News Release

Oct. 20, 2026

JFE Engineering Corporation

Mitsubishi Gas Chemical Company, Inc.

Collaboration Launched Toward Practical Implementation of Waste-to-Methanol

—Uniting Globally Rare Waste Gasification Technology and One of the World's Leading Methanol Business Platforms—

JFE Engineering Corporation (President and CEO: Kazuyoshi Fukuda; Head Office: Chiyoda-ku, Tokyo; "JFE Engineering") and Mitsubishi Gas Chemical Company, Inc. (President: Yoshinori Isahaya; Head Office: Chiyoda-ku, Tokyo; "Mitsubishi Gas Chemical") have signed a memorandum of understanding ("MOU") to jointly explore business opportunities aimed at establishing a technology for producing circular carbon methanol using waste gasification technology (the "Technology"). Under the MOU, the two companies will conduct specific studies toward establishing the Technology, evaluating its business feasibility, and commercializing it.

As efforts toward decarbonization and resource circulation accelerate worldwide, expectations for technologies that convert waste into new resources are growing. Producing chemical feedstocks and fuels domestically from waste is also becoming increasingly important for economic security. JFE Engineering is a comprehensive engineering company with a globally rare waste gasification technology (C-PhoeniX Process®*1) that produces syngas (mainly hydrogen and carbon monoxide) from a wide range of waste, including municipal solid waste. JFE Engineering has more than 20 years of operational experience with waste gasification technology. Mitsubishi Gas Chemical is a comprehensive methanol manufacturer engaged in all aspects of the methanol business, from resource development and methanol production to logistics, derivative product development, and sales.

Under the MOU, the two companies will establish the Technology to produce methanol from syngas generated from waste. The methanol produced can be used as a raw material for chemical products including plastics and synthetic

fibers, and also as a fuel. This initiative forms part of Carbopath™[*2], an environmentally sustainable platform led by Mitsubishi Gas Chemical, and is expected to promote resource circulation and reduce environmental impact. By combining their technological expertise and extensive track records, the two companies aim to establish a highly reliable technology for the practical implementation of circular carbon methanol production from waste and to accelerate its commercialization.

The studies will also be coordinated with the Green Innovation Fund Project "Achieving Carbon Neutrality in Waste and Resource Circulation" of the New Energy and Industrial Technology Development Organization (NEDO). Under this project, JFE Engineering is carrying out a demonstration project to achieve carbon neutrality in the waste and resource circulation sector and enhance syngas production capabilities for chemical recycling. The project has passed the stage-gate review based on an evaluation of its results. JFE Engineering has also been selected[*3] as a project implementing entity under an additional call for proposals covering technologies for producing chemical products and other materials using purified syngas. Mitsubishi Gas Chemical is scheduled to participate as a subcontractor in this project. Going forward, the two companies will accelerate studies for large-scale demonstration testing, which is scheduled for completion in fiscal year 2030.

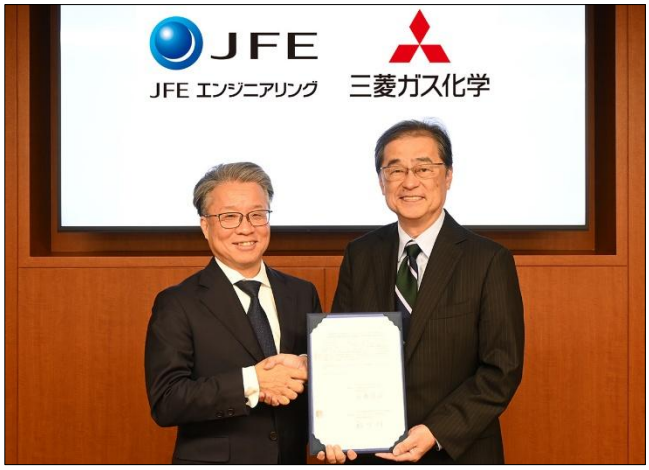
The MOU reflects both companies' strong commitment to the practical implementation of the Technology. Through these joint studies, the two companies aim to bring the Technology into practical use sooner and create new value, contributing to a circular economy and a carbon-neutral society.

*1 Developing the Advanced Waste-to-Chemical Gasification Process, the "C-PhoeniX Process®" Towards Practical Use in Society

*2 Carbopath™: An environmentally sustainable platform that produces energy and materials from CO_2 and waste through methanol (https://www.carbopath.mgc.co.jp/en/)

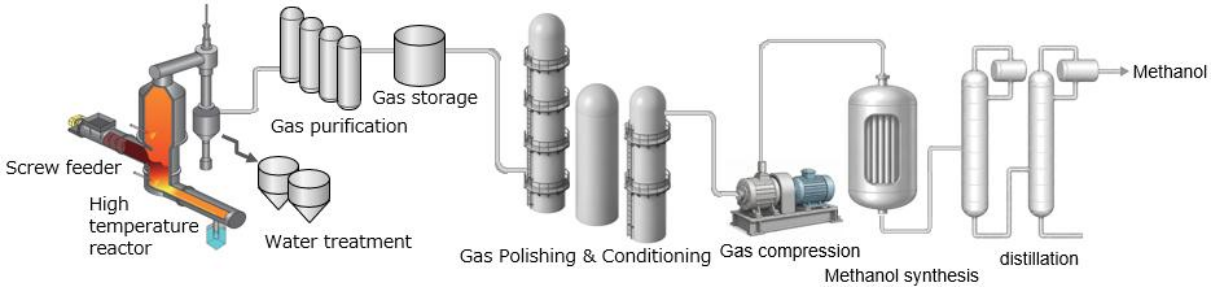
*3 グリーンイノベーション基金事業「廃棄物・資源循環分野におけるカーボンニュートラル実現／高効率熱分解処理施設の大規模実証」で新たに研究テーマを採択しました ｜ ニュース ｜ NEDO (in Japanese)

■ Signing of the Memorandum of Understanding Between the Two Companies



(Left: Susumu Ayukawa, Member of the Board and Senior Managing Director, JFE Engineering Corporation;
Right: Hideaki Akase, Managing Executive Officer, Mitsubishi Gas Chemical Company, Inc.)

■ Chemical Recycling Technology through Waste Gasification and Methanol Synthesis



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