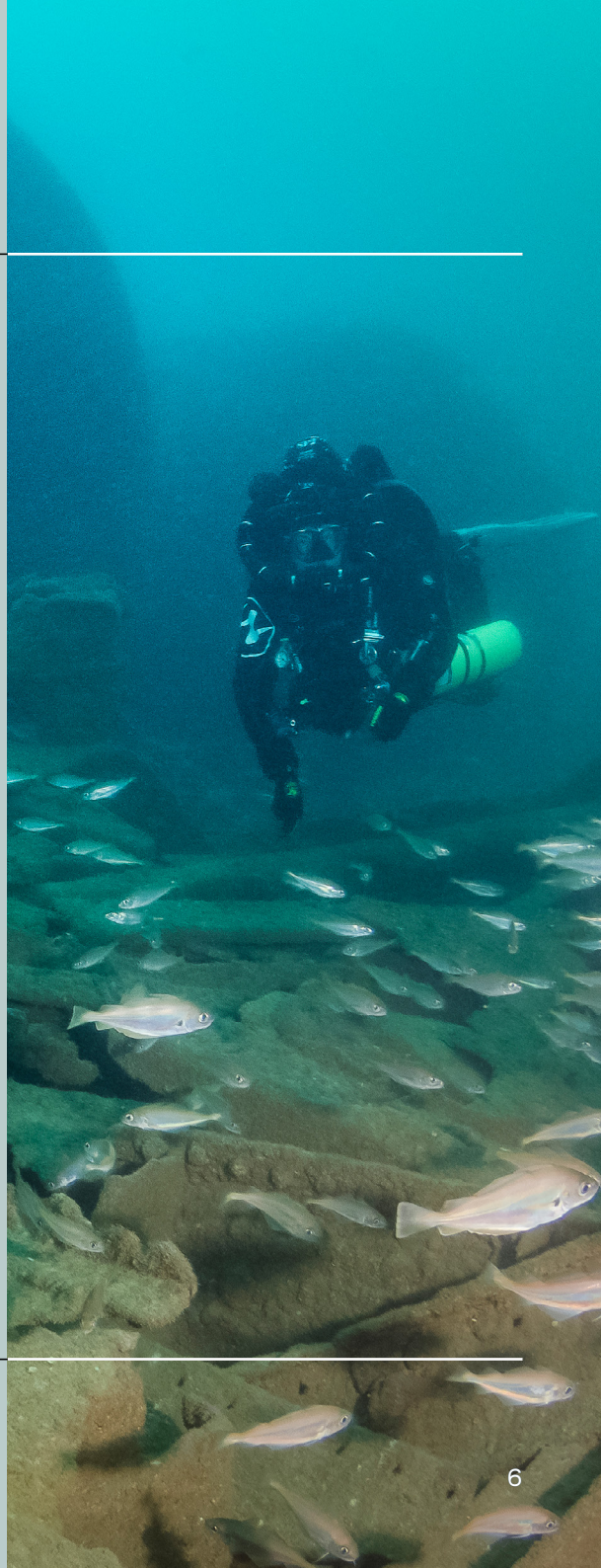
North Sea Net Gain

Led by Cefas, the project harnessed existing data to produce detailed maps of habitats and distributions of key benthic species in the North Sea. This data helped to shape the POSEIDON project which feeds into the Whole of Seabed programme.

East Coast Grid Spatial Study

Led by The Crown Estate in partnership with National Grid Electricity Transmission (NGET), National Grid Electricity System Operator (NGESO) and the Marine Management Organisation (MMO), the project was identified as one of the key inputs for the development of the Holistic Network Design (HND; an integrated approach to planning the offshore and onshore electricity networks needed to support the UK government's 2030 offshore wind ambition) and in Ofgem's 2021 consultation, 'Increasing coordination in the development of offshore energy networks'. The marine constraints (biodiversity, physical environment, historical environment, and other subsea/infrastructure constraints) identified by the study formed part of the Policy Assessment Criteria, which served as a tool for the Offshore Transmission Network Review partners to aid the evaluation of policy choices at a high level.

In 2024, we launched five new projects that will continue to drive the acceleration of offshore wind deployment and support our marine and coastal ecosystems. They aim to fill critical evidence gaps around the impacts of offshore wind farms on marine life, develop mitigation solutions, enhance access to marine data, and explore co-location opportunities. You can find out more about these projects here.



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2024 wrapped

Across our 42 projects, partners have been busy breaking new ground in research and field work to produce the data and evidence needed to coordinate action across marine sectors to power our net zero and nature policies. Here's a snapshot:

ECOFlow

Launched in 2024, the Ecological Consequences of Floating Offshore Wind programme (ECOFlow) explores the unique challenges and opportunities of floating turbines in deeper waters. Extending into new marine areas with stronger wind resources brings new environmental challenges that must be addressed to ensure we are meeting the UK's environmental targets, whilst delivering on our leasing ambitions in Floating Offshore Wind Round 5. The programme, co-funded by the Natural Environment Research Council and managed by programme champions Howell Marine Consulting, has assessed applications for project proposals from UK research institutes – with the two successful projects set to receive £6 million in funding.

Offshore Wind Environmental Evidence Register (OWEER)

The OWEER has been developed by the Joint Nature Conservation Committee (JNCC). Since its first release, the OWEER has been evolving into a key resource and knowledge base for the sustainable development of offshore wind in the UK and is used by the OWEC programme and other research programmes to inform the commissioning of new environmental research. Version 6 was published in February 2025 and JNCC are now undertaking a major piece of work to review whether and how much the evidence gaps identified in the OWEER have been closed by OWEC and a selection of other research programmes. This work – the OWEER Gap Analysis and Reprioritisation Project - will run through 2025 with a phased delivery starting with seabirds and expanding to cover the remaining receptors included in OWEER including the seabed and marine mammals, in Spring 2025.

Planning Offshore Wind Strategic Environmental Impact Decisions (POSEIDON)

Led by Natural England, POSEIDON maps offshore wind risk for seabed habitats, birds and marine mammals within UK waters, using millions of real-world records to create innovative mapping tools. In 2024, comprehensive surveys – including digital aerial surveys of seabirds and marine mammals, seabed habitat surveys using grab sampling, and video surveys – have helped plug evidence gaps across the Celtic Sea, North Sea and Northern Isles. The project's spatial distribution maps will feed into the Whole of Seabed programme.

Offshore Wind Evidence and Knowledge Hub (OWEKH)

Led by The Crown Estate, this digital knowledge hub is improving information sharing in the offshore wind sector. It aims to accelerate the consenting process by streamlining Environmental Impact Assessments and provide a collaborative space where experts from across industry and academia can join forces to shape the future of offshore wind across the UK. Central to OWEKH's work are Evidence Notes that capture current knowledge on specific impacts and receptor groups, offering clear, practical guidance to streamline scoping and assessments. Co-developed with key stakeholders, including consenting bodies, they ensure alignment with regulatory requirements. Current topics under review include Marine Heritage and Shipping/Navigation, with upcoming areas including Seascape, Underwater Noise, Fisheries, and Aviation.

2025 look ahead

In 2025, The Crown Estate will further evolve the OWEC programme to support the offshore wind industry as it drives towards the Government's Clean Power 2030 ambition of 43-50 GW by 2030. Building on our proven track record of investing in data and evidence, through our Marine Delivery Routemap, we will continue to drive change by filling critical knowledge gaps that will ultimately help speed up the consenting process by reducing uncertainties and driving sustainable marine development including protecting and restoring the UK's thriving marine ecosystems.

For over two decades, The Crown Estate has been investing in data and evidence and collaborating with various stakeholders to ensure that development decisions are informed by robust data and evidence. This ongoing commitment underpins the MDR, helping to balance competing seaspace priorities and unlock the seabed's potential to boost vital industries, net zero progress and long-term nature recovery.

This year, several OWEC projects will reach completion, including but not limited to:

Fisheries Sensitivity Mapping & Displacement Modelling (FiSMaDiM)	Led by Cefas, this project provided high resolution maps on fishing activity in UK waters as well as identified areas of high economic importance for the fishing industry. The findings – accessible via a webtool - will support stakeholders by providing evidence for marine spatial planning, to inform consultation processes and to mitigate conflicts..
Reducing uncertainty of multiple stressors within OWF EIAs for floating offshore wind (FLOWERS)	Led by Cefas, the project is gathering critical data to help stakeholders involved in floating offshore wind developments to better assess the impacts of electromagnetic fields (EMFs) from subsea cables, water erosion effects and consideration of multiple pressures on the marine environment. The research will support stakeholders by reducing uncertainty in Environmental Impact Assessments (EIAs).
Marine Restoration Potential Mapping + enhancement (MAREPO+)	Led by Natural England, the project is identifying restoration potential for threatened and declining marine habitats in English waters such as kelp and native oyster beds. As well as a marine restoration action plan for key English bird, fish and mammal species The data will help stakeholders design effective compensation and Marine Net Gain packages, ensuring offshore wind development contributes to a net-positive impact on the marine environment.
Unexploded Ordnance Clearance Technology Trial	Led by Defra, the project explores quieter, alternative technologies for clearing unexploded ordnance (UXO) prior to offshore wind construction. The findings will support regulatory decisions, improve mitigation strategies and streamline licensing, enabling safer and more sustainable offshore wind development.

As we continue to enhance the OWEC programme, in 2025 we will focus on:

Aligning OWEC with the broader Marine Delivery Routemap programme

Strengthening communication to raise visibility of project results

Identify impact pathways to ensure evidence is put into action and delivers impact

Ensuring our project outputs and outcomes meet the real-world needs of project promoters, stakeholders and wider communities

Reviewing resources to improve efficiency and better allocate efforts

Find out more

Please explore the programme website at:
www.thecrownestate.co.uk/owec

Feedback is important to us. If you have any comments or enquiries, please email:
OWECenquiries@thecrownestate.co.uk

Findings of completed projects can be found on The Crown Estate's Marine Data Exchange at:
www.marinedataexchange.co.uk/content/info/offshore-wind-evidence-and-change-programme