



Media release

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UNIPER WIND TURBINE INSPECTION TECHNIQUE WINS INTERNATIONAL OFFSHORE WIND INNOVATION PRIZE

An inspection technique developed by Uniper for use on offshore wind farms has won a prize in an international innovation competition.

Launched as part of the Carbon Trust's Offshore Wind Accelerator (OWA), the competition is designed to recognise and support novel methods for the inspection of offshore wind substructures. The OWA is a world-class collaborative research and development programme, which represents nine leading offshore wind developers and is supported by the Scottish Government.

Uniper's winning technique, which uses ultrasound to investigate underwater foundations, offers potential major benefits for wind farm operators who need to find ways of maintaining the integrity of offshore turbines.

In many offshore turbines, grout - a high-strength, fast-curing cement - is injected between two sections of the single-shaft monopile foundation on the seabed. To ensure the continuing integrity of the grout over years in a harsh marine environment, an accurate and safe monitoring system is needed.

Working with researchers from the British Geological Survey in Nottingham, a team from Uniper Energy Services has developed a system which uses interfering sound waves to detect any gaps in the layer of grout sandwiched between outer and inner steel tubes of the turbine foundation.

Following laboratory trials and mathematical modelling, full-scale trials were carried out on offshore turbine structures. A remotely-operated vehicle was used to manoeuvre the ultrasound sensor inside the foundation shaft.

"The sea trials proved the accuracy of the system in identifying potential defects and gaps in the grout layer," said the team's leader, Dr Colin Brett, Technical Head, Uniper Technologies. "The system was also shown to operate well in the difficult-to-access foundation structure and against the tight time schedules that sea-borne inspections require.

"We have developed a reliable inspection technique that can assess the integrity of what is effectively a sandwich of different materials in a challenging underwater environment."

He added: "Wind farm operators need to be able to assess and manage risks associated with their offshore turbines and we are delighted to receive the Carbon Trust's recognition for our work."

The inspection technique is offered by Uniper Energy Services as part of its comprehensive portfolio of monitoring and risk management expertise in offshore wind.

Commenting on the win Michael Stephenson, project lead at the Carbon Trust, said: "Uniper's inspection methodology is a truly innovative concept that responded directly to real issues in the market.

"The Offshore Wind Accelerator acknowledges the ingenuity and hard work that went into creating a highly effective solution and looks forward to its emergence in the offshore wind market."



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Notes to editors:

Uniper's prize from the Carbon Trust's Offshore Wind Accelerator will include a range of tailored support to help it further refine the project.

About Uniper

An international energy company and leading European energy producer with a global commodities trading business, Uniper operates in more than 40 countries. It combines a balanced portfolio of technologically-advanced large-scale assets with outstanding technical and commercial expertise, and a firm commitment to developing energy technologies for the future.

Uniper owns and operates a diverse portfolio of power generation and gas assets with a capacity of over 6,000 MW, and gas storage in excess of 160 mcm, making it the fifth largest generator in the UK. Its combined activities in the UK provide employment for around 1,000 people.

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