

Hitachi Energy wins order to connect one of the world's largest offshore wind farms to the UK power grid

HVDC Light® transmission systems will connect the Hornsea 3 wind farm, providing renewable power for more than three million homes



The Hornsea Two offshore windfarm

Zurich, 14 July, 2022 – Hitachi Energy, the global technology and market leader in power grids, today announced it has won a major order from Ørsted, the world-leading renewable energy company, to provide two high-voltage direct current (HVDC) systems to transmit green electricity from the Hornsea 3 wind farm, located more than 120 km off the UK east coast.

The wind farm will have the capacity to generate up to 2.85 gigawatts of renewable electricity, enough to power more than three million UK homes. With more than 200 wind turbines installed across almost 700 square kilometers^{*1}, this will be the single largest offshore wind farm in the world. This project is a significant step towards the British Energy Security Strategy ambition of sourcing up to 50 gigawatts of offshore wind capacity by 2030.^{*2}

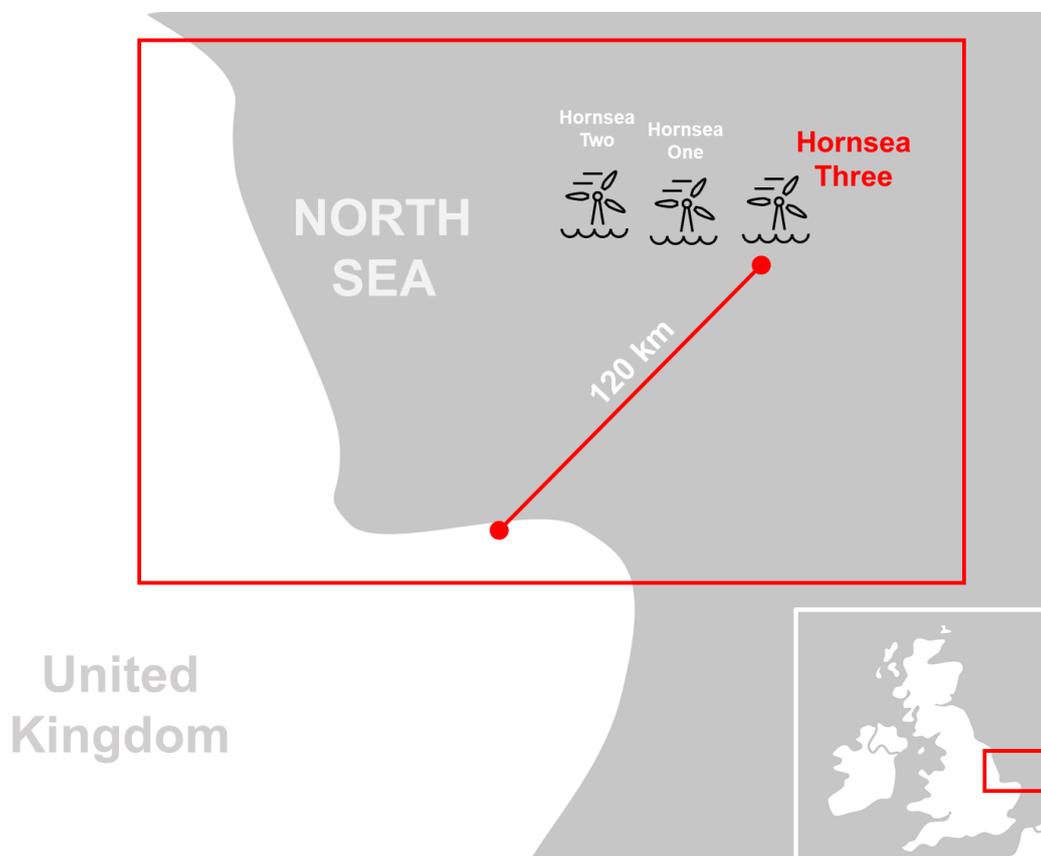
Hitachi Energy has supported Ørsted with the grid connection of Hornsea 1^{*3} and Hornsea 2^{*4}, but Hornsea 3 will be the first phase to use HVDC application in the Hornsea cluster.

The overall HVDC system, including the offshore platform, is delivered in partnership with Aibel^{*5}. Hitachi Energy will supply two HVDC Light® converter systems, while Aibel will deliver two HVDC offshore converter platforms. The platform is based on Hitachi Energy's modular HVDC system including its advanced control and protection system, MACH™. As the HVDC offshore market grows and becomes more complex, Hitachi Energy will continue to develop solutions with its customers and partners to enable a more flexible offshore grid of the future.

“Offshore wind is a critical part of the clean energy transition and our HVDC technology is vital for effective transmission to the mainland power grid,” said Niklas Persson, Managing Director of Hitachi Energy's Grid Integration business. “To address the rapidly growing offshore market, partnerships and collaboration are key to deliver at the speed and scale required to reach our decarbonization and energy security goals.”

“The Ørsted vision is a world that runs entirely on green energy and the Hornsea projects are a significant step towards this goal in the UK,” said Patrick Harnett, Vice President Programme

UK at Ørsted. “Together with Hitachi Energy, we are demonstrating that renewables like offshore wind are a huge part of the world’s sustainability journey. Hornsea 3 will not just provide low cost, clean energy for millions of homes in the UK, it will also deliver thousands of high quality jobs and billions of pounds of investment in the offshore wind supply chain in the UK and beyond.”



Hitachi Energy is supplying four HVDC converter stations, which convert AC power to DC for transmission in the subsea cables, then reconvert it to AC for integration into the onshore grid. Two of the converter stations will be installed on offshore platforms and two at mainland grid connections.

*1 [About Hornsea 3](#)

*2 [British Energy Security Strategy \(BESS\) – offshore wind](#)

*3 [Hornsea One Press Release](#)

*4 [Hornsea Two Press Release](#)

*5 [Aibel partnership Press Release](#)

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Note to editors

Hitachi Energy’s HVDC solution combines world-leading expertise in HVDC converter valves, the MACH™ digital control platform*6 converter power transformers and high-voltage switchgear, as well as in system studies, design and engineering, supply, installation supervision and commissioning.

HVDC Light® is a voltage source converter technology developed by Hitachi Energy. It is the preferred technology for many grid applications, including interconnecting countries,

integrating renewables and “power-from-shore” connections to offshore production facilities. HVDC Light’s defining features include uniquely compact converter stations and exceptionally low electrical losses.

Hitachi Energy pioneered commercial HVDC technology almost 70 years ago and has delivered more than half of the world’s HVDC projects.

*6 [Modular Advanced Control for HVDC \(MACH™\)](#)

HVDC website

<https://www.hitachienergy.com/offering/product-and-system/hvdc>

About Hitachi Energy Ltd.

Hitachi Energy is a global technology leader that is advancing a sustainable energy future for all. We serve customers in the utility, industry and infrastructure sectors with innovative solutions and services across the value chain. Together with customers and partners, we pioneer technologies and enable the digital transformation required to accelerate the energy transition towards a carbon-neutral future. We are advancing the world’s energy system to become more sustainable, flexible and secure whilst balancing social, environmental and economic value. Hitachi Energy has a proven track record and unparalleled installed base in more than 140 countries. Headquartered in Switzerland, we employ around 38,000 people in 90 countries and generate business volumes of approximately \$10 billion USD.

<https://www.hitachienergy.com>

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About Hitachi, Ltd.

Hitachi drives Social Innovation Business, creating a sustainable society with data and technology. We will solve customers' and society's challenges with Lumada solutions leveraging IT, OT (Operational Technology) and products, under the business structure of Digital Systems & Services, Green Energy & Mobility, Connective Industries and Automotive Systems. Driven by green, digital, and innovation, we aim for growth through collaboration with our customers. The company’s consolidated revenues for fiscal year 2021 (ended March 31, 2022) totaled 10,264.6 billion yen (\$84,136 million USD), with 853 consolidated subsidiaries and approximately 370,000 employees worldwide. For more information on Hitachi, please visit the company’s website at <https://www.hitachi.com>.

About Ørsted

The Ørsted vision is a world that runs entirely on green energy. Ørsted develops, constructs, and operates offshore and onshore wind farms, solar farms, energy storage facilities, renewable hydrogen and green fuels facilities, and bioenergy plants. Moreover, Ørsted provides energy products to its customers. Ørsted is the only energy company in the world with a science-based net-zero emissions target as validated by the Science Based Targets initiative (SBTi). Ørsted ranks as the world’s most sustainable energy company in Corporate Knights' 2022 index of the Global 100 most sustainable corporations in the world and is recognised on the CDP Climate Change A List as a global leader on climate action. Headquartered in Denmark, Ørsted employs more than 7,000 people. Ørsted’s shares are listed on Nasdaq Copenhagen (Orsted). In 2021, the group's revenue was DKK 77.7 billion (EUR 10.4 billion). Visit www.orsted.co.uk or follow us on Facebook, LinkedIn, Instagram, and Twitter.

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