

Osaka Gas USA, Tallgrass, and Green Plains to Study e-methane Production
from Biomass-Based CO₂ in the U.S. Midwest

December 22, 2022
Osaka Gas Co., Ltd.

Osaka Gas announced today its wholly owned subsidiary, Osaka Gas USA (OGUSA), has signed a memorandum of understanding (MOU) with Tallgrass MLP Operations, LLC (Tallgrass), a leading energy infrastructure company that owns and operates natural gas pipelines and other energy assets, and Green Plains Inc. (Green Plains), a leading ag-tech company that owns and operates bioethanol refineries, to conduct a joint feasibility study on a project to produce synthetic methane (e-methane) by methanation in the U.S. Midwest.

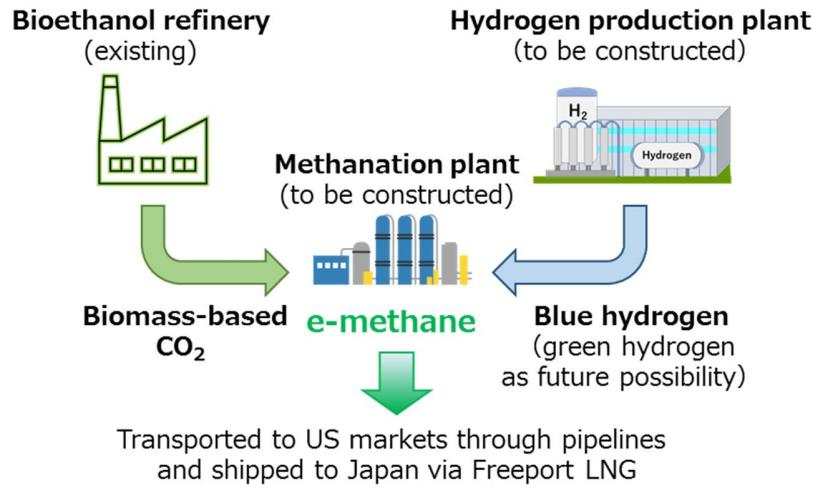
The project partners aim to produce e-methane from natural gas-based blue hydrogen and biomass-based carbon dioxide (CO₂) that will be captured at bioethanol refineries owned and operated by Green Plains. The targeted e-methane production volume is up to 200,000 tons per year by 2030. The possibility of utilizing green hydrogen in the future is also included in the scope of the joint study.

The project is scheduled to complete the feasibility study by around July 2023. The joint study includes the technological assessment for a blue hydrogen plant and an e-methane plant as well as the site analysis for the carbon capture and storage (CCS) of CO₂ generated in the hydrogen production. Concurrently, Osaka Gas plans to examine the schemes to liquefy e-methane at Freeport LNG and transport it to Japan.

This project is part of Osaka Gas's initiatives to achieve carbon neutrality by 2050. Furthermore, Osaka Gas is conducting multiple e-methane studies around the world, including Australia, Southeast Asia, North America, and South America. This Osaka-based energy company is also developing methanation technologies and conducting demonstration in Japan to promote the wider recognition and usage of e-methane.

Osaka Gas pursues the development of e-methane as a carbon neutral energy source that can meet the heat demand, potentially become fuel for power generation and mobility, and contribute to Japan's smooth transition to net zero. E-methane is a gaseous energy carrier that can be transported and used in the existing gas infrastructure and appliances without the enormous costs of replacing or modifying them.

1. Project Overview Concept



2. Project Partners

Company Name	Tallgrass MLP Operations, LLC
Headquarters	Leawood, Kansas
Established	2012
Representative	Matt Sheehy, President and CEO

Company Name	Green Plains Inc.
Headquarters	Omaha, Nebraska
Established	2004
Representative	Todd Becker, President, Chief Executive Officer and Director