



Developments in the Korean Hydrogen Industry

2022.11.16

In 2023, the Hydrogen Business Act is likely to be passed. This Act is to provide a comprehensive framework for the hydrogen business operators at each stage of supply and demand, distribution and transportation. The Government has also announced that it will launch the hydrogen power generation bidding market in the first half of 2023.

On November 9, 2022, the 5th Hydrogen Economy Committee held a meeting in accordance with the Hydrogen Economy Promotion and Hydrogen Safety Management Act. The Committee set three policy directions.

1. Key takeaways

The three policy directions are:

- (a) increase scale and scope of the hydrogen industry;
- (b) build up infrastructure and systems; and
- (c) take the industry and relevant technology to the next level.

2. Details

| Sector | Policy direction | Details |
|---------------------|--|---|
| Scale – Up industry | | |
| Transport | Expansion of commercial vehicles such as hydrogen bus trucks | <ul style="list-style-type: none">• Expansion of subsidies for hydrogen buses and trucks• A pilot project to support production of hydrogen buses and charging stations for local governments• Hydrogen bus acquisition tax reduction, road toll reduction, exemption, etc. |
| Power generation | Expansion of fuel conversion and | <ul style="list-style-type: none">• Increase combined power generation through 50% hydrogen and at least 20% ammonia |

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| | dispersed hydrogen power generation | <ul style="list-style-type: none"> • Expansion of fuel cell supply through energy super stations • Promoting the diversification of dispersed resources by developing small hydrogen turbines and hydrogen engines |
| Production | Establish domestic and foreign clean hydrogen production bases | <ul style="list-style-type: none"> • Expansion of domestic green hydrogen production, securing domestic blue hydrogen production base • Clean hydrogen production overseas through public-private partnership |
| Build-Up infrastructure / systems | | |
| Distribution | Liquefied mass storage and transportation | <ul style="list-style-type: none"> • Construct world 's largest liquefied hydrogen plant (capacity: 40,000 tons per year) • Expand hydrogen charging stations through subsidies and supporting technology development |
| Supply | Ammonia · Liquefied Hydrogen Receiving Base, Establishment of exclusive piping network | <ul style="list-style-type: none"> • By 2030, build a 4 million ton-class ammonia terminal in an area with a high concentration of coal power plants, and a 100,000-ton-class liquefied hydrogen terminal in an area with a high concentration of LNG power plants and a dedicated pipeline network by 2030 |
| Policy | Clean hydrogen certification system | <ul style="list-style-type: none"> • Preparation of clean hydrogen standards and certification system operation plans by 2023 • K-clean hydrogen certification system by 2024 |
| Take to next level | | |
| Technology | Securing core technology for entire hydrogen cycle | <ul style="list-style-type: none"> • Secure technological advanced competency * 7 major strategic areas: (i) water, (ii) liquid hydrogen carrier, (iii) trailer, (iv) charging stations, (v) fuel cell (mobility), (vi) fuel cell (power generation), and (vii) hydrogen turbine |
| Ecosystem | Hydrogen specialists | <ul style="list-style-type: none"> • Fostering 600 hydrogen-specialized companies by 2030 • Expansion of the hydrogen industry throughout Korea by fostering hydrogen experts and establishing an institution specializing in technical support • Address inapt regulations, and provide the industry guidance through a regulatory map |
| Export | Full-scale export | <ul style="list-style-type: none"> • Secure global competitiveness by supporting the commercialization of exports by focussing on (i) hydrogen mobility, (ii) fuel cell power generation, (iii) water electrolysis systems, (iv) liquid hydrogen carriers, and (v) hydrogen refueling stations • Expansion of hydrogen mobility with buses, trucks, trams, ships, etc. and K-defense such as military trucks and armored vehicles • High-efficiency and high-durability fuel cell models for power generation and expansion into emerging markets |

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