

September 25, 2023

Launched a Project for Production and Sales of Liquefied Biogas and Liquefied CO2 in Germany

~ Contributing to the use of renewable energy in the transportation sector ~

Hitachi Zosen Inova AG (Switzerland, hereafter HZI), a wholly owned subsidiary of Hitachi Zosen Corporation, which is engaged in the design, construction, maintenance and operation of Waste-to-Energy plants and renewable gas plants, has launched a project for production and sales of liquefied biogas (LBG) and liquefied carbon dioxide (LCO2) in Thuringia, Germany.

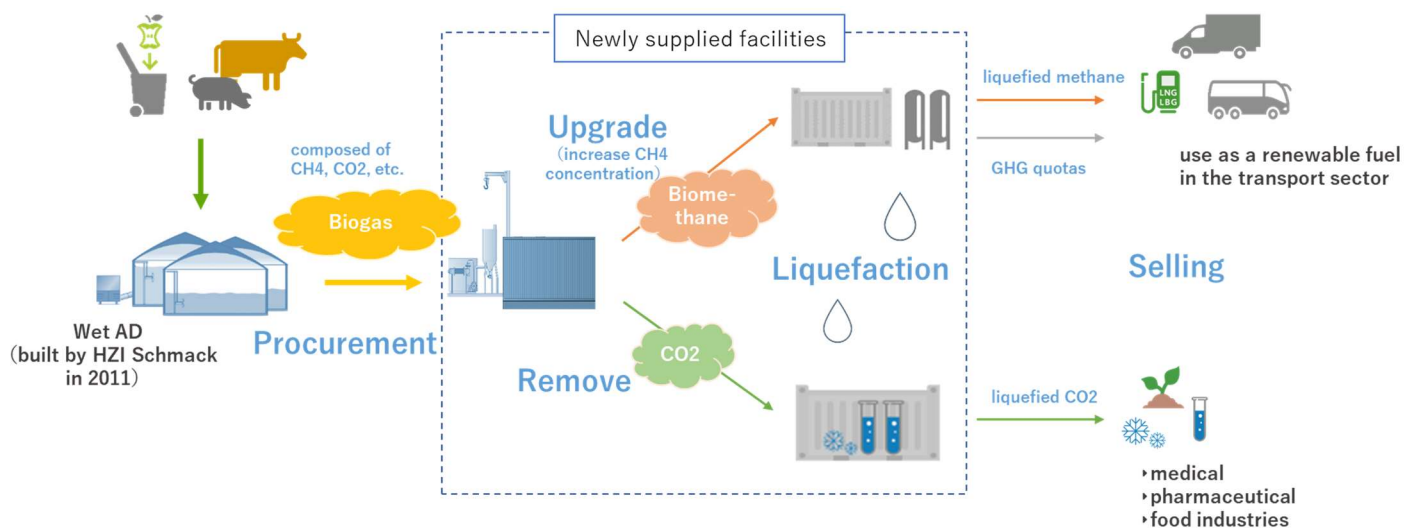


Image of this project by HZI

In this project, biogas procured from the existing biogas plant will be refined and sold as a renewable freight and transport fuel, together with a greenhouse gas reduction certificate (GHG Quota), while the CO₂ separated and removed in the refining process will be reused as a by-product and sold as an alternative to fossil-based CO₂ for the medical, pharmaceutical and food industries.

HZI intends to expand its business in the field of liquefied biogas, and will be involved in a series of processes including procurement, production, and sales in this project.

HZI established a joint venture, Blankenhain Verflüssigungs GmbH, with the German energy company biogeen in March 2022 for this project, and HZI has now been awarded a contract by this joint venture the construction of liquefaction and other facilities for an existing biogas plant in Blankenhain, Germany. (The biogas plant was built in 2011 by Hitachi Zosen Inova Schmack GmbH, a subsidiary of HZI, and produces biogas from agricultural and food processing residues and animal manure.)

The technology used in the biogas purification is the amine scrubbing method, which uses chemicals to remove CO₂ and other substances from the biogas, and the purified “biomethane” is liquefied before being sold. The CO₂ separated in the refining process has been released into the atmosphere, but this project will also recover and reuse CO₂.

The newly constructed facility is scheduled to start operation around the end of 2024, and is expected to be capable of producing approximately 3,700 tons of LBG and 7,500 tons of liquefied CO₂ per year.

The EU Renewable Energy Directive (RED III), as amended this month, requires each member state to choose either of the following targets.

(1) share of renewable energy within the final consumption of energy in the transport sector of at least 29% by 2030; or

(2) greenhouse gas intensity reduction of at least 14.5% by 2030, compared to the baseline

With demand for biogas, a renewable energy source, expected to grow, HZI has already constructed more than 100 dry methane fermentation plants mainly in Europe and the United States, and is focusing on developing a liquefied biogas business with potential synergies. This is the second project in Germany.

The Hitachi Zosen Group will continue to contribute to the global environment by providing knowledge and technologies for clean energy as a unified group.

An overview of the facility is as follows:

(1) Order and ownership

Blankenhain Verflüssigungs GmbH joint venture established by HZI with biogeen

(2) Construction site

Blankenhain, Thuringia, Germany (attached to a biogas plant owned by biogeen)

(3) Production capacity

approx. 3,700 tons per year of liquefied biogas(LBG), approx. 7,500 tons per year of liquefied CO₂

(4) Product use

LBG=transportation fuel, liquefied CO₂=medical, pharmaceutical, and food industries

(5) Start of operation

end of 2024