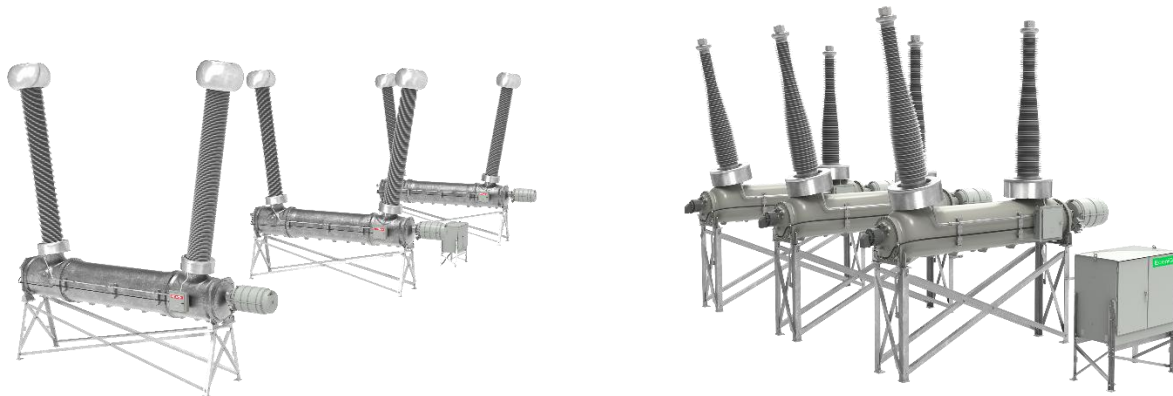


Hitachi Energy introduces 800 kilovolt SF₆-free breaker at IEEE Conference in Chicago

Highest ratings ever realized without SF₆ will be applied in North America's new ultra-high voltage transmission grid.

- Hitachi Energy introduces SF₆-free dead tank circuit breakers for ultra-high-voltage applications at the IEEE PES T&D Conference in Chicago
- The technology addresses a longstanding challenge in high-voltage engineering of eliminating SF₆ while maintaining system reliability and dielectric performance
- The development reflects a shift in the sector towards transmission solutions that meet environmental and resilience requirements without compromising technical performance



The new EconiQ switchgear 800 kV dead tank circuit breaker (left) and the EconiQ 420 kV dead tank circuit breaker (right)

Chicago, May 5, 2026 At the IEEE PES T&D Conference 2026 in Chicago, Hitachi Energy sets a new benchmark for high-voltage transmission with the unveiling of the EconiQ[®] SF₆-free dead tank circuit breaker (DTB) technologies designed for 800 kV 63 kA and 420 kV 80 kA systems. Engineered for the world's most demanding grids, these breakthrough solutions combine uncompromising reliability with sustainability, marking a step toward resilient, future-ready transmission grids.

For much of the industry's history, SF₆ has been a necessity for achieving reliable insulation and interruption at the highest voltages with the replacement of SF₆ gas from high-voltage equipment being viewed as a technical challenge and a social imperative.

EconiQ, Hitachi Energy's eco-efficient portfolio for sustainability, builds on more than five decades of the company's experience in gas-circuit-breaker design. Alongside the unveiling of the 800 kV DTB, the company is also advancing its EconiQ high-voltage switchgear roadmap^{*1}, introducing new voltage levels to move toward a complete SF₆-free high-voltage portfolio. The roadmap introduces new voltage levels in 2026, including 170 kV, 40 kA and 800 kV, 50 kA solutions for live-tank circuit breakers – among other additions. By broadening coverage of voltage levels, Hitachi Energy is enabling utilities to transition seamlessly toward fully SF₆-free

substations. Eliminating SF₆ at the upper end of the voltage and current spectrum avoids the long-term environmental liability of infrastructure remaining in service for half a century or more.

*1 [EconIQ high-voltage switchgear roadmap](#)

“We are incredibly proud to bring this new innovation to market at such a pivotal moment for the energy sector,” said Markus Heimbach, CEO, Business Unit High Voltage Products, Hitachi Energy. “This new EconIQ switchgear and our new roadmap reflects years of engineering and R&D excellence and a clear commitment to support the evolution of the grid. It proves that utilities no longer have to choose between performance, sustainability, and reliability. We can deliver all three, at scale, for a better and more sustainable future.”

These EconIQ breakers are intended for the backbone of long-distance transmission systems that move power across regions and support entire cities, industries, and transportation networks. Making SF₆-free operation viable at these voltages shifts environmental responsibility from the periphery of the grid to its core.

800 kV switchgear is seeing a strong early adoption from utilities and grid operators. When installed, operators will not notice any difference to traditional equipment. EconIQ switchgear will help utilities plan long-life assets in a world where emissions scrutiny continues to rise.

At a time when North American utilities are rapidly integrating renewables and advancing toward ultra-high voltage systems approaching 800 kV, the need for scalable, high-performing, and sustainable grid infrastructure has never been more urgent. This breakthrough technology addresses that challenge.

This development mirrors a broader shift in the energy sector, where the value of new infrastructure is judged as much by its environmental footprint as for its capacity. Hitachi Energy’s work remains focused on ensuring that long-established transmission principles can align with a future defined by lower emissions and higher resilience. Progress now hinges on how well core grid technologies adapt to these expectations without sacrificing reliability.

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Hitachi Energy is a global leader in electrification, powering the electricity era to meet the energy demands of today, and the next 25 years. As the energy arm of Hitachi Group, over three billion people depend on our pioneering, mission-critical technologies to power their daily lives. With over a century of innovation, we are addressing the most urgent energy challenge of our time: driving the evolution of the world’s energy system to ensure abundant, secure, affordable, and sustainable power for today’s generation and the next. With an unparalleled installed base in over 140 countries, we are the grid ecosystem partner across the utility, industry, data center, and transportation sectors. Headquartered in Switzerland, we employ over 56,000 people in 60 countries and generate revenues of around \$20 billion USD.

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Through its Social Innovation Business (SIB) that brings together IT, OT(Operational Technology) and products, Hitachi aims to be a global leader in continuously transforming social infrastructure through digital, contributing to a harmonized society where the environment, wellbeing, and economic growth are in balance.

Hitachi operates worldwide across four sectors – Digital Systems & Services, Energy, Mobility, and Connective Industries – as well as a Strategic SIB Business Unit focused on new growth areas. With Lumada at its core, Hitachi creates value by combining data, technology and domain knowledge to solve customer and social challenges.

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