

Power-To-Gas – from the Laboratory to Industrial Scale

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The BioCat Project marks the latest step in Electrochaea's scale-up and de-risking pathway. Building on a pre-commercial demonstration project executed in 2013 in Denmark, BioCat is anticipated to lift the company's technology to market readiness. The Project is partially funded by ForskEL, a technology development support program administered by the Danish transmission grid operator Energinet.dk.

The BioCat Project is located at the wastewater treatment plant Avedøre south of Copenhagen, Denmark, which is operated by BIOFOS. It is using hydrogen produced from a 1-MW alkaline electrolyzer manufactured by Hydrogenics Europe. The carbon dioxide is delivered from untreated biogas produced through the anaerobic digestion of sewage sludge by the wastewater plant. The product gas will be injected into a 4-bar distribution grid managed by HMN Naturgass. The electrolyzer is anticipated to deliver balancing services to the Danish power grid and will be operated according to an optimized trading strategy developed by NEAS Energy. AUDI AG provides engineering and operating advice, while Insero Business Services provides project management and communications support.

The BioCat facility has been taken into operation in April 2016. The presentation will cover an overview on the steps from laboratory to 1MW operations. The scalability of the technology, the robustness and applications will be highlighted and discussed.