

## Press release

### ‘Wedding’ on the high seas: 1,400 tonne substation for RWE Kaskasi wind farm installed

- **Installation of wind turbine foundations and transition pieces underway**
- **Test of innovative foundation solutions and recyclable rotor blades**
- **342-megawatt wind farm to supply green electricity to over 400,000 households**

Essen, 28 March 2022

**Sven Utermöhlen, CEO Wind Offshore, RWE Renewables:** “If Germany wants to supply itself almost entirely with electricity from renewable energies by 2035, this will require a huge effort. Faster offshore expansion is particularly important to simultaneously achieve the climate targets and more energy sovereignty. We want to help make this happen and the fact that construction of our Kaskasi offshore wind farm is now picking up pace is a clear sign of this.”

Kaskasi is RWE’s sixth wind farm off the German coast, the 342 megawatt project is being built 35 kilometres north of the island of Heligoland and recently celebrated a ‘wedding’ on the high seas. A ‘wedding’ is what the construction process is called when the substation topside is successfully placed on the foundation. The offshore substation is the heart, where electricity generated by each wind turbine flows together to be converted to the necessary transmission voltage.

The journey of the 1,400 tonne substation topside started in Danish Aalborg at the manufacturing facility of Bladt Industries and took two days to ship across the North Sea. Gulliver, a Floating Heavy Lift Vessel of SCALDIS, placed the substation onto the monopile foundation, completing the installation of the heaviest component of the Kaskasi offshore wind farm.

In parallel, foundation installation works are underway: With Seaway 7’s Strashnov, DEME’s Neptune and Sea Challenger and Fred Olsen’s Blue Tern, four vessels are engaged in the installation of a total of 38 monopile foundations for the wind turbines and their transition pieces. The foundations, each up to 64 metres long, weigh up to 740 tonnes – approximately equivalent to 600 small cars. The operations and processes at the offshore construction site are coordinated around the clock by the RWE Control Room on Heligoland. The nautical staff at Ems Maritime Offshore are supporting the RWE team.

# RWE

To install the foundations into the seabed at depths of 18 to 25 metres, RWE is utilising two installation methods: conventional hammering and innovative vibro pile driving technology, which has the potential to reduce underwater noise emissions. This benefits the marine environment in particular. The pilot implementation of the vibro technology at Kaskasi is accompanied by the “VISSKA” research project, which is funded by the German Federal Ministry of Economic Affairs and Climate Action.

## **Innovative foundation solutions and recyclable rotor blades**

RWE is leading technological development in the offshore wind industry. At the Kaskasi offshore wind farm, three new technologies will be tested. RWE plan to install special collars around three monopile foundations (Collared Monopile). A further innovation is the introduction of foundations which were installed using vibro pile driving and are enclosed in a concrete ring that expands in the seabed (Self-Expanding Pile Shoe). In addition, a sustainable product will be celebrating its German premiere at Kaskasi: Siemens Gamesa and RWE will equip a number of wind turbines with recyclable rotor blades. The blades are the first of their kind, thanks to an innovative resin that enables components to be recycled for new applications at the end of their lifecycle. Installation of the wind turbines is scheduled to start this summer. By the end of 2022, a total of 38 wind turbines are to be fully operational. Then, the Kaskasi offshore wind farm will have the capacity to supply the equivalent of approximately 400,000 households with green electricity every year.

## **Tailwind for RWE and the energy transition in Germany**

RWE is one of the leading companies in the field of renewable energies and No. 2 worldwide in offshore wind. As part of its ambitious investment and growth strategy, “Growing Green”, the company plans to triple its global offshore wind capacity by 2030, thus increasing from the current 2.4 gigawatts (GW) to 8 GW. Also in Germany, RWE is stepping up the pace: by 2030, the company intends to invest up to 15 billion euros in the green energy sector. RWE continues to expand in the offshore wind energy market too: together with its Canadian partner, Northland Power, RWE is driving forward the development of a large offshore wind cluster in the German North Sea. The partners plan to construct a cluster of three wind farms north of the German island of Juist with a total installed capacity of over 1.3 GW, which are expected to commence operation in 2026 and 2028 respectively. These planned offshore wind farms will be able to produce enough green electricity to meet the requirements of up to 1.6 million households per year. RWE is also developing a further wind farm in the direct vicinity with a capacity of 225 megawatts.

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## **Further information on the planned construction process**

**Foundations:** The foundations and transition pieces, which are manufactured by Bladt Industries, are stored at the BUSS Terminal in Eemshaven before being transported to the offshore construction site. Crucial scour protection around the foundations will be completed by the Belgian JanDeNul Group.

**Cables:** Submarine cables connect the wind turbines and the Kaskasi substation via several junctions. The submarine cables were manufactured by the Dutch company Twentsche Kabel Fabriek (TKF) and will be installed by DEME.

**Wind Turbines:** Starting from this summer, Siemens Gamesa will start installing the 38 wind turbines (Type: SG 8.0-167 DD Flex). Each turbine will have a capacity of up to 9 megawatts.

## **Further explanations of the innovative foundation solutions**

**Collared Monopile:** Known as “collared monopile”, the special collar is designed based on an RWE patent. The collar is planned to be installed around the monopile foundation and pressed into the seabed. The space between collar and monopile foundation will then be filled with grout material, creating a stable connection. RWE plans to carry out accompanying tests to verify that the collar improves the structural behaviour in comparison with standard monopiles.

**Vibro pile driving installation with Self-Expanding Pile Shoe:** On three foundations, which were installed using vibro pile driving, a concrete ring that expands in the seabed will be installed. The expansion of the concrete ring at the base of the pile compresses the surrounding sea floor, resulting in a more stable connection between the pile and seabed. Measurements will also be made to determine whether the use of shorter and thus cheaper piles would be feasible in future.

## **RWE**

RWE is leading the way to a green energy world. With an extensive investment and growth strategy, the company will expand its powerful, green generation capacity to 50 gigawatts internationally by 2030. RWE is investing €50 billion gross for this purpose in this decade. The portfolio is based on offshore and onshore wind, solar, hydrogen, batteries, biomass and gas.

RWE Supply & Trading provides tailored energy solutions for large customers. RWE has locations in the attractive markets of Europe, North America and the Asia-Pacific region. The company is responsibly phasing out nuclear energy and coal. Government-mandated phaseout roadmaps have been defined for both of these energy sources. RWE employs around 19,000 people worldwide and has a clear target: to get to net zero by 2040. On its way there, the company has set itself ambitious targets for all activities that cause greenhouse gas emissions. The Science Based Targets initiative has confirmed that these emission reduction targets are in line with the Paris Agreement. Very much in the spirit of the company’s purpose: Our energy for a sustainable life.

## **Forward-looking statements**

*This press release contains forward-looking statements. These statements reflect the current views, expectations and assumptions of management, and are based on information currently available to management. Forward-looking statements do not guarantee the occurrence of future results and developments and are subject to known and unknown risks and uncertainties. Actual future results and developments may deviate materially from the expectations and assumptions expressed in this document due to various factors. These factors primarily include changes in the general economic and competitive environment. Furthermore, developments on financial markets and changes in currency exchange rates as well as changes in national and international laws, in particular in respect of fiscal regulation, and other factors influence the company’s future results and developments. Neither the company nor any of its affiliates undertakes to update the statements contained in this press release.*

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