

RWE chooses state-of-the-art electrical transmission system for its 1.4 GW Sofia Offshore Wind Farm

- **World's number 2 in offshore wind further strengthens its renewables business in the UK**
- **GE Renewable Energy's Grid Solutions and Sembcorp Marine chosen as preferred suppliers for the project's high voltage direct current transmission system**
- **Offshore construction works expected to start in 2023 / More than 50% of the system components will be manufactured in local UK facilities**

09 July 2020

Sven Utermöhlen, Chief Operating Officer Wind Offshore Global of RWE Renewables:

“RWE is the second biggest player in offshore wind globally. And we are geared for further growth – strategically, with our projects and staff, as well as financially. By 2022, we want to invest €5 billion net in the continued expansion of renewable energy. With the innovative technology solutions we have chosen for Sofia Offshore Wind Farm, we have prepared the ground for the realisation of what is one of our largest development projects.”

RWE has moved a step closer to the realisation of its 1.4 gigawatt (GW) Sofia Offshore Wind Farm with the selection of the preferred suppliers for the project's high voltage direct current (HVDC) transmission system.

A specially formed consortium of GE Renewable Energy's Grid Solutions and Sembcorp Marine is set to supply the state-of-the-art system for Sofia, one of the world's largest offshore wind farm projects, located on Dogger Bank, the shallow area of the central North Sea, 195 kilometres from the UK coast's nearest point.

With an installed capacity of more than 9.5 GW (pro rata) RWE is UK's second largest generator of electricity. Via its subsidiary, RWE Renewables, the company has significant experience in the British offshore market with nine wind farms in operation off the UK coast and Triton Knoll Offshore Wind Farm (857 MW) currently under construction. Further offshore development projects, like Sofia – 100% owned by RWE – underline the growth ambitions of the company in this country.

Sven Utermöhlen, Chief Operating Officer Wind Offshore Global of RWE Renewables, said: “We are keen to support the growth of both onshore and offshore wind energy in UK, one of our

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core markets in Europe. The choice of GE's Grid Solutions and Sembcorp Marine for the supply of the electrical system is an important statement of our commitment to grow our renewables portfolio in the UK and reflects our ambition to strive for continuous innovation in the development, construction and operation of our offshore wind farms.”

As the consortium leader, GE's Grid Solutions will be responsible for the engineering, procurement, construction and installation of two HVDC converter stations capable of transmitting 1,400 megawatts (MW) of power at 320 kilovolts (kV). Innovative converter modules and a new high-tech control system have been deployed for Sofia.

It will be the most powerful offshore converter station ever fabricated and will be installed at a point 220 kilometres from shore, so will also be the most remote.

The offshore converter platform will be built and installed by Sembcorp Marine. At the heart of the wind farm, it will comprise a 10,000 tonnes topside attached to a jacket foundation piled into the seabed. The onshore converter station will convert the electricity generated by the wind farm to 400 kV, before it enters the national grid.

GE's Grid Solutions and Sembcorp Marine are starting early design works in July, with the full contract subject to the project's final investment decision, due in the first quarter of 2021. The HVDC transmission system represents Sofia's second largest contract and will include the design, manufacture, installation, commissioning and maintenance of the offshore converter platform and the onshore converter station, including all ancillary equipment.

Construction of the wind farm is due to begin onshore at its Teesside converter station site early next year, with offshore construction expected to get underway in 2023. The HVDC transmission system news follows the announcement that Sofia has signed a preferred supplier agreement with Siemens Gamesa Renewable Energy for 100 of its SG 14-222 DD offshore wind turbines, a 14MW design that is 25 percent more powerful than its next largest model.

RWE Renewables is the second biggest player in offshore wind globally with an operational offshore portfolio of 2.5 GW (pro rata installed capacity). The company intends to invest a net €5 billion by 2022 in the continued expansion of renewable energy, with this sum potentially rising significantly via contributions from partners. RWE's focus for growth is on the core markets of Europe and the Americas as well as on the Asia-Pacific region.

For more information about Sofia visit: www.sofiawindfarm.com

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About 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. For further growth a net investment budget of €5 billion is available until 2022. When adding in possible partnerships, the medium term investment budget could reach up to €9 billion. The focus is on the Americas, the core markets in Europe and the Asia-Pacific region.

Caption: GE Renewable Energy's Grid Solutions and Sembcorp Marine together will supply Sofia with its high voltage direct current electrical infrastructure.

SOFIA OFFSHORE WIND FARM HVDC GRID CONNECTION

BRINGING RENEWABLE ENERGY TO ABOUT **1.2 MILLION HOMES** AND SUPPORTING THE UK GOVERNMENT'S STRATEGY TO **MEET NET ZERO GREENHOUSE EMISSIONS BY 2050**

BUILDING THE **WORLD'S LONGEST AND MOST POWERFUL** OFFSHORE HVDC SYSTEM WITH A 220 KM DC LINK

HVDC CONVERTER STATIONS CAPABLE OF TRANSMITTING JUST UNDER **1,400 MW AT 320 KV**

MADE IN THE UK, ~50% OF COMPONENTS IN THE ONSHORE AND OFFSHORE STATIONS ARE MANUFACTURED LOCALLY

SOFIA OFFSHORE WIND FARM

OFFSHORE CONVERTER PLATFORM

ONSHORE CONVERTER STATION

NATIONAL GRID AC SUBSTATION

7 KM

220 KM

2 KM

ALTERNATING CURRENT (AC)

DIRECT CURRENT (DC)

German General Data Protection Regulation (GDPR)

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