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TenneT launches seven transformer transports from Brunsbüttel to Wilster for the NordLink subsea cable connection to Norway

- **The first of the 225-tonne transformers will be delivered on the evening of 07 June 2018 by road transport**
- **Exchange between German wind energy and Norwegian hydropower**

With the delivery of a 225-tonne transformer, the first of a total of seven transformers will reach its destination at NordLink's converter station in Wilster, Schleswig-Holstein, during the night from 7 to 8 June 2018. NordLink, the 'green link' between Germany and Norway, will for the first time directly connect the energy markets of these two countries and serve as an exchange between German wind energy and Norwegian hydropower.

Spread out over seven nights in low-traffic times between 7 and 23 June 2018, the seven transformers will be transported by road transport over 16.5 kilometres from Brunsbüttel to Wilster. First, the transformers of the manufacturer ABB will be delivered by ship from Norrköping, Sweden, to the port Brunsbüttel, Germany. After being transferred by crane, preparation for road transport will then begin. Two lorries, one at the beginning and one at the end of the transport train, will take the transformer to be transported on a so-called low-loader with girders in the middle to drive it to the NordLink converter construction site in Nortorf near Wilster.

To optimally distribute the axle load of the 417-tonne transport train, the two machines and the low-loader have a total of 36 axles and a total length of 75.7 metres. This means of transport allows smooth crossing of three pipe bridges as well as two further bridges, two railway junctions and several ditches. Road transport is expected to start on the night of 07/08 June 2018 and will take about 6.5 hours for the 16.5 kilometre route. Roads will not be blocked, but there may be temporary traffic obstructions.

Foundation of the first transformer on the converter's construction site will take place on 9 June, and the second transformer will already be transported across the same distance on 10 June. With an operating weight of 315 tonnes each (the transports are carried out without attachments and insulating oil) and each with a capacity of 262 megavolt amperes (MVA), the transformers are used for voltage conversion from 337 kilovolts to 380 kilovolts and are thus used to link the

NordLink converter station to the Wilster/West substation located just a few metres next to it via the NordLink on the German side to the extra-high voltage grid.

NordLink itself functions as a DC 'motorway' without a ramp, i.e. as a point-to-point connection between the three-phase (AC) electric power grids in Germany and Norway. Due to the length of the route and the large transmission capacity, high voltage direct current is used for efficient transmission with low losses. Both cables (positive and negative poles) are connected to converter stations at each end. The converter stations will be built in Wilster, Schleswig-Holstein, and Tonstad in Norway. At these locations, the current will be converted from DC to AC (or vice versa, depending on the transmission direction) and fed into the German or Norwegian AC transmission grid to supply homes and businesses with green electricity.

Background

The NordLink project will be realised by the Norwegian TSO Statnett and DC Nordseekabel GmbH & Co. KG, each with 50% ownership. TenneT and KfW each have a 50% share in DC Nordseekabel. DC Nordseekabel is responsible for the construction and approvals on the German part of the project.

Additional info at: <https://www.tennet.eu/our-grid/international-connections/nordlink/>

Facts and figures

- 623 km long, high-voltage direct current transmission (HVDC)
- A capacity of 1,400 MW at ± 525 kV
- Offshore: 516 km subsea cable
- Onshore: 54 km of underground cable (Büsum – Wilster/Schleswig-Holstein) and a 53-km overhead line (Vollesfjord – Tonstad/NO)
- Grid connection points: the Wilster (DE) and Tonstad (NO) substations
- To be completed by 2020

About TenneT

TenneT is one of the leading transmission system operators in Europe. With approximately 23,000 km of high-voltage and extra-high voltage lines in the Netherlands and Germany, we offer 41 million end users reliable and safe power supply around the clock.

TenneT is expanding the north-west European energy market with about 4,000 employees as a responsible front-runner in its industry and is increasingly integrating renewable energy in the context of sustainable energy supply.

Taking power further

References to photos for editors: The attached photo provides an example of a similar transport of a NordLink transformer in Norway in the summer of 2017. (Photo: TenneT)