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SEITE 1 von 2

Contract awarded for advanced cable connecting wind farm and converter station at sea

- **TenneT uses the further developed 1,200 square millimeters cable conductor cross-section offshore the first time**
- **Cable with 100 kilograms per meter enables more efficient single connections**
- **Three-phase current cables will connect wind farms with TenneT's converter platform HelWin beta and DoWin kappa**
- **ZTT wins tender for this two 155kV-AC offshore connections**

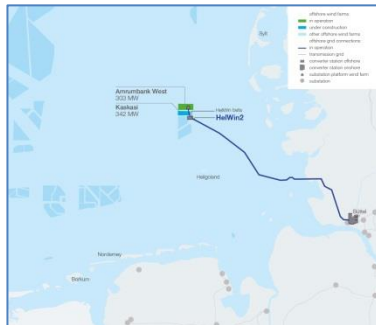
To transport the electricity from offshore wind farms to land wind power produced off the German North Sea coast is transmitted from two wind farms to one TenneT converter platform each (HelWin beta and DoWin kappa). There the three-phase current is converted into direct current and transported to the converter station on land where to convert the electricity back into three-phase current and fed into the extra-high voltage grid via the neighboring transformer station. The produced offshore electricity is collected in a transformer station platform before TenneT takes over at the offshore converter station with a 155-kilovolt three-phase cable. Global subsea cable manufacturer Zhongtian Technology Submarine Cable Co., Ltd [ZTT for short] has been commissioned for both wind farm connections of five and 16 kilometre respectively.. The cable systems will be produced at one of its manufacturing base in Nantong/ China and then transported to Europe. The laying itself will be carried out by the subcontractor asso.subsea (Greece). The first cable laying is planned for summer 2022 to connect Kaskasi II wind farm.

Two cable systems with a conductor cross-section of 630 square millimeters will be used to transmit 342 megawatts on the five-kilometer long route between the wind farm's transformer station and HelWin beta. Using the HelWin2 grid connection, the electricity is transported over 130 kilometers to the land station in Büttel (Schleswig-Holstein) and fed into the extra-high voltage grid. For the cable laying that will follow in the summer of 2023, TenneT uses the first time the advanced three-phase cable with a conductor cross-section of 1,200 square millimeters, which will transport the almost 242 megawatts from the Gode Wind 3 wind farm via just one cable system. Various cables and pipelines to be crossed pose a particular challenge, and the route, which is over 16 kilometers long, also runs through the Gode Wind 1 wind farm, which is already in operation. Gode Wind 3 is connected to the extra-high voltage grid via DoWin kappa and the associated DoWin6 grid connection in Emden/East (Lower Saxony).

With its operational grid connection projects in Germany and the Netherlands, TenneT provides offshore wind capacities of 8,532 megawatts. Currently TenneT is implementing seven further offshore grid connection projects in both countries.

Facts and figures HelWin2

- in operation since June 2015
- 130-kilometer high-voltage direct current (HVDC) transmission connection with a maximum capacity of 690 megawatts
- 45 kilometers of land cable, 85 kilometers of sea cable
- Network connection point: Büttel



Facts and figures DolWin6

- 90 kilometer high-voltage direct current (HVDC) transmission connection with a maximum capacity of 900 megawatts
- 45 kilometers of land cable, 45 kilometers of sea cable
- Network connection point: Emden/East
- Completion of the network connection planned for 2023



TenneT

TenneT is a leading European grid operator (Transmission System Operator (TSO)). We design, build, maintain and operate the high-voltage electricity grid in the Netherlands and large parts of Germany and facilitate the European energy market. We are committed to providing a secure and reliable supply of electricity, today and in the future, 24 hours a day, 365 days a year and to playing our role in driving the energy transition. We transport electricity over a network of approximately 23,500 kilometres of high-voltage connections, from wherever and however it's generated, to over 42 million end-users while keeping electricity supply and demand balanced at all times. With close to 5,000 employees, we achieve a turnover of 4.1 billion euros and a total asset value of EUR 23 billion. TenneT is one of the largest investors in national and international onshore and offshore electricity grids. TenneT makes every effort to meet the needs of society. This will require us all to take ownership, show courage and connect with each other. www.tennet.eu