

Metacon and wastewater treatment plant Abwasserverband Kempten (Allgäu) sign MoU for demonstrating the Biogas-to-Green Hydrogen opportunity for Germany and the world

Metacon has signed a Memorandum of Understanding (MoU) with Abwasserverband Kempten (Allgäu) ("AVKE"), based in Kempten, Germany regarding cooperation in the field of local, off-grid green hydrogen production from biogas using wastewater as methane source. A hydrogen centre will be built on the site of AVKE to which Metacon will supply a mid-size HHG hydrogen generator which, after successful approval, will go into operation in the summer of 2023 to produce non-fossil hydrogen from biogas.

In the quarterly report for Q3, Metacon announced an increased strategic focus on the HHG product line and the opportunity to introduce grid-independent, local green hydrogen production from biogas all over Europe. Shortly thereafter, Metacon announced the CE marking of the first model in the HHG series, the HHG 40. Metacon now take the next important step in the company's roll-out plan with a key partnership in place for practical demonstration on the important German market.

With well over 10,000 biogas and wastewater treatment plants and an average plant capacity of over 100 Nm³ biomethane per hour, Germany has the highest biogas production density in Europe and thus, also the highest theoretical potential for the production of green hydrogen from domestic, electricity grid-independent, local and non-fossil sources.

Due to the significant market potential in the field of hydrogen production from biogas as well as the current rapidly growing hydrogen demand of more than 1.6 million tons per year, Metacon decided to establish local presence and to target strategic partnerships in Germany already in 2021.

AVKE is a public body of the city of Kempten and operates a mechanical-biological group treatment plant with fermentation towers for the production of biogas. The biogas is currently used for the production of about 800 kW of electricity as well as for heat generation. In the future, part or all of the biogas could be used for the production of biomethane and green hydrogen.

In the reforming process enabled by Metacon's HHG systems, methane, a greenhouse gas (GHG) up to one hundred times more climate warming than carbon dioxide, is converted to high-purity green hydrogen with a multitude of application possibilities including clean fuel for cars, buses and trucks. The process as such is one of the most carbon-negative and climate cooling technologies known. The residual and useful bi-product in terms of non-fossil green carbon dioxide produced in the process

can be used as an industrial raw material, further contributing to effective GHG reduction since it can replace fossil CO₂ used in various existing production processes elsewhere.

The aim for the collaboration is to establish a demonstration plant and "lighthouse project" in the field of grid-independent, local green hydrogen production. In this context, a hydrogen centre will be built on the site of AVKE. Here, in addition to hydrogen production, hydrogen applications will also be explored in the form of a fuel cell test laboratory of the Kempten University of Applied Sciences. The project offices are currently under construction.

With the realization of this project, a HHG hydrogen generator for 24/7 continuous operation will be integrated into a professional wastewater treatment plant for the first time. The HHG system earmarked for the project produces about 110 kg of pure hydrogen per day from the locally produced biogas, about 1/5 of the fully scaled up HHG capacity of over 500 kg/day in development. The limited electricity required for system functions such as pumps and control software is provided directly on site as green electricity generated from the biogas. Preparations for the upcoming approval procedure are currently underway and the project is planned to be ready for demonstration by summer 2023.

"We are very proud to become part of the lighthouse project Hydrogen Center Kempten and to have won with AVKE a very experienced and highly professional project partner in Germany in the field of wastewater treatment and biogas production. With successful realization of the project, we will establish an important contribution to the decentralized production of non-fossil green hydrogen, the cyclic reuse of existing and local resources and place a huge milestone for future clean energy and fuel independence in Europe and beyond", said Dr. Christian Hofmann, Managing Director, Metacon GmbH, in a comment.

Franz Beer, AVKE's business and operations manager, commented: *"In the future, the Kempten Hydrogen Center will be expanded by the project partner Metacon to include an alternative production process. In addition to the electrolyzer from the municipal funding, a parallel project is being created with a reformer that converts biogas directly into hydrogen, without the "detour" via electricity generation. This not only offers the possibility of using a process that requires much less electricity, but also provides the opportunity to directly compare and evaluate two different processes in practice. Wastewater treatment in particular, but also biogas plants, are suitable for such efficient production methods for the generation of hydrogen due to their waste heat or the possibility of direct gas input. We are very much looking forward to the joint project with Metacon."*

Christer Wikner, President & CEO, Metacon AB (publ), commented: *"We are extremely delighted about having joined forces with such a professionally managed and innovative renewables plant for demonstrating and further exploring the huge potential for independent clean energy and fuel production in Germany. The opportunities with green hydrogen for the energy and fuel transition and our future societies can't be emphasised enough. We believe the Kempten demonstration collaboration could lead the way for many other similar biogas facilities in Germany and the rest of Europe for evolving towards green hydrogen production with, in many cases, also new local refueling stations."*



This information is information that Metacon AB (publ) is obliged to make public pursuant to the EU Market Abuse Regulation. The information was submitted for publication, through the agency of the contact person below, on 25 November 2022 at 09:00 CET.

For further information, please contact Christer Wikner, CEO Metacon AB (publ), by phone +46 (0)707-647389 or e-mail info@metacon.se

About Metacon AB (publ)

Metacon AB (publ) develops and manufactures energy systems for the production of hydrogen, heat and electricity. The core products are based on a patented technology that, through so called catalytic steam reforming of biogas or other hydrocarbons, generates hydrogen. The development of Metacon's reforming products is done within the wholly owned subsidiary Helbio, which is a spin-off from the University of Patra, Greece and was founded by Professor Xenophon Verykios in 2001. From the onset, the business has focused on catalysts and advanced reforming for high-efficiency hydrogen production.

Metacon also offers system solutions for the production of hydrogen through electrolysis, a large and globally growing area for small and large-scale production of green hydrogen. Electrolysis is a process of starting and driving a chemical reaction to split water by adding electricity. If the electricity used is non-fossil and green, the hydrogen will also become completely climate neutral and green. Green hydrogen can be used in, for example, the transport sector, the basic industry and the real estate sector with a better environment and climate as a result. www.metacon.com

Additional information may be found at

www.metacon.com | Twitter: [@Metaconab](https://twitter.com/Metaconab) | LinkedIn: www.linkedin.com/company/metaconab