

24 December 2021

Kobe City

Kobe-Osaka International Port Corporation

Marubeni Corporation

Iwatani Corporation

Commencement of Research on a Hydrogen Utilization Model
Toward Carbon Neutrality in the Port of Kobe

Kobe City (Mayor, Kizo Hisamoto), Kobe-Osaka International Port Corporation (President, Kenji Hokazono; hereinafter, "Hanshin Port"), Marubeni Corporation (President and CEO, Masumi Kakinoki; hereinafter, "Marubeni") and Iwatani Corporation (President, Hiroshi Majima; hereinafter, "Iwatani") are pleased to announce the entrustment of research on the Hydrogen Utilization Model Toward Carbon Neutrality in the Port of Kobe (hereinafter, "Study"), under the framework of "Hydrogen Society Construction Technology Development/Regional Hydrogen Utilization Technology Development", by the New Energy and Industrial Technology Development Organization (hereinafter, "NEDO").

The port is the hub of an international supply chain, with 99.6% of all import and export cargo for the region passing through, while the coastal areas including the port (hereinafter, "Port Area") are a major energy consumption point. The Port Area accounts for 60% of carbon dioxide emissions. In order to achieve a decarbonized society, it is essential to move toward carbon neutrality in the Port Area and it is important to show the pathway to realization.

The Port of Kobe Carbon-Neutral Port (CNP) Study Group, whose secretariats are the Kinki Regional Development Bureau of the Ministry of Land, Infrastructure, Transport and Tourism and the Port and Harbor Bureau of the Kobe City Government, met to study and estimate carbon dioxide emissions and reduction potential, hydrogen demand potential, and utilization of hydrogen in the Port of Kobe.

The Kobe/Kansai Hydrogen Utilization Council (hereinafter, the "Council") in which Marubeni, Iwatani and Deloitte Tohmatsum Consulting LLC participate and serve as the secretariat, has also been discussing the potential hydrogen demand for carbon neutrality at the Port of Kobe based on the assumption that hydrogen will be imported from overseas around 2030.

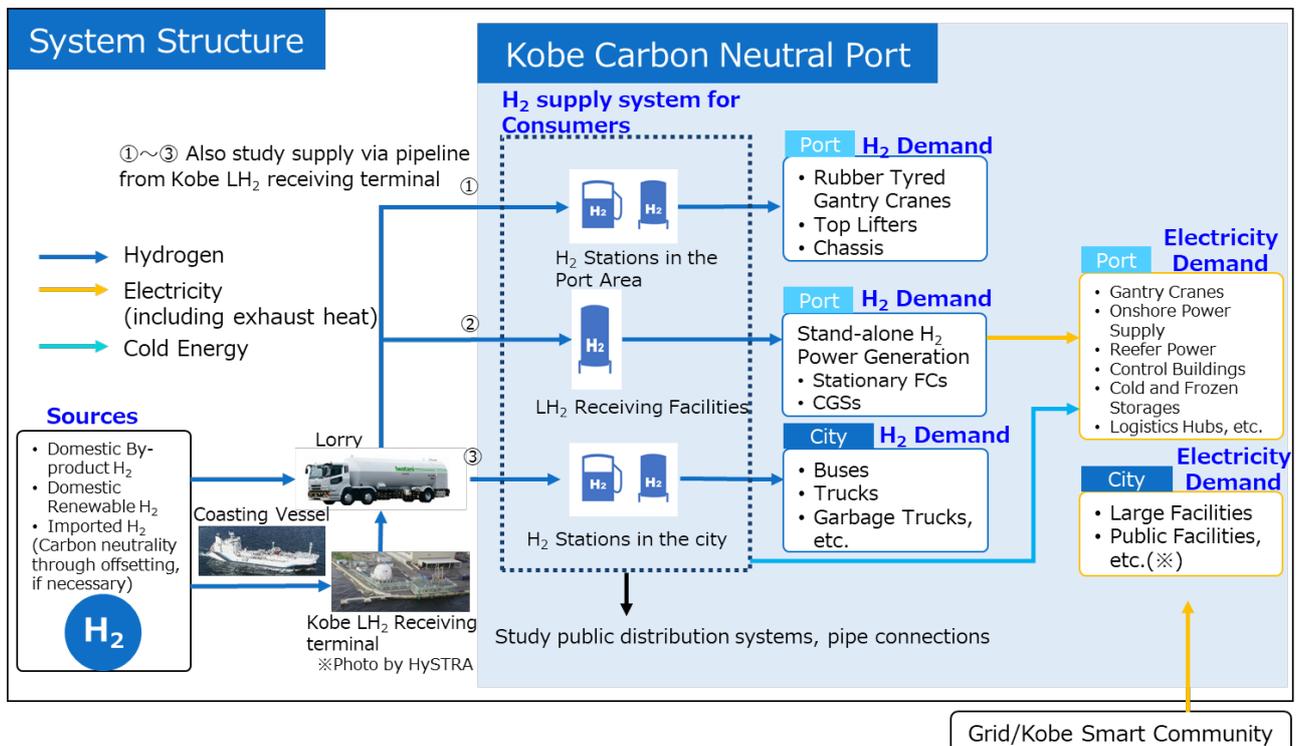
The Study on assessing the hydrogen demand for cargo handling machinery and mobility in the Port of Kobe and adjacent urban areas will be led by Kobe City, which has a proven track record of hydrogen utilization and energy demand research, and Hanshin Port, which manages and operates the container terminal at the Port of Kobe and Osaka. As for electricity demand, the potential hydrogen demand for stand-alone hydrogen power generation will be estimated after evaluating the hydrogen utilization for port carbon neutrality. Iwatani, the most experienced liquefied hydrogen supplier in Japan, will lead the Study

on hydrogen supply systems (including hydrogen supply sources, transport and storage methods, and costs) to meet the above demand. And Marubeni with its experience in establishing fossil fuel energy supply chains and the study of hydrogen supply chains, will lead the Study on business models for hydrogen utilization and the economics of carbon neutrality at the Port of Kobe.

The study will also be conducted with the support and cooperation of the Port of Kobe CNP Study Group, the Council and each of the participant companies to move toward future demonstration and implementation. The Study report will be finalized by March 2023.

Through the Study, Kobe City, Hanshin Port, Marubeni and Iwatani will contribute to the realization of carbon neutrality at the port area.

■ Flowchart for the Study



※The Study focuses on electric heat from stationary FCs.