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Roofing ceremony for NordLink converter building The green direct current connection between Germany and Norway is now becoming visible

- **Key project for the energy transition and integration of the European energy market**
- **Exchange between German wind energy and Norwegian hydropower**

Today's roofing ceremony for the NordLink converter building at the Wilster construction site (Schleswig-Holstein) is yet another major milestone on the German side of this German-Norwegian project. For the first time, the interconnector will directly connect the energy markets of Germany and Norway for the exchange of Norwegian hydropower and German wind energy.

'NordLink is now becoming visible,' said Lex Hartman, member of the Management Board at TenneT, the transmission system operator. 'This 'green cable' between Germany and Norway is a beacon project in the energy transition. Germany's ambitious goals regarding energy mix and reduction of CO2 envisage increasing the proportion of renewables from its current level of approximately 33 per cent to 60 per cent by 2035 – and then to at least 80 per cent by 2050. This shows the major challenges that lie ahead of us and the key role NordLink will take in this transition.'

'With NordLink the energy transition becomes European. This is must: We can only reach the climate targets, if we think beyond our own borders,' said Robert Habeck, Deputy Minister-President of Schleswig-Holstein and Minister of Energy, Agriculture, the Environment, Nature and Digitisation. 'The interconnector will increase the security of supply in both countries, and will counter congestions in the German transmission grid.'

NordLink is one of the longest systems for high voltage direct current transmission (HVDC) being developed in the world. The NordLink direct current system features a total length of 623 kilometres and is divided into several sections. The laying of the first 134 kilometres of subsea cable has been completed as of early August, starting from Vollesfjord in south Norway, through to the border of Danish territorial waters. 'During the same time, ducts for the cable under the land protection dike near Büsum (Schleswig-Holstein) were moved into place. Starting in 2018, another 228 kilometres will be routed from the Danish North Sea area to the border of German territorial waters. From Summer 2018, another 154 cable

kilometres will subsequently be added from the coast near BÜsum, beginning in the mudflats. On the high seas, cable ends from the individual sections are being combined. A 54-kilometre underground cable from the BÜsum landing point to the Wilster converter station will be added next year to the 516-kilometre-long subsea cable on the German side. In Norway, construction is underway on the 53-kilometre-long overhead line from the Vollesfjord landing point through to Tonstad. The converter buildings in Tonstad are largely complete.

In the converter stations, the transmitted DC is subsequently converted into AC and connected to the Norwegian or German high-voltage grid. NordLink has a capacity of 1,400 megawatts (MW). This places its capacity considerably above that of a large conventional power station. German consumers can benefit from the positive effect on electricity prices resulting from the import of lower-priced hydropower. 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. NordLink is being jointly realised by project partners TenneT, the development bank KfW and the Norwegian transmission system operator Statnett.

The neighbouring construction site of the replacement building for the TenneT Wilster West substation is progressing swiftly and will become a node point for more power lines and grid connections, including those of NordLink and SuedLink. The 380-kilovolt switchgear on site, however, cannot meet the demands of being a central point and hub. Its output is insufficient due to the number of new switchgears required to prevent impermissible load flows and satisfy future short-circuit strength demands, which means it will not feature in the NordLink and SuedLink grid connections. This makes it necessary to rebuild the structure on-site to create a 380-kV switchgear. Completion is planned in the year 2020.

‘This makes the Wilster area a key hub for the energy transition since the connection of NordLink and SuedLink to the Wilster West transformer substation will mean that energy can be transported from the wind-rich north across several hundred kilometres into the high-consumption south as well as Norway. This creates the foundation for a secure and environmentally-efficient power supply,’ said Hartman.

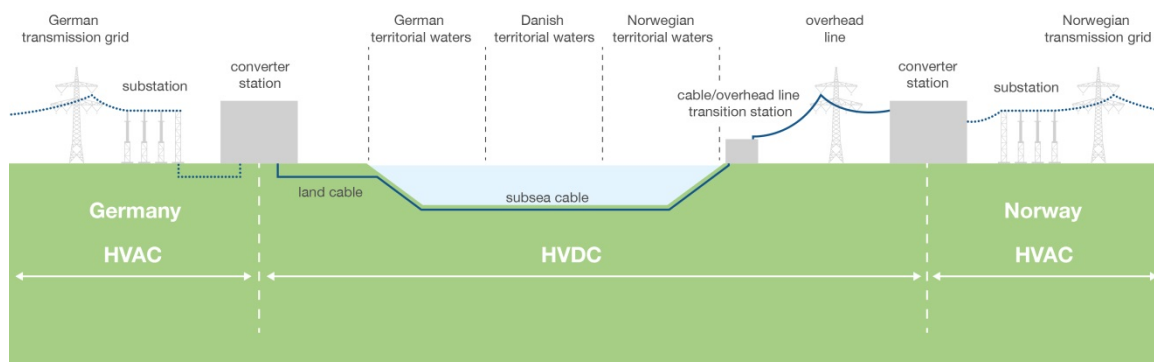
- **Facts and figures**

- 623 km long, high-voltage direct current transmission (HVDC)
- A capacity of 1,400 MW at ± 525 kV (bipolar)
- 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

1. TenneT

2. TenneT is a leading European electricity transmission system operator (TSO) with its main activities in the Netherlands and Germany. With over 22,000 kilometres of high-voltage connections we ensure a secure supply of electricity to 41 million end-users. We employ approximately 3,000 people, have a turnover of EUR 3.2 billion and an asset value totalling EUR 19 billion. TenneT is one of Europe's major investors in national and cross-border grid connections on land and at sea, bringing together the Northwest European energy markets and enabling the energy transition. We take every effort to meet the needs of society by being responsible, engaged and connected.

Taking power furtherTenneT



Technical construction of the NordLink interconnector



The NordLink converter construction site at Wilster (in the background: Wilster West transformer substation) in September 2017

Media information: Photographs and graphics can be downloaded via www.nordlink.eu