May 29, 2023

Marubeni Corporation
Iwatani Corporation
The Kansai Electric Power Co., Inc.
Stanwell Corporation Limited
Keppel Infrastructure Holdings Pte. Ltd.

Five Companies in Japan, Australia, and Singapore Conclude Agreement for the Implementation of Japan-Australia Project on Front End Engineering Design for the Creation of a Large-Scale Green Liquefied Hydrogen Supply Chain

On May 26, 2023, three Japanese companies - Marubeni Corporation (hereinafter, "Marubeni," President and CEO: Masumi Kakinoki), Iwatani Corporation (hereinafter, "Iwatani"; President: Hiroshi Majima) and Kansai Electric Power Co., Inc. (hereinafter, "Kansai Electric Power"; Director, Representative Executive Officer and President: Nozomu Mori) - entered into an agreement with two companies, Stanwell Corporation Limited (hereinafter, "Stanwell"; CEO: Michael O'Rourke), and Keppel Infrastructure Holdings Pte. Ltd. (hereinafter, "Keppel"; CEO: Cindy Lim), both of which are energy infrastructure companies, headquartered respectively in Australia and Singapore, to jointly implement the FEED[*1] of the Central Queensland Hydrogen Project (hereinafter, "CQ-H2"). This project will involve producing green hydrogen on a large scale using renewable energy, which will then be liquified at a location in Gladstone Region, Queensland, Australia, and subsequently exported as liquefied hydrogen to Japan. The Project will also supply hydrogen to an ammonia production facility to be located in the same region (with some of this ammonia set to be consumed in Australia).

[*1]Front End Engineering Design: refers to basic design (including studies related to commercial, financial, and contractual matters) to be conducted after conceptual design and feasibility study completion.

The FEED agreement signing ceremony took place in Brisbane, Queensland, and was witnessed by the Hon. Mick de Brenni, Minister for Energy, Renewables and Hydrogen and Minister for Public Works & Procurement of Queensland; Ms. Alexandra McIntosh, Investment Director of the Australian Renewable Energy Agency (hereinafter, “ARENA”); and Mr. Gomakubo Junji, Consul-General of Japan in Brisbane.

Gladstone Region is one of Australia’s best locations for the production and export of green hydrogen, with abundant renewable energy sources, a well-developed and sizable port, and its position at an advantageous distance from Japan. It is also an industrial cluster region designated as a hydrogen hub by the Australian Government. Global competition for CO_2-free hydrogen sources and their export ports is intensifying in the context of efforts to achieve carbon-neutrality, and it is now imperative that Japan secure cost competitive renewable energy and import sources from the perspective of its energy security.

Queensland is also a region with great potential in the renewable energy domain, with over 300 days of sunshine a year and good wind conditions. In 2022, the Queensland Government announced plans to establish 25 GW of renewable energy capacity by 2035, an undertaking which will expand the renewable energy sources as well as the transmission and distribution networks that are essential for green hydrogen production. Stanwell will also play an important role in achieving this goal, both in replacing existing power sources with renewable energy and in promoting activities to ensure a stable supply of the renewable energy required for CQ-H2.

Marubeni, Iwatani, Kansai Electric Power and Stanwell have been conducting a feasibility study for large-scale green liquefied hydrogen production and export to Japan since 2021. Based on the results of this study, the five companies, including Keppel (a new potential green hydrogen off-taker), have now agreed to proceed with a FEED to conduct a full-scale study for a final investment decision.

The total expected FEED cost is AUD 117 million (approximately JPY 10.53 billion[*2]), and it will receive AUD 20 million (approximately JPY 1.80 billion[*2]) of funding support from ARENA.

[*2]Exchange rate of AUD 1 = JPY 90

CQ-H2 aims to produce and supply green hydrogen on a long-term, stable, and low-cost basis, targeting an initial capacity of 200t/day (equivalent to approximately 70,000t/year) by around 2028 and 800t/day (equivalent to approximately 260,000t/year) by around 2031.

The project will include the development of hydrogen liquefaction and storage facilities, and commence the phased production and supply of liquefied hydrogen from around 2030. Regarding off-take, Kansai Electric Power plans to investigate the use of hydrogen at its thermal power station in the Himeji area and supply to consumers in the surrounding area.

It is also planned to supply a part of the green hydrogen to an ammonia production facility under consideration by Keppel and Australian chemical manufacturer Incitec Pivot Limited from around 2028. Keppel will also consider supplying green ammonia to its own new hydrogen co-firing power plant under construction in Singapore, as well as to other Australian customers. The scale of production will be increased in stages according to the requirements of off-takers Kansai Electric Power and Keppel.

The green hydrogen production plant will utilize land secured by Stanwell in the Aldoga area of the Gladstone Region (approximately 235 hectares), while the hydrogen liquefaction and loading plant will also utilize land secured by Stanwell in Fisherman's Landing at the Port of Gladstone (approximately 50 hectares). These two sites will be connected by a hydrogen gas pipeline approximately 25 km long.

The FEED will encompass both the implementation of the various designs and detailed cost studies required for the final investment decision, alongside preparation of the various contracts required for commercialization; acquisition of the necessary permits and approvals for construction and development; and finalization of the financing schemes.

Through the activities of CQ-H2, these five companies will become the first mover to establish a large-scale hydrogen and ammonia supply chain championed and supported by the Japanese, Australian, and Singaporean governments and thereby contribute to the realization of a zero-carbon society.

Related Press Release

・Marubeni, Iwatani, Kansai Electric Power

Implementation of a Japan-Australia Project Feasibility Study for the Creation of a Large-Scale Green Liquefied Hydrogen Supply Chain - Six Japanese and Australian companies sign a memorandum of understanding -

https://www.marubeni.com/en/news/2021/release/202109152E.pdf

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