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Biogas Production: Hand in Hand to the Best Solution for the Client

Hitachi Zosen Inova's intercompany expertise helps secure contract to extend installation in Amtzell

Swiss greentech company Hitachi Zosen Inova has been commissioned to extend an existing Kompogas® facility in Amtzell, Germany. The client, KSZ in Germany, wants to add a digester to increase the plant's organic waste treatment capacity and, thanks to a membrane-based system for upgrading 600 Nm³/h of raw gas, will also be able to produce biomethane in the future. The extension work is scheduled for completion in April 2024.

Zurich. The most recent renewable gas contract won by Hitachi Zosen Inova (HZI), Zurich, shows how bundled know-how can be put to the best possible use: the extension of an existing dry anaerobic digestion plant in the Upper Swabian municipality of Amtzell with the addition of another Kompogas® digester and a membrane gas upgrading system for the production of biomethane. By pooling the resources of three specialist companies within the group, HZI was able to propose a technologically and economically persuasive solution for the client, Amtzeller KSZ GmbH. This is HZI's first German KompoMethan project, a Kompogas® installation with a BioMethan gas upgrading unit.

Realigning Proven Technology

For 15 years already the biogas plant has been using Kompogas® dry AD technology to convert organic and green waste from the region into renewable electricity. In response to additional organic waste volumes, the operating company decided to expand the plant to increase capacity. The existing concrete plug-flow digester, with an annual throughput of 18,000 tonnes of biogenic substrates, will be supplemented by a steel digester with an operating capacity of 1,800 m³. It will then be possible to process a total of up to 50,000 t/a of biogenic feedstock to produce renewable energy.

In light of the European energy crisis, the operator is also investing in a gas processing plant that upgrades part of the raw gas into biomethane. This is of natural gas quality and will be fed into the local gas grid for regional energy supply, substituting part of the area's fossil fuel requirements.

The treatment process is based on pressure-driven gas permeation technology. An on-site combined heat and power plant, which continues to be operated to cover the plant's own electricity and heat requirements, provides the power required for membrane upgrading on a carbon-neutral basis. The plant is designed for a capacity of 600 Nm³/h of raw gas and can produce 300 to 400 Nm³/h of biomethane.

The supplier is one of the German HZI locations. In addition to 15 years of experience with gas upgrading and -feed-in, the team in Zeven, Lower Saxony, also has a certified production facility at the company's site, which also manufactures according to US standards; the first KompoMethan project was delivered in California.

Expert Trio Handling the Entire Project

With the biogas specialists from Schwandorf, a third Group location is involved in the Amtzell project. The Bavarian team has already delivered numerous wet and dry anaerobic digestion plants with and without gas upgrading and is responsible for handling the project, which is scheduled for commissioning in as little as a year.

"This extension represents a significant technological improvement to the existing Amtzell plant, and is another example of our intercompany efficiency," says Raiko Kolar, Senior Sales Manager at HZI. He goes on: "In addition to all the technologies being from a single source, coordinate interdisciplinary know-how has relevant advantages that benefit our customers." This offering satisfies a market need: Amtzell is the 15th contract already that HZI has been able to win thanks to its group portfolio and complementary expertise.

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Attachment: 2 images

SLO.jpg; caption: The new PF1800 digester in Amtzell has already proven its worth all over the world, from China to this plant in San Louis Obispo, California

Jönköping.jpg; caption: View of a membrane gas upgrading unit (archive image from the KompoMethan project in Jönköping, Sweden)

Factsheet

About Hitachi Zosen Inova

Zurich-based green-tech company Hitachi Zosen Inova (HZI) is a global leader in solutions for energy transition and circular economy including Energy from Waste (EfW) and Renewable Gas (RG), operating as part of the Hitachi Zosen Corporation Group. HZI acts as a project developer, technology supplier and engineering, procurement and construction (EPC) contractor delivering complete turnkey plants and system solutions for thermal and biological waste recovery. Its solutions are based on efficient and environmentally sound technologies, are thoroughly tested, and can be flexibly adapted to customer requirements. HZI's Service Solutions Group combines its own research and development with comprehensive manufacturing and erection capabilities to provide support throughout a plant's entire plant cycle. HZI works for customers ranging from established waste management companies to up-and-coming partners in new markets. Its innovative and reliable solutions have been part of more than 1,600 reference projects worldwide.

Find out more about HZI at www.hz-inova.com.

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