

ENEOS, Toyota, and Woven Planet Collaborate to Facilitate CO₂-free Hydrogen Production and Usage for Woven City and Beyond

An Unprecedented Step Toward Achieving a Carbon-Neutral Society

ENEOS Corporation (ENEOS) and Toyota Motor Corporation (Toyota) have signed a joint agreement to explore CO₂-free hydrogen production and usage at Woven City, the prototype city of the future that Toyota has started to develop in Susono City, Shizuoka Prefecture, Japan. Together with Toyota's subsidiary Woven Planet Holdings, Inc. (Woven Planet), they will accelerate efforts by managing technical logistics.

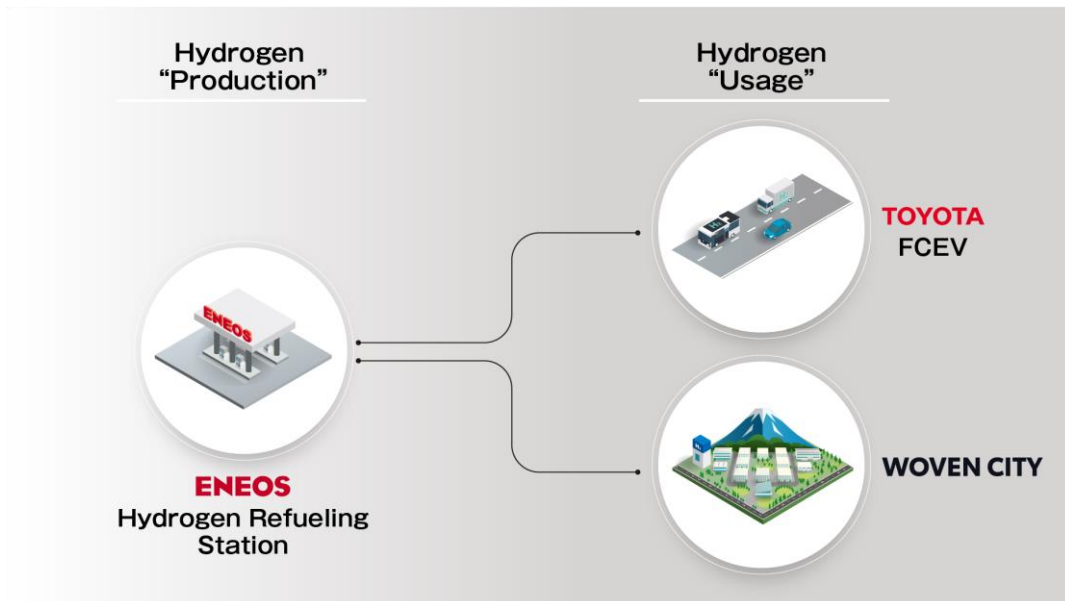
As described in the Basic Agreement signed in 2021, ENEOS and Toyota have decided to commence construction and operation of a hydrogen refueling station in close proximity to Woven City to produce and supply CO₂-free hydrogen to Woven City and Fuel Cell Electric Vehicles (FCEVs) (Item 1 and 2 set forth below). Together, they will also research and design an efficient hydrogen supply and demand management system (Item 3 described below). The ENEOS hydrogen refueling station is scheduled to begin operations before the opening of Woven City in 2024-2025.

<Items to be considered at the time of the Basic Agreement*¹>

- 1) ENEOS to establish and operate a hydrogen refueling station in close proximity to Woven City
- 2) ENEOS to produce "green hydrogen," hydrogen derived from renewable energy, by electrolyzers at the aforementioned station and supply it to Woven City to be used at a stationary fuel cell generator that will be installed within Woven City by Toyota
- 3) Promote the use of hydrogen-powered fuel cell mobility for logistics in and nearby Woven City. Validate a base unit*² of hydrogen demand for those mobility logistics as well as build a supply and demand management system
- 4) Conduct joint advanced research on hydrogen supply at the demonstration hub to be established within Woven City

<Items that have been decided in the joint development agreement this time>

Item 1)	- Construct a hydrogen refueling station adjacent to Woven City (Scheduled to be constructed at 1576-3, Mishuku Aza Hounokidaira, Susono-city, Shizuoka-Pref., Japan)
Item 2)	- Install electrolyzers at the hydrogen refueling station, which will produce CO ₂ -free hydrogen using electricity generated by renewable energy - Supply CO ₂ -free hydrogen to not only various FCEVs from passenger cars to commercial vehicles but also to Woven City using a pipeline - Install a stationary fuel cell generator at the hydrogen refueling station in case of a power outage* ³
Item 3)	- Consider connecting the Community Energy Management System (CEMS) of Woven City with the hydrogen EMS of ENEOS to optimize hydrogen production



The ENEOS hydrogen refueling station will “produce” the hydrogen that will meet the energy needs of “users,” FCEVs in and around Woven City and Woven City as well. This collaboration expedites our progress toward realizing a truly carbon-neutral society and will facilitate and normalize clean energy operations first at Woven City and eventually the world.



Image of the hydrogen station to be built near Woven City

*The design of the hydrogen refueling station and vehicles is for illustrative purposes only and is subject to change.

Woven City is the project of Toyota aiming to create happiness through mobility of "people," "goods," and "information." It is focused on three pillars. That are: Human-Centered City that makes people happier in their everyday lives, considering the needs of different kinds of people before and during the development of technology; Living Laboratory, the first-of-its-kind test track for mobility where researchers, engineers, and scientists demonstrate innovative ideas and future technologies both virtually and in the real world; and Ever-Evolving City, rooted in Toyota’s kaizen (continuous improvement) approach, is focused on new ideas that provide better mobility of information, goods, and people.

*1 Announced on May 10, 2021 [“ENEOS and Toyota Come Together to Make Woven City the Most Hydrogen-Based Society”](#)

*2 Hydrogen can be supplied to FCEVs even during power outages by using stored hydrogen to operate a hydrogen refueling system with a stationary fuel cell generator. This allows the external power supply function of FCEVs to be utilized to provide power support where electricity is needed.

*3 The "base unit" is a standard of measurement required to ensure a result that is both practically valuable to users and commercially viable.

About ENEOS Corporation

Under ENEOS Holdings, Inc., the ENEOS Group has developed businesses in the energy and nonferrous metals segments, from upstream to downstream. The Group's envisioned goals for 2040 are: becoming one of the most prominent and internationally-competitive energy and materials company groups in Asia, creating value by transforming our current business structure, and contributing to the development of a low-carbon, recycling-oriented society with the pursuit of carbon-neutral status in its own CO2 emissions. ENEOS Corporation, one of the principal operating companies in the Group, is contributing to achievement of the Group's envisioned goals through a broad range of energy businesses.

<https://www.hd.eneos.co.jp/english/>

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About Toyota Motor Corporation

Toyota Motor Corporation (Toyota) (NYSE: TM) is the global mobility company that introduced the Prius hybrid-electric car in 1997 and the first mass-produced fuel cell sedan, Mirai, in 2014. Headquartered in Toyota City, Japan, Toyota has been making cars since 1937. Today, Toyota proudly employs 370,000 employees in communities around the world. Together, they build around 10 million vehicles per year in 28 countries and regions, from mainstream cars and premium vehicles to mini-vehicles and commercial trucks, and sell them in more than 170 countries and regions under the brands Toyota, Lexus, Daihatsu and Hino.

For more information, please visit <https://global.toyota/en>

Woven Planet

Woven Planet is building the safest mobility in the world. A subsidiary of Toyota, Woven Planet innovates and invests in new technologies, software, and business models that transform how we live, work and move. With a focus on automated driving, smart cities, robotics and more, Woven Planet builds on Toyota's legacy of trust to deliver secure, connected, reliable, and sustainable mobility solutions for all.

Learn more at woven-planet.global.