

Press release

50Hertz and TenneT to jointly bring wind power from the North Sea into the extra-high voltage grid for the first time

- **Cooperation agreement concluded on joint electricity hub and extra-high voltage DC-line**
- **Innovative multi-terminal hub planned in Schleswig-Holstein at the North Sea coast**
- **Integration of four gigawatts (GW) North Sea offshore wind power**
- **Electricity transport via 200 km long underground DC cable**

Bayreuth/Berlin, 17 January 2022 –Transmission system operators 50Hertz and TenneT are planning to jointly transport wind power from the North Sea into the German power grid. The two companies have signed a cooperation to realise an innovative multi-terminal hub in the area of Heide (Schleswig-Holstein) and an extra-high voltage direct current link (HVDC) to Mecklenburg-Vorpommern. The project is part of the 2035 grid development plan (2021) confirmed by the Federal Bundesnetzagentur (BNetzA).

Stefan Kapferer, 50Hertz CEO: "If Germany is to become climate-neutral by 2045, there must be even more focus on cooperation in the future. 50Hertz and TenneT are therefore working together and joining forces to tackle this challenging project in order to transport as much electricity generated at sea as quickly as possible to where it will be urgently needed in the future."

Tim Meyerjürgens, COO of TenneT: "With the joint implementation of the onshore hub in Schleswig-Holstein, TenneT and 50Hertz are laying the foundation for even higher utilisation of onshore DC lines while at the same time increasing the level of security of supply. In addition, the concept enables to accelerate the expansion of offshore wind energy, as envisaged by the new German government. With the implementation of the onshore hub and the three grid expansion projects linked to it, it will be possible to connect four gigawatts of offshore wind energy from the North Sea in the area of Heide as early as 2032. This means that one part of the project will be completed three years and another even five years earlier than originally planned in the grid development plan."

The joint project of the two companies consists of several components: In the area of Heide, 50Hertz and TenneT want to build the onshore multi-terminal hub for several direct current connections. It consists of an innovative direct current switchgear. This construction enables the direct and space-saving connection of two offshore direct current connection systems, each with a capacity of two gigawatts, with an onshore direct current link. In addition, a converter is connected to this plant, which converts direct current (DC) into alternating current (AC), which is then available in the region for planned offshore hydrogen electrolyzers to decarbonize the industry located there, among other things. The converter can also be used to enable the transport of electricity generated by onshore wind turbines.

Between this multi-terminal hub and a converter in the area of Klein Rogahn near Schwerin, 50Hertz and TenneT plan to lay a direct-current underground cable around 200 kilometres long

that will transmit electricity at the 525 kilovolt (kV) voltage level. 50Hertz will be responsible for the eastern section and TenneT for the western one.

The two offshore grid connection systems for the area of Heide confirmed in the just published grid development plan (Netzentwicklungsplan 2035 / 2021) will be implemented separately: the NOR-12-2 system will be connected to the multi-terminal-hub by 50Hertz and the NOR-X-3 system by TenneT.

Technically, the multi-terminal hub solution is an innovation as up to now, direct current connections at sea and on land have been realised as pure point-to-point connections. In the multi-terminal hub, however, several direct current connections converge. The electricity is fed into the transmission grid via DC or AC lines according to the corresponding transmission capacities and demand situations. Therefore, not three but only one AC/DC converter station has to be built in the Heide area. This reduces costs and land consumption on site – and furthermore helps to make load flows more flexible.

Press contacts:

TenneT TSO GmbH

Mathias Fischer, T +49 921 50740 4044, M +49 151 2765 7832, mathias.fischer@tennet.eu

50Hertz Transmission GmbH

Volker Gustedt, T +49 30 5150 2878, M +49 151 5537 7634, volker.gustedt@50hertz.com

About TenneT:

TenneT is a leading European grid operator. We are committed to providing a secure and reliable supply of electricity 24 hours a day, 365 days a year, while helping to drive the energy transition in our pursuit of a brighter energy future – more sustainable, reliable and affordable than ever before. In our role as the first cross-border Transmission System Operator (TSO) we design, build, maintain and operate 23,900 km of high-voltage electricity grid in the Netherlands and large parts of Germany, and facilitate the European energy market through our 16 interconnectors to neighbouring countries. We are one of the largest investors in national and international onshore and offshore electricity grids, with a turnover of EUR 4.5 billion and a total asset value of EUR 27 billion. Every day our 5,700 employees take ownership, show courage and make and maintain connections to ensure that the supply and demand of electricity is balanced for over 42 million people.

Lighting the way ahead together.

About 50Hertz

50Hertz operates the electricity transmission system in the north and east of Germany, which it expands as needed for the energy transition. Our extra high voltage grid has an electrical circuit length of about 10,490 kilometres, or the distance between Berlin and Rio de Janeiro. The 50Hertz control area covers the Länder of Brandenburg, Mecklenburg-Western Pomerania, Saxony, Saxony-Anhalt, and Thuringia, as well as the city states of Berlin and Hamburg. Within these regions, 50Hertz and its more than 1,400 employees ensure that 18 million people are supplied with electricity around the clock. 50Hertz is a forerunner in the field of secure integration of renewable energy: in our grid area, more than 60 percent of the consumed electricity is already generated from renewable sources; by 2032, it is our goal to securely integrate 100 percent. The shareholders of 50Hertz are the Belgian holding Elia Group (80 percent), which is listed on the stock exchange, and the KfW bank group with 20 percent. As a European TSO, 50Hertz is a member of the European Network of Transmission System Operators for Electricity (ENTSO-E).