INTERNATIONAL PARTNERSHIP FOR
HYDROGEN AND FUEL CELLS IN THE ECONOMY

IPHE Country Update April 2022: Republic of Korea

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1. New Initiatives, Programs, and Policies on Hydrogen and Fuel Cells

- **"Basic Plan for Implementing the Hydrogen Economy of Korea"** was announced. It revises the Hydrogen Economy Roadmap of 2019 by establishing a comprehensive strategy for the entire life cycle of clean hydrogen production-distribution-utilization. It set forth national targets such as hydrogen supply of 3.9 million tons in 2030 and 27.9 million tons in 2050 (Nov. 2021).
- **Clean Hydrogen Certification System** is to be established by 2024. A research project for certification system design is under way (Nov. 2021).
- Hydrogen Economy Council of Energy Public Enterprises was launched to foster efficient implementation of the Basic Plan. It is joined by KEPCO, KOGAS, KNOC, KEPCO subsidiary power generation companies, etc. (Jan. 2022)
- Public-Private Joint Research Group for Hydrogen and Ammonia Power Generation Demonstration was launched. According to its 2030 NDC target, Korea envisages 3.6% of its power generation should be fuelled by ammonia (Nov. 2021).
- Regulation will be waivered on a demonstration project by Hyundai Glovis and Hyundai Motors for charging and flight test of hydrogen aircraft mobility (Feb. 2022).

2. Hydrogen and Fuel Cell R&D Update

N/A

3. Demonstration, Deployments, and Workforce Developments Update

- Demonstration project for 10MW water electrolysis (Dec. 2022)
- Establishment of a hydrogen charging station using biogas (Mar. 2022)
- Demonstration project for hydrogen forklifts (60 units) (Apr. 2022)

4. Events and Solicitations

- **International Forum on Clean Hydrogen Trade Initiative** will be held in Korea (June 2022).

5. Investments: Government and Collaborative Hydrogen and Fuel Cell Funding

N/A

6. Regulations, Codes & Standards, and Safety Update

- The safety management part of Hydrogen Economy Law[1], began to take effect. It encompasses safety inspection in general and permission/registration system for hydrogen production facilities and fuel cells (Feb. 2022).

[1] Hydrogen Economy Promotion and Hydrogen Safety Management Law (entry into force in Feb. 2021)

Summary Country Update April 2022: Republic of Korea

Transportation	Target Number	Current Status	Partnerships, Strategic Approach	Support Mechanism
Fuel Cell Vehicles[2]	5.26 million (acc. production) in 2050	19,270 as of end of 2021	•	• Subsidy for purchase (national and local government)
FC Bus	-	129 as of end of 2021		• Subsidy for purchase (all) and fuel expenses (public transportation)
H_2 Refueling Stations	**Target Number**	**Current Status**	**Partnerships, Strategic Approach**	**Support Mechanism**
All types	310 in 2030 2,000+ in 2050	170 as of end of 2021	•	• Subsidy for new construction / additional installation (national and local government)
Stationary	**Target Number[3]**	**Current Status**	**Partnerships, Strategic Approach**	**Support Mechanism**
Fuel Cell	-	767MW as of end of 2021		
Ammonia	22.1 TWh (3.6%) in 2030	0		
H_2 Production	**Target[4]**	**Current Status**	**Partnerships, Strategic Approach**	**Support Mechanism**

[2] Includes Fuel Cell Electric Vehicles with Range Extenders
[3] Targets can be units installed and/or total installed capacity in the size range indicated
[4] Target can be by quantity (Nm^3, kg, t) and by percentage of total production; also, reference to efficiency capabilities can be a target

Fossil Fuels[5]	2 million tons (blue) in 2050	0		
Water Electrolysis[6] (PEM, Alkaline, SOEC)	3 million tons (green) in 2050	0		
Energy Storage from Renewables	**Target[7]**	**Current Status**	**Partnership, Strategic Approach**	**Support Mechanism**
Installed Electrolyser Capacity				
Power to Power[8] Capacity				
Power to Gas[9] Capacity				

[5] Hydrogen produced by reforming processes
[6] Please indicate if targets relate to a specific technology (PEM, Alkaline, SOEC)
[7] Can be expressed in MW of Installed Capacity to use the electricity from renewable energy generation, and Annual MWh of stored energy capacity
[8] Operator has an obligation to return the electricity stored through the use of hydrogen back to electricity
[9] Operator has the opportunity to provide the stored energy in the form of hydrogen back to the energy system through multiple channels (e.g., merchant product, enriched natural gas, synthetic methane for transportation, heating, electricity)