



INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

IPHE Country Update September 2023: China

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

(1) National Level

On July 14th, the National Development and Reform Commission (NDRC) issued a notice on the public consultation of "the Guidance Catalogue for Industrial Structure Adjustment (2023 edition, draft for comments)". The following hydrogen technologies were categorized as encouragement.

- Efficient and economic hydrogen production, hydrogen transport and high-density hydrogen storage technology development, application and equipment manufacturing.
- Hydrogen refueling station and refueling station with automotive clean alternative fuel.
- New generation of hydrogen fuel cell technology R&D and application.
- Hydrogen production by renewable energy.
- Liquid, solid and gaseous hydrogen storage, pipeline trailer for hydrogen transport, pipeline hydrogen delivery, hydrogen refueling station.
- hydrogen-electricity coupling.

https://www.gov.cn/lianbo/bumen/202307/content_6893707.htm

On August 8th, the National Standardization Administration, the National Development and Reform Commission, the Ministry of Industry and Information Technology, the Ministry of Ecology and Environment, the Ministry of Emergency Management, and the National Energy Administration jointly issued the "Guidelines for the Construction of the Hydrogen Energy Industry Standard System (2023 Edition)". The "Guidelines" clarifies the key tasks of domestic and international hydrogen energy standardization work in the next three years, deploys "two major actions" including core standard development action and international standardization improvement action, and proposes relevant measures for organizational implementation.

https://www.gov.cn/zhengce/zhengceku/202308/content_6897986.htm

(2) Local Level

On September 21st, the "Regulations on the Promotion of New Energy Development in Hebei Province" was passed at the 5th meeting of the Standing Committee of the 14th People's Congress of Hebei Province and will come into effect on November 1, 2023.

Article 27 [Hydrogen Energy]

People's governments at or above the county level and their relevant departments shall: Encourage the development of new energy electrolysis for hydrogen production, promote innovation in key core technologies for hydrogen production, and promote the large-scale development of the green hydrogen industry.



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Establish and improve a standard system for green hydrogen storage and transportation, scientifically plan multi-phase hydrogen energy storage and transportation channels, and form a diversified storage and transportation pattern.

Strengthen the management of the entire hydrogen energy industry chain, promote the research and development of hydrogen equipment, optimize the layout of hydrogenation infrastructure, and expand the demonstration application of hydrogen energy in fields such as transportation, distributed heating, green steel, and green chemical engineering.

https://hebei.hebnews.cn/2023-09/22/content_9073199.htm

On July 19th, Shanghai Municipal Transportation Commission, Municipal Development and Reform Commission and Municipal Economic and Information Technology Commission issued the "Shanghai Programme for the Promotion and Application of Hydrogen Energy in the Field of Transportation (2023-2025)".

The program proposes to focus on the objectives of the implementation plan for the demonstration and application of fuel cell vehicles in the Shanghai urban agglomeration, and actively promote the commercial demonstration and application of fuel cell vehicles in the field of transportation, focusing on the development of application scenarios such as heavy-duty trucks, buses, cold chains, and non-road mobile machinery, and strive to achieve the total number of demonstration and application of fuel cell vehicles of more than 10,000 vehicles by 2025.

<https://jtw.sh.gov.cn/zxfxx/20230719/607f7e7be6e34960b05fabb712edd7c8.html>

2. Hydrogen and Fuel Cell R&D Update

On July 27th, the National Energy Administration issued a notice on the publicity of the first major technical equipment (projects) in the third batch of energy fields, of which 9 hydrogen energy technology equipment were selected.

- (1) Megawatt level pure hydrogen gas turbine
- (2) Megawatt level proton exchange membrane hydrogen production and power generation system
- (3) Megawatt level electrolytic water hydrogen production cell using autonomous high-performance proton conduction membrane
- (4) High current density PEM electrolytic cell based on low Iridium anode at 100 kW level
- (5) Domestic 2 tons/day helium expansion refrigeration hydrogen liquefaction system
- (6) 70MPa hydrogen refueling station high flow diaphragm compressor
- (7) 200kW level solid oxide fuel cell power generation system
- (8) 10kW level "ammonia hydrogen" fuel cell distributed power generation system
- (9) Integrated mobile hydrogen quality analyzer for fuel cells

3. Demonstration, Deployments, and Workforce Developments Update

The data released by China Association of Automobile Manufacturers (CAAM) show that in the first half year of 2023 (from January to June), the cumulative production of fuel cell vehicles was about 2,000 units, up 38.4% year-on-year, and the cumulative sales of 2,000 units, up 73.5% year-on-year.



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The 31st Summer Universiade was held in Chengdu from July 28th to August 8th. During the Universiade, 80 hydrogen fuel cell buses coated with "panda" elements and 9 hydrogen cold chain logistics vehicles were operated during the universiade.

The 19th Asian Games is held in Hangzhou City (together with Ningbo, Shaoxing, Huzhou, Jinhua and Wenzhou City), Zhejiang Province, from September 23rd to October 8th. During the Games, Wenzhou City temporarily adds 2 hydrogen energy dedicated lines and invested 10 hydrogen fuel cell buses, which is also the first batch of hydrogen fuel cell buses in Wenzhou. Citizens can take the hydrogen energy special line to reach the three major Asian Games venues in Wenzhou.

On April 18th, the delivery ceremony of 100 49 tons hydrogen energy heavy-duty trucks was held in Handan, Hebei Province. This project is the largest demonstration application of hydrogen energy heavy-duty transportation in Hebei Province to date.

On July 3, "The Hydrogen Vehicle Travel - Foshan Nanhai Fuel Cell Passenger Vehicle Demonstration and Promotion" Project was launched in Danzao Town. The fuel cell passenger vehicles participating in the launch ceremony of the Nanhai "Hydrogen Vehicle Travel" Project included 9 SAIC Maxus fuel cell commercial vehicles and 85 Toyota second generation MIRAI fuel cell passenger vehicles.

On August 13th, the 2023 Lijiang Hydrogen Bicycle Launch Ceremony and Public Welfare Cycling Activity of "Hydrogen Walking Lijiang Hydrogen Approaching Nature" was grandly held at Yuhe Square, Dayan Ancient City, Lijiang, Yunnan Province. The first batch of hydrogen bicycles was totally 500.

4. Events and Solicitations

Nothing to report.

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

(1) National Level

On August 17th, the Ministry of Industry and Information Technology released a public notice on the first trial of the liquidation and review of the subsidy funds for the promotion and application of new energy vehicles in 2022 and previous years, with a total of three vehicle companies making subsidy declarations for the promotion and application of 159 fuel-cell vehicles, of which 132 passed the expert review, and the total amount of subsidy was 52.8 million yuan.

(2) Local Level

On April 25th, the Shanghai Economic and Information Technology Commission, in conjunction with the Shanghai Finance Bureau, the Shanghai Development and Reform Commission, the Shanghai Transportation Commission, the Shanghai Housing and Urban Rural Construction Management Commission, and the Shanghai Science and Technology Commission, issued a notice on the issuance of the "Implementation Rules for the Special Fund for the Demonstration and Application of Fuel Electric Pool Vehicles in Shanghai". The detailed rules propose:



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(1) Vehicle demonstration application. Fuel cell vehicles that meet the requirements of national and municipal demonstration applications, and have obtained national comprehensive evaluation reward points, will be rewarded at a rate of 200,000 yuan per 1 point in this city. The central reward fund and municipal reward fund will be allocated 150,000 yuan in proportion, and the district where the fuel cell system production enterprise locates will be allocated 50,000 yuan.

(2) Vehicle operation. Each truck with a total design mass of 12-31 tons (including) is rewarded with 5000 yuan per year. Heavy truck with a total design mass exceeding 31 tons is rewarded with 20,000 yuan per year, and commuter bus is rewarded with 10,000 yuan per year. The reward funds are arranged in a 1:1 ratio between the municipal reward funds and the area where the vehicle operating enterprise is located.

(3) Layout and construction of hydrogen refueling stations for fuel cell vehicles. For those who obtain a gas business license (under the category of "fuel cell vehicle hydrogen refueling stations") and a gas supply station license (under the category of "fuel cell vehicle hydrogen refueling stations") before the end of 2022, 2023, and 2024-2025, the maximum supporting funds for each hydrogen refueling station shall not exceed 5 million yuan, 4 million yuan, and 3 million yuan, respectively.

(4) Operation of fuel cell vehicle refueling stations. For hydrogen refueling stations that have obtained gas business licenses (under the category of "fuel cell vehicle hydrogen refueling stations") and gas supply station licenses (under the category of "fuel cell vehicle hydrogen refueling station stations"), if the retail price of hydrogen does not exceed 35 yuan/kg, support will be given to the operating entities of hydrogen refueling stations based on the actual annual hydrogen sales volume. Among them, the support standard for 2021 is 20 yuan/kg, the support standard for 2022-2023 is 15 yuan/kg, and the support standard for 2024-2025 is 10 yuan/kg.

The detailed rules were implemented from April 25th, 2023, and will be valid until December 31st, 2025.

On September 14th, the Sichuan Provincial Department of Economy and Information Technology released a public notice on the list of cities (prefectures) that have passed the evaluation of hydrogen fuel cell vehicle demonstration awards. According to the announcement, a total of 132 hydrogen fuel cell logistics vehicles, 30 fuel cell buses, and 2 hydrogen refueling stations were subsidized this time, distributed in Chengdu, Panzhihua, Ya'an, and Deyang City.

6. Regulations, Codes & Standards, and Safety Update

Provide an update on any national or regional developments related to Regulations, Codes & Standards.

On May 23, the national standard "Fully-wrapped carbon fiber reinforced cylinders with a plastic liner for the on-board storage of compressed hydrogen as a fuel for land vehicles" was published. The implementation date is June 1, 2024.