

Press release

RWE and DEME Offshore install collars on offshore foundations

- **RWE-patented technology to be deployed for the first time at RWE's Kaskasi offshore wind farm**
- **New monopile foundation collars increase load-bearing capacity**
- **Offshore construction works to start in Q3/2021; Start of commercial operation planned for summer 2022**

Essen, 30 November 2020

An innovative foundation technology is to be introduced at RWE's Kaskasi offshore wind farm. For the first time ever in the renewables industry special collars will be installed around the monopile foundation at seabed level. The 'collared monopile' is designed based on a RWE patent. The new technology will provide additional support for lateral loading, increase the bearing capacity and improve the structural integrity of the entire foundation – especially in difficult ground.

RWE Renewables has signed a contract with DEME Offshore for the transport and installation of the new foundation technology at RWE's 342-MW Kaskasi offshore wind farm, located in the German North Sea, 35 kilometres north of the island of Heligoland. DEME Offshore is delighted to partner with RWE in this pioneering project, which highlights how both companies are focusing on further refining innovative technologies and new concepts in the renewables sector.

Sven Utermöhlen, Chief Operating Officer Wind Offshore Global at RWE Renewables, says: "At our Kaskasi offshore wind farm we use innovative technologies that will set standards throughout the offshore industry. The collared monopile, a patented solution developed in-house, will help to increase stability in difficult ground. Furthermore, Kaskasi will be the first commercial offshore wind farm in the world to use an improved installation method to drive all monopile foundations to target penetration. The vibro pile driving technique will reduce both installation time as well as noise emissions for marine life. This showcases our technical expertise as the second biggest player in offshore wind globally and means that we will continue to be at the forefront of the evolution of technology in this industry."

Bas Nekeman, Business Unit Director Northern Europe at DEME Offshore, emphasises: "The Kaskasi collar installation project is a good example of how we can bring added value to our clients. Our versatile fleet of offshore installation vessels enables us to deploy the ideal vessel for this project and, in close collaboration with our client, we are tailoring the installation techniques and minimising any potential risks."

Improved installation method reduces installation time and noise emissions

The Kaskasi offshore wind farm will consist of a total of 38 wind turbines. Each turbine will have a capacity of up to 9 MW. The wind turbines will be installed on monopile foundations. The installation of the foundations will start in the third quarter of 2021. RWE will use the “vibro pile driving” installation method, which is an efficient alternative to the conventional method of hammering monopiles into the seabed. This improved installation method could reduce installation time and noise emissions during construction. Kaskasi will be the first commercial offshore wind farm in the world using the vibro driving technique to install all monopile foundations to target penetration. This underlines RWE’s ambition to be a frontrunner in driving innovation and technology.

Collared monopiles strengthen behaviour of entire structure

When target penetration is reached, the innovative foundation collars will be implemented at three wind turbine locations. The detailed design was developed by the German civil engineering company JBO based on the RWE patent. Bladt Industries was selected as manufacturer. DEME Offshore will transport the three collars from the manufacturer’s load-out port in Aalborg, Denmark, to the Kaskasi construction site near Heligoland. Then the DEME Offshore team will install the steel collars around three of the 38 monopile foundations for which DEME will deploy the versatile jack-up vessel NEPTUNE. The collar will be installed at seabed level in water depths of up to 25 metres. The space between collar and monopile foundation will be filled with grout material to create a stable connection. RWE will carry out accompanying tests to verify that the collar improves the structural behaviour in comparison to standard monopiles.

Kaskasi offshore wind farm can supply more than 400,000 homes with green electricity

It is expected that the Kaskasi wind farm will start commercial operations in summer 2022. Once all wind turbines are fully operational, the farm will supply the equivalent of more than 400,000 homes with green electricity. Kaskasi is RWE’s sixth wind farm off the German coast. The company operates the nearby offshore wind farms Nordsee Ost (295 MW) and Amrumbank West (302 MW) as well as Arkona, which is with an installed capacity of 385 MW (RWE share 50%) the largest offshore wind farm in the Baltic Sea. In addition, RWE holds shares in the wind farms Nordsee One and Alpha Ventus, the first-ever offshore wind farm built off the German coast.

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RWE Renewables

RWE Renewables, the newest subsidiary of the RWE Group, is one of the world's leading renewable energy companies. With around 3,500 employees, the company has onshore and offshore wind farms, photovoltaic plants and battery storage facilities with a combined capacity of approximately 9 gigawatts. RWE Renewables is driving the expansion of renewable energy in more than 15 countries on four continents. By the end of 2022, RWE Renewables targets to invest €5 billion net in renewable energy and to grow its renewables portfolio to 13 gigawatts of net capacity. Beyond this, the company plans to further grow in wind and solar power. The focus is on the Americas, the core markets in Europe and the Asia-Pacific region.

German General Data Protection Regulation (GDPR)

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