



October 23, 2020

Signing of Memorandum of Understanding with SEDC Energy Sdn Bhd and Sumitomo Corporation to Consider Collaboration on Hydrogen Project

ENEOS Corporation (President: Ota Katsuyuki; “ENEOS”), announces that it has signed a Memorandum Of Understanding (“MOU”) with SEDC Energy Sdn Bhd (“SEDC Energy”) and Sumitomo Corporation (“Sumitomo”) to consider collaboration for the establishment of a CO₂-free hydrogen supply chain using renewable energy, and will commence a feasibility study (FS) in January 2021.

The CO₂-free hydrogen supply chain under consideration involves production of several tens of thousands of tons of CO₂-free hydrogen using renewable-energy-derived electric power generated at hydroelectric power stations in Sarawak, Malaysia, conversion of the hydrogen into methylcyclohexane* (MCH), which is an efficient means for hydrogen transport, and marine transport to markets outside Malaysia using chemical tankers. ENEOS is in charge of the process from MCH production to marine transport, and will carry out engineering studies for equipment specifications in accordance with the size of the Japanese market. Sumitomo will conduct a feasibility assessment of the process from hydroelectric power generation to hydrogen production, and SEDC energy will provide overall support, including location selection and site surveys.

Sarawak has abundant hydropower resources. Hydroelectric power stations there currently operate at a total capacity of 3.5 GW, with plans for an additional 1.3 GW by 2025. As hydroelectric power output is relatively stable, surplus power can be utilized for water electrolysis, enabling stable, low-cost production of CO₂-free hydrogen. In addition, Bintulu, the planned site for the project, has a large petrochemical industry whose existing facilities and infrastructure, including tanks, loading equipment, port and berths, can be utilized for MCH export.

Based on the results of this collaboration, ENEOS will consider the creation of other projects directly linked to the social implementation of hydrogen. Specifically, we will assess the feasibility of using the dehydrogenated CO₂-free hydrogen transported to Japan in our refineries and nearby thermal power plants, as well as supply to Asian nations such as Malaysia and Singapore.

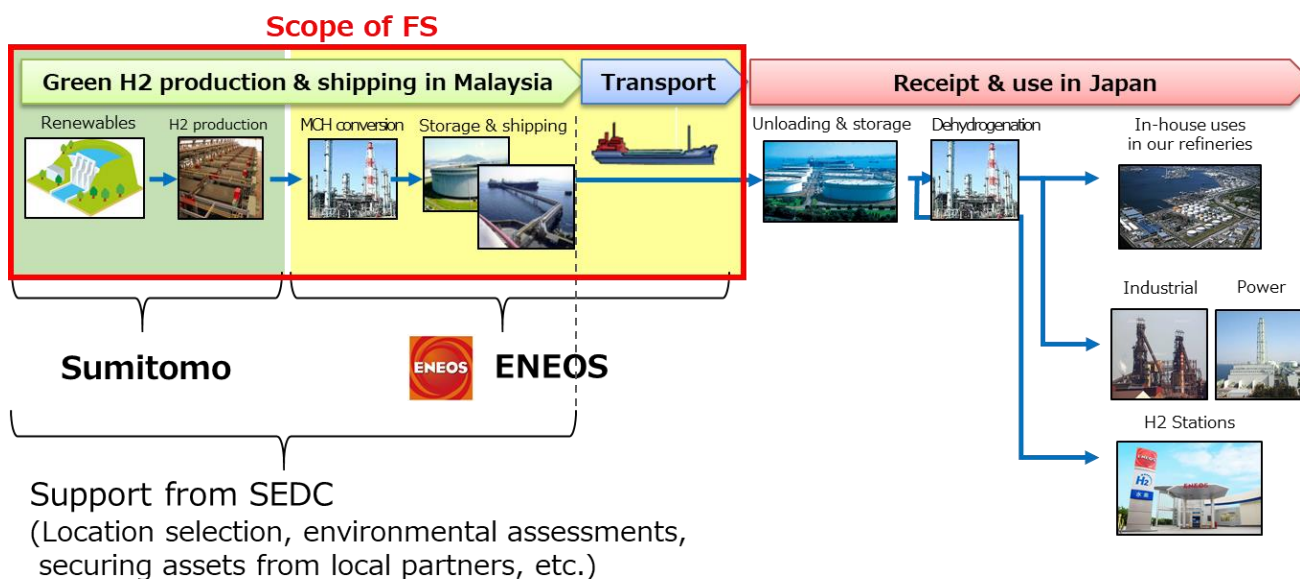
By working toward the establishment of a CO₂-free hydrogen supply chain with a view toward mass consumption of hydrogen in the society of the future, ENEOS will contribute to the development of a low-carbon society that uses hydrogen energy.

* A liquid under normal temperature and pressure with a volume 1/500 of hydrogen gas. One feature is ease of handling, including storage and transport.

Overview of SEDC Energy

Name	Sarawak Economic Development Company Energy Sdn Bhd (SESB)
Established	1972
Representatives	Robert Hardin, CEO Haji Abdul Hadi Bin Haji Abdul Kadir, Director
Location	Kuching, Sarawak, Malaysia Kuching: capital of Sarawak
Business	A wholly owned subsidiary of Sarawak Economic Development Company (SEDC). Manages energy businesses including downstream petroleum and gas businesses.

Scope of CO2-free hydrogen supply chain for this FS



Hydropowers in Sarawak



Bakun Hydroelectric Power Station Dam