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TenneT begins laying the NordLink subsea cable in the German North Sea

- **First 99 kilometres of the “green link” to be wound out below the North Sea between Büsum dike and southwest of the Island of Sylt**
- **Land cable section between dike and Wilster converter station to be laid in 2019 and 2020**
- **Exchange between German wind energy and Norwegian hydropower**

Transmission system operator TenneT has begun laying its "NordLink" subsea cable section in the German North Sea. During the next weeks TenneT will wind out 99 kilometres into the seabed between the cable landfall at the Büsum dike (Schleswig-Holstein) and southwest of the Island of Sylt through the tidal flat area (Wadden Sea).

Next year, another 55 kilometres of subsea cable will be laid in the German offshore area up to the border of the Danish territorial waters. Here, the cable end will be connected to the 228-kilometre-long cable section to be laid in 2018 and 2019 in the Danish North Sea area by means of a subsea cable joint. The 134-kilometre-long subsea cable section in Norwegian territorial waters is already complete. Construction of the 53-kilometre-long overhead line on Norwegian mainland is scheduled for completion in 2019. On German mainland, NordLink will be laid as an underground cable on a 54-kilometre route between Büsum dike and the Wilster converter station (Steinburg district) starting in 2019. Overall, the NordLink interconnector is 623 kilometres long. The “green link” will directly connect the energy markets of Germany and Norway for the first time and serve as an exchange between German wind energy and Norwegian hydropower.

The subsea cable work in the German sector will be carried out in close collaboration with the nature conservation agencies. TenneT complies with strict nature conservation requirements set out by the German Federal Maritime and Hydrographic Agency, National Park administration and the Ministry of Energy, Agriculture, the Environment, Nature and Digitisation of the Federal State of Schleswig-Holstein. Nature conservation construction site monitoring ensures careful and considerate operations within the Wadden Sea National Park. TenneT urges tourists and hikers in the Wadden Sea not to enter areas that are cordoned off for safety reasons and to keep sufficient distance to anchor cables.

Two horizontal drills of 550 metres in length were used across the land protection dike in Neuenkoog (by Büsum) and the empty conduits were drawn into the boreholes last year. The subsea cables to be delivered on a cable laying ship in case of high water springs are set to be drawn into these boreholes in autumn 2018, and will later be connected to the underground cable on the landward side of dike. The underground cable will then run to the Wilster converter station from there.

Background

NordLink connects two perfectly complementary systems for the exchange of renewable energy: German wind and solar power on the one side, and Norwegian hydropower on the other. The power line connects the capacities of Norwegian hydropower plants with those of wind and solar farms in Germany. The Norwegian water reservoirs essentially function as 'energy reservoirs': the water inside them is retained when energy is imported from Germany, especially when Germany has excess wind energy to offer.

In turn, they can come into play during peak consumption periods in Germany, and when there is little production from solar and wind power plants. Then Norwegian hydropower is transported to Germany.

German consumers can benefit from the positive effect on electricity prices resulting from the import of lower-priced hydropower. When limited activity of wind turbines and solar cells result in higher energy prices in Germany than in Norway, energy generated by Norwegian hydropower plants can be imported via NordLink. A considerable part of the socio-economic advantages of NordLink results from the profits generated by trading transmission capacity via the interconnector. These profits will be used to fund other grid projects or to lower energy rates.

German-Norwegian cooperation

The NordLink project will be implemented 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: www.nordlink.eu

DC motorway

NordLink itself will be built as a DC motorway without a ramp, i.e. as a point-to-point connection between the three-phase electric power grids in Germany and Norway. Due to the length of the route and the large transmission capacity, 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 direct to three-phase electric power (or vice versa,

depending on the transmission direction) and fed into the German or Norwegian three-phase electric power transmission grid to supply homes and businesses with green electricity.

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/NOR)
- Grid connection points: the Wilster (GER) and Tonstad (NOR) 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

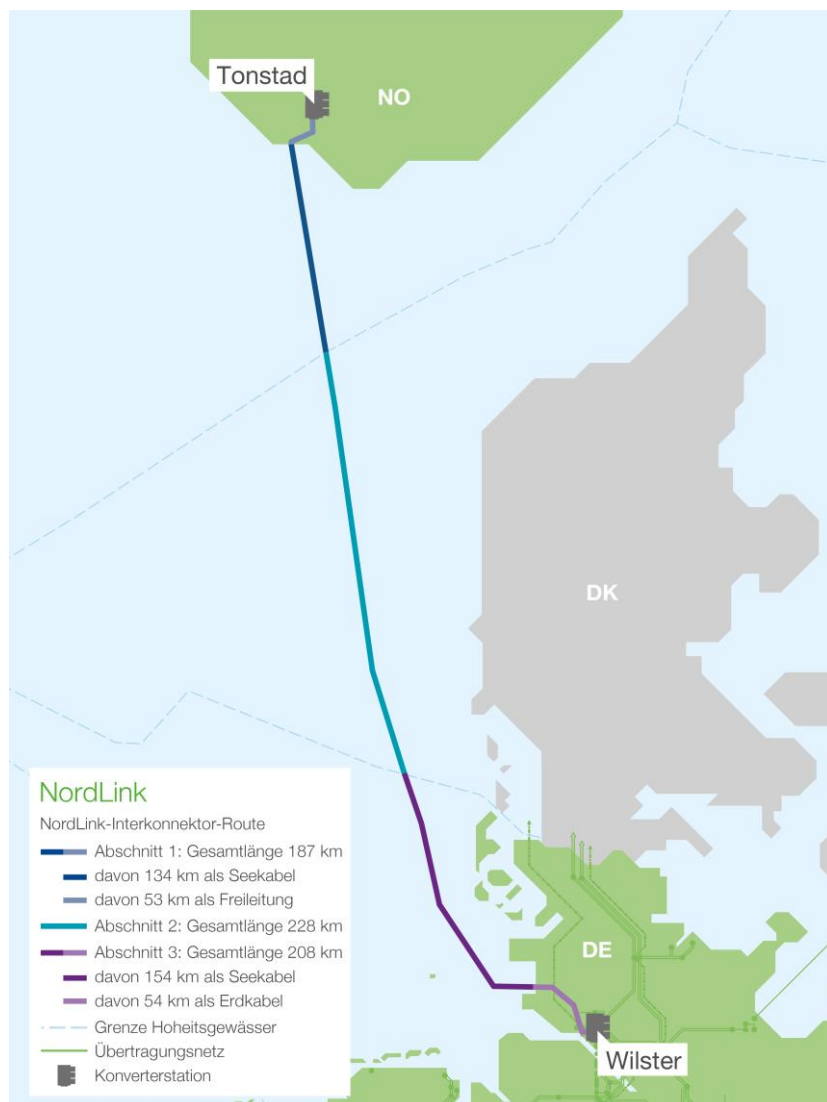


This photo shows two cable laying vessels while transspooling some kilometres of subsea cable. Afterwards the NordLink subsea cable laying started in the German sector of the North Sea. Photo: TenneT [free for use in media]

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(Graphic and photos can be downloaded from the TenneT and NordLink press websites.)