

20<sup>th</sup> July, 2021  
Woodside Energy Ltd.  
Japan Oil, Gas and Metals National Corporation  
Marubeni Corporation  
Hokuriku Electric Power Company  
The Kansai Electric Power Co., Inc.

## **Feasibility Study on Establishing a Clean Fuel Ammonia Supply Chain from Australia to Japan**

Woodside Energy Ltd., Japan Oil, Gas and Metals National Corporation, Marubeni Corporation, Hokuriku Electric Power Company and The Kansai Electric Power Co., Inc (hereinafter, the “Parties”) have signed a joint research agreement under which they will conduct a feasibility study into the development of a clean fuel ammonia supply chain from Australia to Japan.

Ammonia does not emit CO<sub>2</sub> during combustion and is considered a promising next-generation zero-emission fuel for energy intensive thermal power plants and marine engines. Given existing proven technologies for the production, storage and transportation of ammonia, it is expected to have early take-up as a zero-emission fuel.

Japan’s Green Growth Strategy established on 26<sup>th</sup> December 2020 and further refined on 21<sup>st</sup> June 2021, has also positioned fuel ammonia as one of the key opportunities for Japan to achieve carbon neutrality by 2050.

In relation to Australia, the "Japan-Australia Partnership on Decarbonization through Technology" including fuel ammonia was announced at the Japan-Australia Summit Meeting on 13<sup>th</sup> June 2021 and Joint Statement(\*) at the Australia-Japan Ministerial Economic Dialogue on 15<sup>th</sup> July 2021 mentioned that Japan and Australia will work together to promote clean fuel ammonia.

Under the joint agreement, the Parties will conduct a feasibility study of the entire supply chain, including the production of clean fuel ammonia in Australia from natural gas with CO<sub>2</sub> abatement methods such as CCS · CCU (\*\*) and bio-sequestration; marine transportation to Japan; utilization of ammonia as a fuel for power generation and marine use; and financing.

The Parties will work to establish a clean fuel ammonia supply chain between Australia and Japan through collaboration using their respective technologies and knowledge, and will promote efforts to decarbonise both Australia and Japan.

(\*) Joint Statement at the Australia-Japan Ministerial Economic Dialogue:

<https://www.meti.go.jp/press/2021/07/20210715008/20210715008-1.pdf>

(\*\*) CCS · CCU

A technology for capturing and storing (CCS: Carbon dioxide Capture and Storage) or effectively utilizing (CCU: Carbon dioxide Capture and Utilization) CO<sub>2</sub> emitted from factories and power plants.

< Conclusion of joint research agreement >



Top row, left to right:  
 Woodside Energy Ltd., Shaun Gregory, Executive Vice President, Sustainability and Chief Technology Officer  
 Japan Oil, Gas and Metals National Corporation, Toshikazu Ebato, Executive Vice President, Oil & Gas Upstream Technology Unit  
 Marubeni Corporation, Akihiko Sagara, Managing Executive Officer, Chief Executive Officer, Energy & Metals Group

Front row, left to right:  
 Hokuriku Electric Power Company, Wataru Hirata, Director & Managing Executive Officer  
 The Kansai Electric Power Co., Inc, Nozomu Mori, Executive Vice President

< About Each Company >

Woodside Energy Ltd.

- Headquarters : Perth, Australia
- Established : January, 1954
- Representative : Meg O'Neill, Acting Chief Executive Officer
- Website : <https://www.woodside.com.au/>

Japan Oil, Gas and Metals National Corporation

Headquarters : Tokyo, Japan  
Established : February, 2004  
Representative : Tetsuhiro Hosono, Chairman & CEO  
Website : <http://www.jogmec.go.jp/english/index.html>

Marubeni Corporation

Headquarters : Tokyo, Japan  
Established : December, 1949  
Representative : Masumi Kakinoki, President and CEO  
Website : <https://www.marubeni.com/en/>

Hokuriku Electric Power Company

Headquarters : Toyama, Japan  
Established : May, 1951  
Representative : Koji Matsuda,  
Representative Director & President  
Website : <http://www.rikuden.co.jp/english/index.html>

The Kansai Electric Power Co., Inc.

Headquarters : Osaka, Japan  
Established : May, 1951  
Representative : Takashi Morimoto,  
Director, Representative Executive Officer, President  
Website : <https://www.kepco.co.jp/english/>

< Graphics of the clean fuel ammonia supply chain between Australia and Japan >

