

News Release

FOR IMMEDIATE RELEASE

Hitachi Energy to provide world's first SF₆-free 420 kV gas-insulated switchgear technology at TenneT's grid connection in Germany

Contributing to TenneT's carbon neutrality goals to build a sustainable and resilient grid in Germany



From the left: Pascal Daleiden, Country Managing Director Austria, Germany and Switzerland, Hitachi Energy; Dr. Markus Heimbach, Managing Director High Voltage Products, Hitachi Energy; Sjouke Bootsma, Director Supply Chain Management, TenneT; Georg Praehauser, Director Large Projects Germany, TenneT; Dr. Florian Martin, Head of Asset Management, TenneT

Zurich, 9 November 2022 – Hitachi Energy announced today it will provide the world's first sulfur hexafluoride (SF₆) free 420-kilovolt (kV) gas-insulated switchgear (GIS) technology and a state-of-the-art modular prefabricated grid connection solution at a key node at TenneT's power grid in Germany, supporting the leading European grid operator to achieve its carbon neutrality goals.

This project covers a major grid connection upgrade which significantly extends the operating life of existing power assets to ensure the longevity and continued efficiency of the existing power infrastructure. The global technology leader will deliver innovative EconiQ™ 420 kV¹ GIS that uses a game-changing technology that eliminates SF₆ with reliable and scalable solutions for the lowest carbon footprint.

TenneT is a major transmission system operator in the Netherlands and Germany, supplying power to some 42 million homes and businesses in both countries. The company aims to be a driving force behind the energy transition by investing in eco-efficient technologies to reduce greenhouse gas emissions. As a transmission system operator, TenneT is a key player on the historic path to a safe, reliable and carbon-free energy system.

To support TenneT on its transition to SF₆-free solutions, Hitachi Energy will contribute pioneering technologies, unique system integration capabilities, engineering expertise and extensive experience with local grid code requirements to strengthen the grid connection at the 220-megawatt (MW) Erzhausen pumped storage power plant near Hanover. This project uses Building Information Modeling, a consolidated and collaborative digital working method that allows decision-based 3D modeling and improves facility management via a digital twin for the life cycle of the power asset. The entire project will be completed in 2026.

In this project, Hitachi Energy will install three bays of EconiQ 420 kV GIS to enable the transmission of large amounts of electricity over long distances while eliminating significant volumes of SF₆. This eco-efficient innovation remains similar in size while being 100 percent

as reliable as the conventional GIS solution based on SF6. This installation will effectively avoid the addition of nearly 2,300 kg of SF6, equivalent to removing the CO₂ emissions of around 1,150*² passenger vehicles per year.

“We are proud to collaborate with TenneT in their efforts to accelerate the energy transition and strengthen the power infrastructure in Germany,” said Claudio Facchin, Chief Executive Officer of Hitachi Energy. “At Hitachi Energy, we are championing the urgency of the energy transition through innovation and collaboration. Through our modular prefabricated grid connections and EconiQ high-voltage switchgear technology, we are supporting our customers to reduce their carbon footprint and enabling a more sustainable, flexible and secure energy system.”

EconiQ*³ is Hitachi Energy’s eco-efficient portfolio for sustainability, where products, services and solutions are proven to deliver exceptional environmental performance. Hitachi Energy has placed sustainability at the heart of its Purpose and is advancing a sustainable energy future for all.

*1 <https://www.hitachienergy.com/news/press-releases/2022/08/hitachi-energy-showcases-the-world-s-first-eco-efficient-420-kilovolt-circuit-breaker-at-cigre-session-2022-in-paris>

*2 Based on the assumption that a passenger vehicle emits 19 kg CO₂ equivalent per 100 km and drives 10,000 km per year.

*3 <https://www.hitachienergy.com/sustainability/econiq>

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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 40,000 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>.

Information contained in this news release is current as of the date of the press announcement, but may be subject to change without prior notice.
