



September 16, 2021

ENEOS Begins Joint Study with Fortescue for Development of a Japan-Australia CO₂-free Hydrogen Supply Chain in Western Australia

ENEOS Corporation (President: Ota Katsuyuki; “ENEOS” hereinafter) announces that it has concluded a memorandum with Fortescue Future Industries Pty Ltd (“FFI” Ltd hereinafter) to conduct a study on a potential business collaboration for the development of a CO₂-free hydrogen supply chain between Japan and Australia.

In anticipation of a hydrogen-oriented society toward decarbonization, ENEOS is striving to develop a CO₂-free hydrogen supply chain in Japan and overseas. Outside Japan, the wide range of alliances in Australia, Middle East and Asia are being utilized to implement verification for the realization of a large-scale supply of cost-competitive hydrogen.

As a part of these initiatives, ENEOS plans to conduct a study for collaboration with a local company in Australia to develop a stable supply chain for an affordable CO₂-free hydrogen (green hydrogen) produced from renewable energy. This will be achieved by utilizing Australia's excellent potential for cost-competitive hydrogen production due to its favorable climate conditions, including wind and sunlight, and expansive land.

Western Australia, which covers one-third of the Australian continent, has vast areas of land available for large-scale development of renewable energy sources such as wind and solar power. For this reason, the state is attracting attention as one of the world's most suitable regions for renewable energy development, with the potential to realize the most cost-competitive power supply in the future. In addition, the state government has announced its support for the hydrogen industry as a part of its policies to further grow CO₂-free hydrogen production and export businesses utilizing its abundant renewable energy resources. Accordingly, the state is expected to serve as an export base for CO₂-free hydrogen to Japan.

FFI, a subsidiary of one of the world's largest iron ore producer Fortescue Metals Group Ltd, is actively developing renewable energy and hydrogen business with a number of projects to investigate supply of 100 per cent renewable green hydrogen.

In the study*, the two companies will jointly examine the potential for the stable supply of affordable hydrogen produced from renewable energy in Western Australia. Specifically, FFI will study renewable energy supply and water electrolysis cells for hydrogen production. ENEOS will be responsible for more efficient production of methylcyclohexane (MCH) and maritime transport of MCH as a form of hydrogen storage and transport from Australia to Japan.

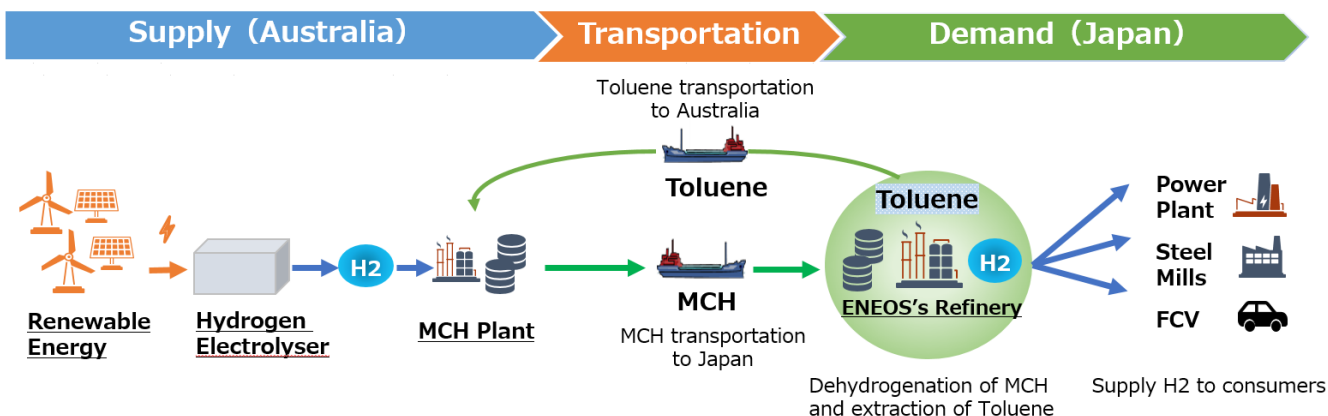
The two companies will actively seek government support, including the Green Innovation Fund in Japan and the hydrogen hub project in Australia, to achieve early development of a CO₂-free hydrogen supply chain between Japan and Australia.

This initiative is consistent with United Nations Sustainable Development Goals (SDGs) 7. Affordable and clean energy, 9. Industry, innovation and infrastructure, and 13. Climate action. ENEOS is contributing to the realization of a low-carbon, recycling-oriented society through the promotion of hydrogen use, including the joint study with Fortescue.

*Overview of the CO₂-free hydrogen supply chain

1. Manufacturing green hydrogen from renewable-energy-derived power through water electrolysis in Australia
2. Conversion of manufactured hydrogen into MCH, a form of efficient hydrogen storage and transport
3. Maritime transport of MCH to Japan by tankers
4. Receipt, storage, and dehydrogenation of MCH at ENEOS refineries and supply of hydrogen for industrial use at nearby thermal power plants, steel refineries, etc.
5. Toluene separated in the dehydrogenation process is returned to Australia for repeat use as a raw material in MCH production.

ENEOS's existing petroleum-related infrastructure, including tankers, storage tanks and dehydrogenation facilities, can be utilized in the CO₂-free hydrogen supply chain, enabling development of a new energy supply system while curbing new investment.



[Reference]

Overview of Fortescue

Official Name	Fortescue Future Industries Pty Ltd
Established	2018
Representative	Julie Shuttleworth, CEO
Head Office	Perth, Western Australia, Australia
Business Profile	A wholly owned subsidiary of Fortescue Metals Group, one of the world's largest producers of iron ore. The company is developing hydrogen and renewable energy projects, and is investing in renewable energy sources and transmission lines in the vicinity of its mines to achieve carbon neutrality by 2030.