

Commencement of Energy Demand Conversion Demonstration Experiment at the Largest P2G System in Japan in Preparation for the Introduction of Green Hydrogen at Suntory Minami Alps Hakushu Water Plant and Suntory Hakushu Distillery

October 11, 2025

Yamanashi Prefecture

Suntory Holdings Ltd.

Toray Industries, Inc.

Tokyo Electric Power Company Holdings, Inc.

TEPCO Energy Partner, Inc.

Kanadevia Corporation

Siemens Energy K.K.

KAJI TECHNOLOGY CORPORATION

MIURA CO., LTD.

NICHICON CORPORATION

Yamanashi Hydrogen Company, Inc

Yamanashi Prefecture (Prefectural Office: Kofu City, Yamanashi Prefecture; Governor: Kotaro Nagasaki) and 10 companies participating in technological development^{*1} have received a grant from the National Research and Development Agency, New Energy and Industrial Technology Development Organization's (NEDO) Green Innovation Fund to conduct a demonstration experiment pertaining to the "development of energy demand conversion and usage technology at a large-scale P2G*2 system for achieving carbon neutrality" in order to decarbonize Suntory Holdings Ltd.'s two facilities in the area, Suntory Minami Alps Hakushu Water Plant (Hokuto City, Yamanashi Prefecture (hereafter referred to as, "the water plant")) and Suntory Hakushu Distillery (Hokuto City, Yamanashi Prefecture (hereafter referred to as, "the distillery")). Accordingly, the production of green hydrogen and its use at the water plant began today.

With a capacity of 16 MW, the green hydrogen production facilities installed are among the largest in Japan and if operated 24 hours a day for 365 days a year, could produce 2,200 tons of hydrogen annually, thereby enabling a CO2 emission reduction of 16,000 tons.

In terms of usage, highly-efficient low-NOx hydrogen boilers have been developed and the demonstration experiment on how part of the heat energy used at the water plant can be converted from fossil fuels (natural gas) to hydrogen will be implemented. We will decarbonize the water plant and distillery while also promoting the increased utilization of hydrogen in the region.

From now until the end of 2026, we will demonstrate how this system procures power from renewable energies to produce green hydrogen that is in turn used for steam production. In conjunction

with the introduction of large volumes of renewable energy in the future, we will also aim to deploy the aforementioned system to various regions and locations.

Furthermore, we have officially named the location of this demonstration project the “Green Hydrogen Park – Hakushu –” with the installation of this system in Hakushu, Hokuto City, which has a lush natural environment and with the hope that it will gain widespread popularity and become a hub for providing green hydrogen in the future.

Yamanashi Prefecture and the 10 companies participating in technological development will continue to work closely together to achieve a carbon neutral society and develop green hydrogen production technology that utilizes PEM water electrolysis systems while also proactively enlarging demand for hydrogen energy.

*1: Toray Industries, Inc. (Head Office: Chuo-ku, Tokyo; President: Mitsuo Ooya), Tokyo Electric Power Company Holdings, Inc. (Head Office: Chiyoda-ku, Tokyo; President: Tomoaki Kobayakawa) and TEPCO Energy Partner, Inc. (Head Office: Chuo-ku, Tokyo; President: Momoko Nagasaki), Kanadevia Corporation (Head Office: Osaka City, Osaka Prefecture; President: Michi Kuwahara), Siemens Energy K.K. (Head Office: Shinagawa-ku, Tokyo; Managing Director: Russell Cato), KAJI TECHNOLOGY CORPORATION (Head Office: Sakai City, Osaka Prefecture; President & CEO: Katsunori Matsuoka), MIURA CO., LTD. (Tokyo Head Office: Minato-ku, Tokyo; President, CEO & CTO: Tsuyoshi Yoneda), Suntory Holdings, Ltd. (Head Office: Kita-ku, Osaka City, Osaka Prefecture; President & CEO: Nobuhiro Torii), NICHICON CORPORATION (Head Office: Kyoto City, Kyoto Prefecture; President: Katsuhiko Mori), and Yamanashi Hydrogen Company, Inc. (YHC) (Head Office: Kofu City, Yamanashi Prefecture; President: Hiroki Nakazawa)

*2: Power to Gas. Refers to technology that leverages power originating from renewable energies to produce hydrogen through water electrolysis

<Attachment>

Overview of P2G System at Suntory Minami Alps Hakushu Water Plant and Suntory Hakushu Distillery



Demonstration beginning on October 11 2025

Large-scale P2G system will be put into operation on land neighboring Suntory Minami Alps Hakushu Water Plant and Suntory Hakushu Distillery situated in the lush natural landscape at the foothills of the Southern Japan Alps



SUNTORY

TEPCO

TORAY
Innovation by Chemistry

Kanadevia
Technology for people and planet

SIEMENS energy

MIURA

KAJI COMPRESSOR

nichicon

YHC
Yamanashi Hydrogen Company, Inc.

Largest green hydrogen production and usage facility in Japan

Hydrogen production volume

2,200t/yr※
(2,500Nm³/h)

※ Maximum facility capacity if operated 24 hours a day, 365 days a year. Will be operated in accordance with demand volume.

CO₂ emission reductions

16,000t/yr

Electrolysis system capacity

16MW

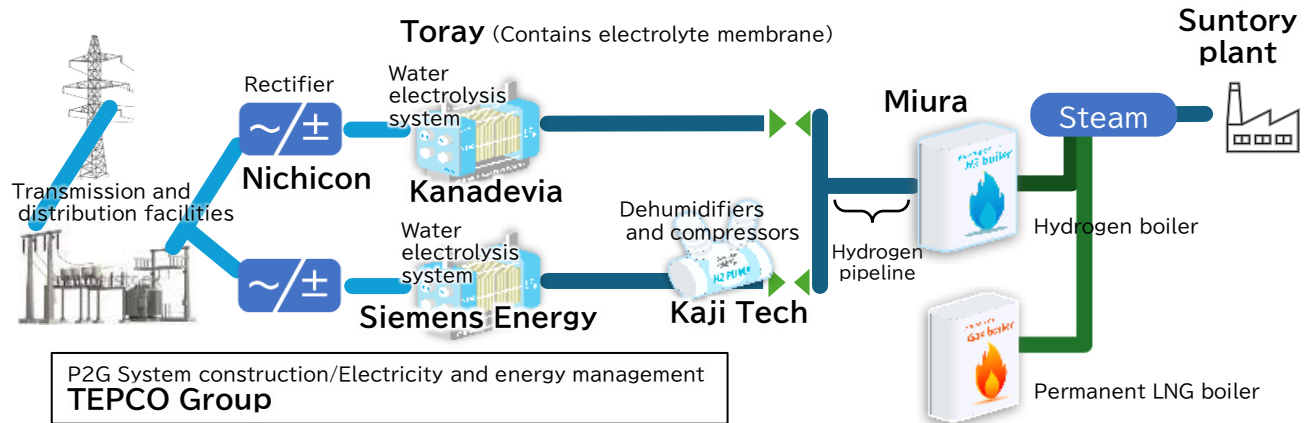
Hydrogen pipeline

Approx. 2km

Site area

3,000m²

Owned by Yamanashi Prefecture



- ✓ Green hydrogen production using Polymer Electrolyte Membrane (PEM) Water Electrolysis
- ✓ Renewable energies in the region centralized and hydrogen utilized at large scale plants
- ✓ Co-development between Yamanashi Prefecture and 10 companies participating in technical development



Toray:
Hydrocarbon polymer electrolyte membrane

High proton conductivity
Low gas permeability

Kaji Tech:
Dehumidifiers and compressors
1,800Nm³/h

Employs hydrogen nonleaking compressor mechanism/Highly efficient dehumidification by a waste heat recovery heat pump

Miura: Hydrogen boiler
2,000kg/h x 3 units

Low-NOx certification designated by Government of Tokyo
Efficiency: 105%
Nox: 40ppm
TDR: 1:5

Kanadevia:
Water electrolysis system
Modular type 6MW

Siemens Energy:
Water electrolysis system
Modular type 10MW

System efficiency: 77%

Nichicon: Rectifier
2,000kW/h x 3 units

High efficiency, high power factor, low harmonics

Suntory:
Decarbonization through the installation of hydrogen

Used during the natural spring water disinfecting process
Hydrogen distillation of whiskey under deliberation