



INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

IPHE Country Update December 2020: Republic of Korea

Name	LEE, Ho-Mu
Contact Information	hmlee@keei.re.kr , +82-52-714-2279
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1. New Initiatives, Programs, and Policies on Hydrogen and Fuel Cells

- First Hydrogen Economy Committee Meeting was held on 1 July. The Committee, established under Hydrogen Economy Law, functions as the control tower of hydrogen economy policy in Korea. It set/confirmed various policy measures and targets including fostering 1,000 H₂-specialized companies by 2040, deploying 850,000 FCEV and 660 HRS by 2030, establishing 3 separate agencies for industry promotion, distribution and safety, etc.
- Hydrogen Energy Portfolio Standard (HPS) for fuel cell power generation will be introduced in 2022. Fuel cell generation is currently in Renewable Portfolio Standard (RPS), but the government decided to support it with a new, more suitable policy scheme. Other hydrogen technologies may also be covered by HPS afterwards.
- The government plans to propose a bill of “Hydrogen City Construction and Management” in 2021. The bill is intended for deregulation and financial support for hydrogen-powered city projects. There are 3 hydrogen model cities and 1 hydrogen R&D-oriented city in Korea.
- “Future Mobility Market Strategy” was released jointly by relevant Ministries in October. The strategy sets the ambitious vision on future mobility-centred society and industry eco-system. It encompasses policy tasks such as building future mobility-friendly society, expanding autonomous driving and mobility service, transitioning to future mobility industry eco-system.

2. Hydrogen and Fuel Cell R&D Update

N/A.

3. Demonstration, Deployments, and Workforce Developments Update

- The first fuel cell power plant running on by-product hydrogen, Daesan Green Energy Power Plant, started operation. Doosan Fuel Cell supplied 50MW fuel cell system (114x440kW PAFC), which annually produces 400GWh from 25,000ton of hydrogen (3ton/hr). The by-product hydrogen is collected in Daesan petrochemical complex, one of the 3 major petrochemical complexes in Korea.
- Memorandum of Understanding was signed on 15 October to establish a special purpose company, Kohygen, to expedite expansion of refuelling infrastructure for commercial vehicles such as buses and heavy-duty trucks. US\$300million will be funded (a half from the government) to build 35 refuelling stations.
- RD&D project for green hydrogen production and storage is being carried out with a 3-year budget of US\$12million. The project is composed of 3 parts, namely, 3MW electrolysis system, 600kg hydrogen and 2MWh battery storage, and hydrogen utilization facilities (e.g. refuelling stations).



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4. Events and Solicitations

N/A.

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

- The government of Korea funds 30 billion KRW (US\$27million) for construction of the production facilities of hydrogen for vehicles in 6 cities nationwide.
- “Hydrogen Economy and e-New Industry Start-up Fund” launched. Its size is expected to be 34 billion KRW (US\$31million) or larger and KEPCO, a monopolistic power company and public enterprise, will provide it with 28.9 billion KRW (US\$26.1million). The fund itself is subordinate to “New Energy Industry Fund”, whose size will amount to 505 billion KRW (US\$456million).

6. Regulations, Codes & Standards, and Safety Update

- Hydrogen safety decrees and enforcement regulations are being prepared, which are necessary for safety-related articles of “Hydrogen Economy Law” to take effect.
- Special exemption provisions are expanded to cover all the hydrogen refuelling stations (HRSs) that share their sites with other types of refuelling stations (gasoline, liquefied petroleum gas, natural gas, etc.) as “integrated hydrogen refuelling stations”. So far, only HRSs attached to existing refuelling stations have been exempted from some safety regulations, which would otherwise cause additional capital expenditure. HRSs with other types of refuelling stations later attached to it will benefit from this deregulation.



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Transportation	Target Number	Current Status (October 2020)
Fuel Cell Vehicles ¹	2,900,000 (excl. export) by 2040	10,041
FC Bus	40,000 (excl. export) by 2040	27
H2 Station	1,200 by 2040	52

¹ Includes Fuel Cell Electric Vehicles with Range Extenders