

Accelerating hydrogen market development in EU and US

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Abstract

Since 2016, when Paris Agreement was adopted, the interests in reducing greenhouse gas emissions have increased worldwide, and the Ukraine crisis has raised the issue of energy security significantly. For these reasons, expectations for hydrogen are rapidly growing as countries rush to shift to power systems centered on renewable energy.

In 2019, the EU, which is actively tackling climate change issues, announced the "European Green Deal," which will serve as the foundation for its energy and environmental policies, and in July 2020, revealed its hydrogen strategy. The policy package "REPowerEU" to deal with the Ukraine crisis indicated a policy to accelerate the introduction of hydrogen. A feature of the EU's hydrogen strategy is that it puts great importance on green hydrogen. In 2030, the EU plans to produce 10 million tons of green hydrogen within the EU and import 10 million tons from non EU countries. To facilitate hydrogen trading, the EU announced the creation of the European Hydrogen Bank, which will begin trading hydrogen in 2023 using the Carbon Contract for Difference.

The United States enacted the Infrastructure Investment and Jobs Act (IIJA) in November 2021 and the Inflation Reduction Act (IRA) in August 2022 to develop the hydrogen market. IIJA aims to utilize up to \$8 billion to form Regional Clean Hydrogen Hubs and many studies are underway across the US. In addition, it has been decided to grant tax credits of up to \$3/H₂-kg to clean hydrogen production businesses, which is expected to stimulate market formation. A feature of the US hydrogen strategy is to demonstrate the effectiveness of hydrogen in a variety of production methods and applications. In addition to green hydrogen, blue hydrogen with reduced CO₂ emissions through CCS and pink hydrogen produced from nuclear power will be tested.

Hydrogen support policies by the EU and the US are expected to go into full swing in 2023, and 2023 may be the starting year of transition to a hydrogen society. The article try to consider implications for Japanese firms in achieving hydrogen society from the policies of the EU and US.

Note: This document will be opened to the participants on IERE website before the Workshop and opened to the public afterward.