INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

IPHE Country Update Jun 2025 – Nov 2025:

China

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

On Jun 27, the People's Bank of China, the National Financial Regulatory Administration, and the China Securities Regulatory Commission issued "**the Catalogue of Green Finance Support Projects (2025 Edition)**". The document involves the field of hydrogen energy, mainly including 26 industry categories in 3 areas: manufacturing of full chain equipment for hydrogen energy "production, storage, transportation, use", construction and operation of hydrogen energy infrastructure, and trade of full chain equipment for hydrogen energy "production, storage, transportation and use".

On Sep 12, the Ministry of Industry and Information Technology, the Ministry of Public Security, the Ministry of Finance, the Ministry of Transport, the Ministry of Commerce, the General Administration of Customs, and the State Administration for Market Regulation jointly issued "**Work Plan for Stable Growth in the Automotive Industry (2025-2026)**". The document stated: actively carry out demonstration applications of **fuel cell vehicles** and promote the large-scale application of medium and heavy-duty fuel cell commercial vehicles; orderly promote the construction of **hydrogen energy infrastructure**.

On Sep 15, the National Energy Administration, the Ministry of Industry and Information Technology, the State-owned Assets Supervision and Administration Commission of the State Council, and the State Administration for Market Regulation jointly issued the **"Guiding Opinions on Promoting High Quality Development of Energy Equipment"**. For **Hydrogen powered equipment**, the document stated: accelerate the breakthrough of electrolytic water hydrogen production equipment with high reliability, long lifespan, high efficiency, and adaptability to fluctuating power inputs, develop large-scale off grid hydrogen production technology, and promote the on-site consumption and utilization of renewable energy electricity; develop large-diameter anti hydrogen embrittlement high-grade pipeline materials, high-performance carbon fiber materials, and new composite materials, strengthen solid, liquid, deep cold high-pressure composite, organic liquid and other storage and transportation technologies, and tackle hydrogen long-distance pipeline connection technology, develop high-pressure tube bundle containers, high-pressure large displacement hydrogen compressors, low-energy hydrogen liquefaction expanders and other storage and transportation equipment, and promote the construction of a multi-dimensional equipment system for high-pressure gas, low-temperature liquid, and solid-state hydrogen storage coordination; research and develop high-temperature sealing and high-temperature anti hydrogen embrittlement materials, overcome key technologies

such as long-term hydrogen energy storage and hydrogen electricity synergy, break through key equipment such as hydrogen rich vertical furnaces, hydrogen doped/pure hydrogen gas turbines, and high-power, high stability fuel cells, strengthen key technology breakthroughs such as carbon dioxide hydrogenation to methanol, ammonia combustion, high-efficiency catalysts, flexible synthesis, and develop low-energy, short process synthesis of methanol, synthetic ammonia, and biomass gasification complete sets of equipment, supporting the diversified application of hydrogen based fuels in industries, electricity, transportation, and other fields.

On Sep 22, the Ministry of Industry and Information Technology, the Ministry of Natural Resources, the Ministry of Ecology and Environment, the Ministry of Commerce, and the State Administration for Market Regulation jointly issued "**Work Plan for Stable Growth in the Steel Industry (2025-2026)**". The document stated: provide differentiated reduction and replacement ratio support for the development of low-carbon ironmaking processes such as electric furnace steel and hydrogen metallurgy, as well as mergers and acquisitions, high-end special steel and other projects that are in line with the direction of industrial development, to promote industrial reduction and transformation and upgrading; implement the "Guidelines for the Construction of Pilot Platforms for New Materials" and support local governments and enterprises in building pilot platforms around high-end special steel, hydrogen metallurgy, and other industries; support the research and development of low-carbon common technologies such as hydrogen metallurgy, accelerate the integration of green electricity, green hydrogen, and pure hydrogen metallurgy technology and equipment for testing and industrialization.

On Oct 23, the Fourth Plenary Session of the 20th Central Committee of the Communist Party of China (CPC) passed the "**Proposal of the Central Committee of the Communist Party of China (CPC) on Formulating the 15th Five Year Plan for National Economic and Social Development**". The proposal mentioned "Forward looking layout of future industries, exploring diverse technological routes, typical application scenarios, feasible business models, and market regulatory rules, promoting quantum technology, biomanufacturing, **hydrogen energy** and fusion energy, brain computer interfaces, embodied intelligence, and sixth generation mobile communication as new economic growth points."

2. Hydrogen and Fuel Cell R&D Update

On Sep. 17, the State-owned Assets Supervision and Administration Commission of the State Council released "**Service Manual for Open Service of Central Enterprise Pilot Verification Platforms (2025 Edition)**". Among the 134 pilot verification platforms, 11 are related to hydrogen energy.

1. Pilot verification platform for aerospace power energy-saving and environmental protection technology
2. Pilot verification platform for hydrogen liquefaction equipment
3. Pilot verification platform for marine low-speed diesel and new fuel engine
4. Pilot verification platform for 4MW combustion
5. Pilot verification platform for 10 tons/year carbon dioxide hydrogenation to methanol
6. Pilot verification platform for 40MWth clean low carbon combustion
7. Pilot verification platform for new chemical materials and high-end chemicals
8. Pilot verification platform for non-ferrous mining, metallurgy, and energy metal materials

9. Pilot verification platform for hydrogen calcination thermal simulation
10. Pilot verification platform for stable and transient characteristics of large-scale alkaline electrolysis hydrogen production unit
11. Pilot verification platform for mobile source energy saving and environmental protection key materials

On Sep. 19, the National Energy Administration released "**The first (set) of major technical equipment in the energy field in the fifth batch**". Among the total 82 technical equipment, 7 are related to hydrogen energy.
1. Integrated testing platform for hydrogen production through megawatt proton exchange membrane electrolysis of water
2. Hundred kilowatt level reversible solid oxide fuel cell device
3. Green electricity hydrogen production coupled with coal chemical integrated energy control system
4. Wide power fluctuation adaptable megawatt scale PEM electrolysis reactor directly coupled with renewable energy
5. High power flexible off grid photovoltaic dynamic electrolysis hydrogen production system
6. 100kg vehicle mounted liquid hydrogen system
7. Complete set of 90MPa liquid driven hydrogen compressor equipment

3. Demonstration, Deployments, and Workforce Developments Update

On Jul 15, the **Taonan City Wind Power Coupled Biomass Green Methanol Integrated Demonstration Project** (Fig. 1) was put into operation in Baicheng, Jilin Province. This project is invested and constructed by Shanghai Electric Co., Ltd. The first phase of the demonstration project can produce 50,000 tons of green methanol annually. It including 2 × 300 tons/day pure oxygen biomass fluidized bed gasification equipment, 67.2 MW wind power, 8200 Nm^3/h hydrogen production equipment, and 100000 Nm^3 hydrogen storage equipment. It is expected to drive the utilization of biomass resources such as straw by about 180,000 tons and consume about 220 million kWh of green electricity throughout the year.

On Jul 26, the State Power Investment Co., Ltd (SPIC) 's **Da'an City Wind Solar Green Hydrogen Synthesis Ammonia Integration Project** (Fig. 2) was officially put into operation in Baicheng, Jilin Province. This project integrated 800MW wind and solar installed capacity with 40MW/80MWh energy storage, equipped with a 46,000Nm^3/h mixed hydrogen production system (including 50 sets of PEM and 39 sets of alkaline hydrogen production units), with an annual output of 32,000 tons of green hydrogen and 180,000 tons of synthetic ammonia.

Fig. 1 Taonan Project

Fig. 2 Da'an Project

On Aug 7, the National Energy Administration released "Green liquid fuel technology research and industrialization pilot project (first batch)", including 3 directions and 9 projects. Among them 5 were for green methanol and 3 were for green ammonia.

List of green liquid fuel projects in hydrogen energy field

Direction	Project
Green methanol	Taonan City Wind Power Coupled Biomass Green Methanol Integration Project
	Goldwind Sci & Tech Co.,Ltd's Green Hydrogen to 500,000 tons Green Methanol Project (Phase I 250,000 tons/year)
	Anda City China Tianying Inc.'s Wind and Solar Hydrogen Storage Ammonia Alcohol Integration Project Phase I
	Liaoning Huadian Co., Ltd's Diaobingshan 450,000 kW Wind Power Hydrogen Production Coupled with Green Methanol Integration Project
	Lanze Co., Ltd's Dafeng Port 300,000 tons/year green methanol project
Green ammonia	Envision Zero Carbon Technology (Chifeng) Co., Ltd.'s 1.52 million tons/year zero carbon hydrogen ammonia project (P1 phase 300,000 tons/year synthetic ammonia)
	Energy China Co., Ltd's Songyuan Hydrogen Energy Industrial Park (Green Hydrogen Ammonia Alcohol Integration) Project
	Da'an City Wind Solar Green Hydrogen Synthesis Ammonia Integration Project

On Oct 16, the National Energy Administration released "**Hydrogen Energy Pilot Projects in the Energy Sector (First Batch)**". 41 projects and 9 regions will be supported to carry out hydrogen energy pilot work in the energy field.

Direction of pilot projects

Pilot project direction	Number
Large scale hydrogen production and integration	11
Advanced flexible off grid hydrogen production	2
Comprehensive development of clean low-carbon hydrogen energy	8
Large scale and long-distance transportation	3
High density and diversified storage	4
Green substitution of refining and coal to oil and gas	3
Hydrogen ammonia fuel power supply	1
Long term and long-lasting operation of hydrogen energy storage	2
Comprehensive application in the field of energy	2
Hydrogen energy demonstration and experiment platform	4
Hydrogen energy low-carbon transformation	1
Total	41

List of pilot region

Pilot region	Pilot region direction
Changchun-Songyuan-Baicheng in Jilin Province	Large-scale hydrogen production from new energy sources
Ningdong-Yinchuan-Wuzhong in Nixia Province	Large-scale hydrogen production from new energy sources
Zhangjiakou-Chengde-Tangshan in Hebei Province	Full chain development
Baotou in Inner Mongolia Province	Full chain development
Zhanjiang in Guangdong Province	Full chain development
Suzhou-Nantong-Yancheng in Jiangsu Province	Technological Innovation and Application Expansion
Jinan-Binzhou-Dezhou in Shandong Province	Technological Innovation and Application Expansion
Wuhan-Huangshi-Qianjiang in Hubei Province	Technological Innovation and Application Expansion
Panzhihua-Liangshan in Sichuan Province	Technological Innovation and Application Expansion

4. Events and Solicitations

Provide information on upcoming hydrogen-related events that will include international participants. Also, please provide any information regarding solicitations[1] that can lead to collaboration among IPHE members.

On Aug 27 - 28, **Sino-Japanese Economic and Trade Exchange Event and Hydrogen Energy Industry Matchmaking Meeting** was held in Changchun and Songyuan, Jilin Province.

[1] Can include *Requests for Information* and *Calls for Proposals* and other requests that may or may not involve funding support but looks to address issues that may be of interest to IPHE members

On Sep 26, **the APEC Energy Working Group Hydrogen Land Transport Seminar** was held in Hong Kong. More than 40 experts and representatives from 10 APEC member economies attended the conference.

On Oct 24, **the China - International Renewable Energy Agency (IRENA) Cooperation Steering Committee Meeting** was held in Suzhou, Jiangsu Province. Wang Hongzhi, Director General of the National Energy Administration of China, and Francisco La Carmela, Director General of IRENA, attended the meeting. Representatives from the Ministry of Ecology and Environment of China, the China - IRENA Cooperation Office, as well as the leaders of five special working groups on hydrogen energy, energy transformation, hydropower, solar energy, and power grid, attended the meeting.

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

Nothing to report.

6. Regulations, Codes & Standards, and Safety Update

On Aug 29, the State Administration for Market Regulation and the National Standardization Administration released 3 hydrogen energy related national standards.

No.	Standard name	Implementation date
GB/T 19158-2025	Fully wrapped carbon-fibre reinforced aluminum lined gas cylinders used on containers or skids for transportation or skids for fueling station of compressed hydrogen	2026/03/01
GB/T 35544-2025	Fully-wrapped carbon fiber reinforced cylinders with an aluminum liner for the on-board storage of compressed hydrogen as a fuel for land vehicles	2025/12/01
GB/T 46104-2025	Power fluctuation adaptability testing methods of water electrolysis system for hydrogen production	2025/12/01

On Sep 15, the Ministry of Transport released 1 hydrogen energy related transportation industry standard.

No.	Standard name	Implementation date
JT/T 1568-2025	Technical specifications for road transportation of compressed or liquid hydrogen	2026/03/01

On Oct 22, the National Energy Administration release 4 hydrogen energy related energy industry standards.

No.	Standard Name	Implementation Date
NB/T 11882-2025	Fixed vacuum insulated liquid hydrogen pressure vessel	2026/03/28
NB/T 11896-2025	Preparation regulations for feasibility study report of renewable energy power hydrogen production project	2026/03/28

DL/T 2971-2025	Technical specification for proton exchange membrane water electrolysis hydrogen production system with wide range adjustment	2026/03/28
DL/T 2973-2025	Performance test method for proton exchange membrane water electrolysis hydrogen production system with wide range adjustment	2026/03/28