Scientists explore impact of offshore wind farms on seabed

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Highlight: The team took samples from the sea floor and hope to discover how the turbines may affect biodiversity, carbon storage and seabed composition.

Body

Scientists have collected samples from the seabed at one of the UK's oldest active offshore wind farms.

The project, led by the *University of Essex* , will explore the environmental impact of the turbines on the seabed amid plans to build thousands more to reach net zero by 2050.

The samples, taken from as close as 50m to the turbines and as far as one mile away, are now being analysed, with findings to follow.

Researchers chartered a private survey vessel to carry out their expedition to the site off the coast of Cumbria.

The active wind farm, which has been operational for more than 15 years and is one of the oldest offshore sites in the UK, is run by Danish energy firm ***Orsted***.

Dr Natalie Hicks, of the University of Essex's school of life sciences, said the research was "hugely important".

"There are not enough specialist scientific vessels to gather the evidence in time, so collaborating with industry is key to gathering data," she said.

"We know our demand for net zero energy targets means we have seen an increase in offshore wind farms, so understanding any environmental effects of these wind farms is urgent.

"We hope this research will feed directly into policy decision-making around offshore wind consenting.

"We know we are going to see an increase in offshore wind, so timely and evidence-based decisions are going to need to be made by policymakers.

“This science will hopefully underpin their decision-making, and impact on *Government* policy.”

The team took samples from the sea floor and hope to discover how the turbines may affect biodiversity, carbon storage and seabed composition.

Research is being carried out with ***Orsted***, the *University of St Andrews* and the Government’s marine experts, the Centre of Environment Fisheries and Aquaculture Science (CEFAS).

A CEFAS spokesman said it was “critical to scientifically understand offshore structures and their effects and impacts on the environment”.

“Too often we make assumptions about what is occurring in our marine environment when considering human activities, we need the type of research activity highlighted here to determine whether our assumptions are correct and to provide more confidence in our understanding,” the spokesman said.

“Such improved confidence is a vital element of the integrated scientific understanding needed for informed decision-making towards ensuring the long-term future of our marine environment.”

Marine scientists will also compare the effects of decommissioned oil platforms to get a snapshot of how fossil fuel and renewable energy assets vary in their impacts.

Professor *David Paterson* , of the University of St Andrews, said: “It’s important we take learnings from the oil and gas industry on the environmental effects of oil and gas operations and decommissioning and effectively apply these to the offshore wind industry as projects mature towards later life phases.”

A spokesman for ***Orsted*** said: “Developing renewable energy in harmony with nature is both possible and necessary to address the twin challenges of climate change and biodiversity loss.

“Through collaboration with academic bodies and other stakeholders, our aim is to help develop wider scientific understanding of the potential ecological benefits and impacts of developing critical green energy projects.

“By taking a science-led approach, we can ensure that renewable energy, such as offshore wind, continues to be deployed sensitively and sustainably.”

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