

Electrochaea and Baker Hughes Bring Commercial-Scale Biomethanation Technology to Market

Electrochaea finalized the basic engineering design package for its biocatalyst methanation system integrated with Baker Hughes' carbon capture solutions.

MUNICH, GERMANY, February 4, 2025 /EINPresswire.com/ -- Electrochaea, a world-leading power-to-gas technology company, announced today an important milestone in its collaboration with global energy technology company Baker Hughes.

The two companies have in fact finalized the basic engineering design package (BEDP) of Electrochaea's proprietary biocatalyst methanation system integrated with Baker Hughes' carbon capture solutions.

This BEDP lays the foundations for large industrial-scale biomethanation applications and meets the growing demand for commercial-scale eMethane production. Plants based on the BEDP are designed to generate 3750 Nm³/h of renewable methane from 3750 Nm³/h CO₂ combined with renewable hydrogen from a 75MWe capacity electrolyzer and can be scaled further to hundreds of megawatts to maximize clean energy output.

With multiple feasibility studies already underway for prospective clients worldwide, the successful completion of the BEDP paves the way for full-scale, commercial eMethane plants in the near future.

Bringing Commercial-Scale eMethane Production to a Global Market

Electrochaea's proprietary power-to-gas technology (P2G) utilizes green hydrogen and captured CO₂ to generate synthetic methane, or 'eMethane'. This technology offers inherently superior conversion efficiency, works under mild conditions, is cost-effective, and demonstrates excellent performance in adapting to changes in demand.



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Using the recently completed BEDP as the foundation for site-specific FEED studies, customers can deploy Electrochaea's power-to-gas technology to produce carbon-neutral BioCat Methane on an industrial scale. As the first of its kind worldwide, the BEDP offers an integrated solution for carbon capture and eMethane production.

BioCat Methane is a direct, drop-in replacement for fossil gas that can leverage existing infrastructure to accelerate the energy transition, significantly reduce greenhouse gas emissions and facilitate the long-term storage and delivery of renewable energy.

"We have set a new standard for power-to-gas and CCU solutions, giving incumbent industries a flexible option to reuse their CO2 emissions to generate renewable methane, directly addressing regulatory compliance and achieving critical sustainability goals."- Mich Hein, Managing Director of Electrochaea.

Advancing the Development of Renewable Energy Solutions

Baker Hughes has been a strategic investor in Electrochaea since 2021 and is incorporating its power-to-gas technology into its world-leading CCUS portfolio. Through this collaboration, Electrochaea and Baker Hughes aim to advance the development and commercialization of renewable energy solutions and are committed to scaling the global production of carbon-neutral eMethane to empower companies, municipalities and entire industries to transition to a cleaner, more sustainable future.

About Electrochaea: Electrochaea is a leading Power-to-Gas technology provider with patented IP to generate renewable synthetic methane. The company's proprietary biomethanation process utilizes excess green power and emitted CO2 to produce a renewable fuel that can be stored and transported via existing gas grids and infrastructure, and has been demonstrated at plants in Germany, Switzerland and the United States. Dedicated to combating climate change, Electrochaea's innovative technology facilitates the long-term storage and transportation of green energy and provides a safe, drop-in alternative to fossil fuel-derived natural gas. Electrochaea's HQ is located in Munich, Germany, with offices in Denmark and the United States. Visit us at www.electrochaea.com

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