Osaka Gas Australia to Undertake Joint Methanation Study with ATCO Australia

December 23, 2021
Osaka Gas Co., Ltd.

Osaka Gas Co., Ltd. (Osaka Gas) today announced its wholly owned subsidiary, Osaka Gas Australia Pty Ltd (OGA), has undertaken a joint methanation study with ATCO Australia Pty Ltd (ATCO Australia). OGA signed a Memorandum of Understanding with ATCO for the joint study in Australia.

Methanation is a chemical reaction that converts carbon dioxide (CO_2) and hydrogen to methane (synthetic methane), which is carbon neutral when converted from CO_2 and green hydrogen that is produced from electrolysis powered by renewable electricity. Synthetic methane can be distributed through existing gas infrastructure, combusted in existing gas appliances, and used to meet the market demand for high-temperature heat that cannot be generated by electricity.

ATCO Australia is a provider of integrated energy, housing, transportation, and infrastructure solutions, operating gas distribution business mainly in Western Australia (WA) and two gas-fired power plants in the country. ATCO Australia is one of the key contributors to hydrogen business development in WA, having planned and implemented multiple hydrogen projects. ATCO has its own infrastructures that emits CO_2, has hydrogen producing capabilities, and its own gas infrastructure that are elements that are required in the methanation process.

This joint study explores the viability of a methanation concept to produce synthetic methane from green hydrogen and carbon dioxide captured from carbon emitting facilities like power plants or atmosphere[1], inject synthetic methane into the gas distribution network in Australia, and export it to Japan. This project plans to conduct studies in 2022 on the procurement of CO_2 and hydrogen, suitable locations, effective business models, and economic viability prior to the construction of a methanation pilot plant in Australia.

This study is in line with the Daigas Group Carbon Neutral Vision (CNV) announced in January 2021. Aiming to become carbon neutral by 2050 under CNV, Osaka Gas has also been developing other methanation projects such as the methanation technical development with INPEX in Nagaoka city, Nigata prefecture[2] and the innovative methanation (SOEC methanation) basic research to synthesize methane with a high energy conversion efficiency using renewable energy[3].

[1]Direct Air Capture (DAC)

[2]Announed on October 15, 2021 in a press release “Osaka Gas to Commence Technical Development Business on CO_2 Emissions Reduction and Practical Application of Effective CO_2 Use Through One of World’s Largest Methanation Operations: Toward the Practical Application of Technology Enabling Carbon Neutralization of City Gas”

https://www.osakagas.co.jp/company/press/pr2021/1300478_46443.html

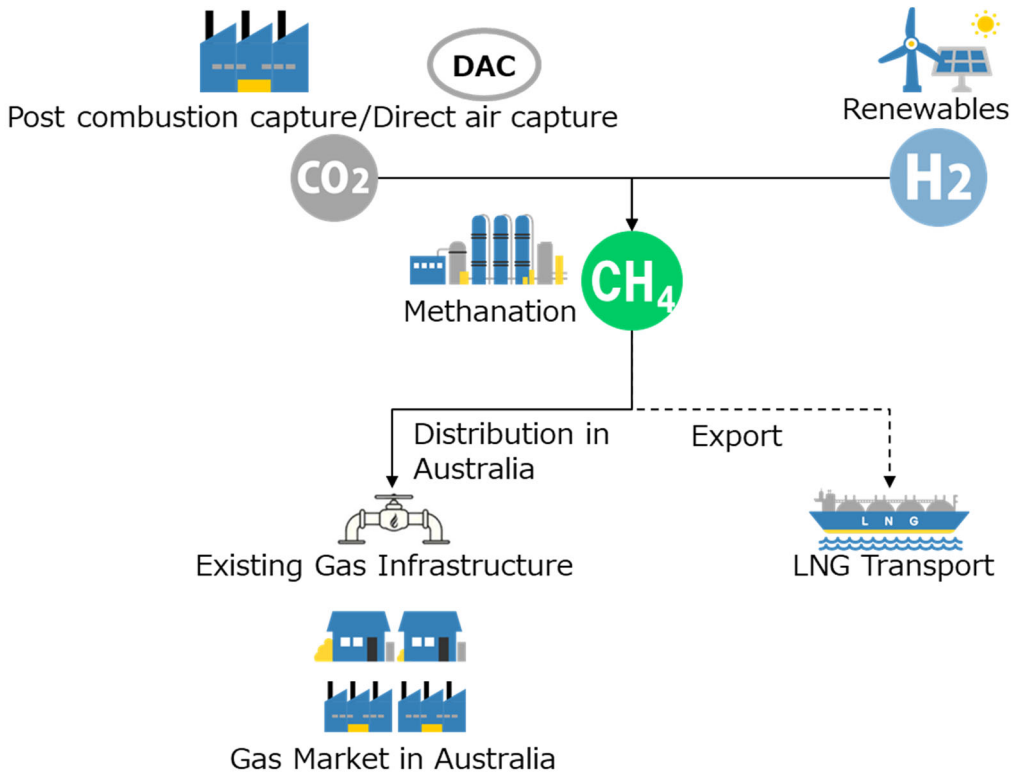
[3]Announed on January 25, 2021 in a press release “New SOEC Prototype Developed by Osaka Gas, Key Technology to Innovative Methanation for Carbon Neutralization of Gas: Applicable to Highly Efficient Production of Hydrogen and Liquid Fuels” (in Japanese)

https://www.osakagas.co.jp/company/press/pr2021/1291456_46443.html

1. Joint Study Overview

Participant	Osaka Gas Australia Pty Ltd (OGA) ATCO Australia Pty Ltd (ATCO Australia)
Period	Planned to complete within 2022
Subject	1. Suitable locations and technologies for a methanation pilot plant 2. Procurement of CO_2 and hydrogen, transport and sales of synthetic methane 3. Business model and economic viability of distribution in Australia and export to Japan

2. Scope of Study



3. Company Overview

Name	ATCO Australia Pty Ltd (ATCO Australia)
Location	Level 12, 2 Mill Street, Perth, Western Australia, Australia
Representative	Patrick Creaghan
Establishment	1998
Main business	Gas distribution, natural gas-fired power generation, hydrogen development mainly in Western Australia