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Optimised Plant Design: Hitachi Zosen Inova Builds First Compact Biogas Plant in France

Hitachi Zosen Inova (HZI) has signed two more contracts to deliver biogas projects in the French region of Île-de-France. Each features a wet AD plant and a membrane upgrading system to produce biomethane. One of the plants will be built to a new design that HZI has developed for biogas installations generating 500 Nm³/h of raw gas.

Kicking off is the project in Vinantes, around 20 kilometres to the east of Paris Charles de Gaulle airport. There the new, more compact biogas plant design will be used to generate 500 Nm³/h of raw gas. It comprises a digester and a post-digester, each with a tank diameter of 26 metres. So far plants with 23-metre diameter tanks and a 30-metre diameter residue storage tank have been built. HZI optimised the plant design for a biogas production of 500 Nm³/h and reduced the digestate line to also realise plants where space is limited, as can be the case, for example, on farms on the edge of conurbations. Or else farms that do not have arable land to be able to provide enough substrate for three-tank installations. The compact design is also an economical alternative for clients that do not plan to subsequently increase their biogas production. The investment and operating costs are lower than for larger installations, but the performance is the same. "This two-tank design enables HZI to reach additional groups of customers", said Jens Becker, Managing Director at HZI BioMethan.

In Vinantes, biomethane is produced using HZI's proven membrane technology, with membrane-based gas separation employed to separate carbon dioxide (CO₂) in the biogas from methane. This way the client will be able to feed around 1.7 million Nm³/a of biomethane into the local gas supplier's grid. The first feed-in is planned for autumn 2021.

Option of Increasing Production: Classic Design Still in Demand

The second project in the region of Île-de-France, an installation in Réau, is also scheduled to feed biomethane into the local gas grid next autumn. The client already operates a biogas plant with biomethane production in Brie, which was built with HZI in 2015. Impressed by the efficiency of the technology, the client opted for another wet AD plant in the classic three-tank design which will enable production to subsequently be increased. The membrane upgrading unit that produces biomethane is therefore designed for a maximum output of 360 Nm³/h.

The increasing number of projects in this region also boosts HZI's service business, which is handled by the branch in Troyes.

About Hitachi Zosen Inova BioMethan:

Hitachi Zosen Inova BioMethan GmbH is one of the leading providers of gas upgrading systems, delivering its solutions with two processes for separating CO₂ from the biogas or flue gases. The company belongs to the Hitachi Zosen Inova Group.

Zurich-based Hitachi Zosen Inova (HZI) is a global leader in energy from waste (EfW) and renewable gas, operating as part of the Hitachi Zosen Corporation Group. HZI acts as an engineering, procurement, and construction (EPC) contractor and project developer, delivering complete turnkey plants and system solutions for thermal and biological EfW recovery. Its solutions are based on efficient and environmentally sound technology, are thoroughly tested, and can be flexibly adapted to customer requirements. HZI's Service Group combines its own research and development with comprehensive manufacturing and erection capabilities to provide support throughout the entire plant life cycle.

HZI works for customers ranging from experienced waste management companies to up-and-coming partners in new markets worldwide. Its innovative and reliable waste, flue gas treatment, gas upgrading and power-to-gas solutions have been part of more than 700 EfW and biogas reference projects delivered since 1933.

To find out more about HZI, please visit www.hz-inova.com.

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