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## Hitachi Zosen Corporation and Hitachi Zosen Inova to Build First Joint Power-To-Gas Plant

***Swiss clean-tech company Hitachi Zosen Inova and its parent company Hitachi Zosen Corporation are to deliver the technology for a Power-to-Gas plant in Japan, which will in future produce synthetic natural gas (Methane) from CO<sub>2</sub> and hydrogen.***

As part of Japan's efforts to bring about a long-term reduction in its existing CO<sub>2</sub> emissions, the country's first Power-to-Gas plant (PtG) of its kind is to be built within the next 18 months. Instead of being emitted, the CO<sub>2</sub> of an existing coal-fired thermal power station will be captured and effectively used for the production of synthetic natural gas (SNG). It is the objective of this test facility to prove the feasibility of large scale PtG plants.

The turnkey contract for the plant has been awarded to the Japanese firm Hitachi Zosen Corporation (HZC) together with its Swiss subsidiary Hitachi Zosen Inova (HZI). Both companies have profound experience in the engineering and construction of PtG plants. The client, New Energy and Industrial Technology Development Organization (NEDO), is active in the evaluation of technological solutions to produce SNG using CO<sub>2</sub> from coal and has entrusted HZC to develop technologies to effectively use CO<sub>2</sub>.

### **Technologies of the Future**

The aim of the PtG technology, to be developed by HZC and HZI, is to balance the supply and demand for power in electricity networks with renewable energy. To do this, SNG is produced using excess electricity and this can be stored to be used as a carbon free vehicle fuel or transformed back into power and fed into the grid to compensate in times of peak demand.

The new facility to be built in Japan will take fossil CO<sub>2</sub> emissions and combine them with hydrogen to produce SNG which will then be fed into an existing gas grid. Acting as general contractor HZC will deliver a proton exchange membrane (PEM) electrolyzer, which produces hydrogen from electricity and water. In addition to the EtoGas catalytic reactor for the methanation process HZI will deliver tried-and-tested plate reactors specially adapted to handle different CO<sub>2</sub> sources. This process facilitates active decarbonization of the gas grid, thus making an important contribution to a CO<sub>2</sub>-free economy. "This PtG technology has considerable potential to become a key mainstay of a CO<sub>2</sub>-neutral future", said HZI EtoGas CEO Wolfgang Beez stressing the significance of this project.

This marks the first joint project for both companies in the Power-to-Gas area, and represents a major step with regard to further developments. This pilot project in Japan will be commissioned in 2018/19.

**About Hitachi Zosen Inova**

Zurich-based Hitachi Zosen Inova (HZI) is a global leader in energy from waste (EfW), operating as part of the Hitachi Zosen Corporation Group. HZI acts as an engineering, procurement and construction (EPC) contractor delivering complete turnkey plants and system solutions for thermal and biological EfW recovery, gas upgrading and power to gas technologies. Its solutions are based on efficient and environmentally sound technology, are thoroughly tested, can be flexibly adapted to user requirements, and cover the entire plant life cycle. The company's customers range from experienced waste management companies to up-and-coming partners in new markets worldwide. HZI's innovative and reliable waste and flue gas treatment solutions have been part of over 600 reference projects delivered since 1933. To find out more about HZI, please visit [www.hz-inova.com](http://www.hz-inova.com).

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