



Advancing Hydrogen Development In an Active and Orderly Manner To Support the Building of a New Energy System

**National Energy Administration of
the People's Republic of China**

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The development of the hydrogen industry is of great significance for building a clean, low-carbon, safe and efficient energy system, and for achieving the goals of carbon peaking and carbon neutrality.

The 2024 Government Work Report proposed for the first time accelerating the development of frontier and emerging industries such as hydrogen.

The “Energy Law of the People’s Republic of China” officially came into force in 2025. It explicitly incorporates hydrogen into the energy management system and calls for “actively and orderly promoting the development and utilization of hydrogen, and facilitating the high-quality development of the hydrogen industry”.

I. Strategic Positioning: Planning and Promoting Hydrogen Energy Development within the Framework of a New Energy System



Thoroughly implementing the new energy security strategy “Four Revolutions and One Cooperation”.
Planning and promoting hydrogen development within the framework of a new energy system.

Installed renewable energy capacity **remains the largest in the world**, creating enormous potential for the supply of clean and low-carbon hydrogen.

- By the end of 2025, China's total installed capacity of photovoltaic and wind power had reached **1.84 billion kilowatts**.
- At the same time, the power system still faces insufficient regulation capacity, and pressure on the integration and consumption of new energy has continued to increase.



Hydrogen, as an **important carrier** for the large-scale and efficient utilization of renewable energy, and with its advantages in **large-scale and long-duration energy storage**, can become an effective pathway and an important option for **expanding the non-power applications of new energy**.

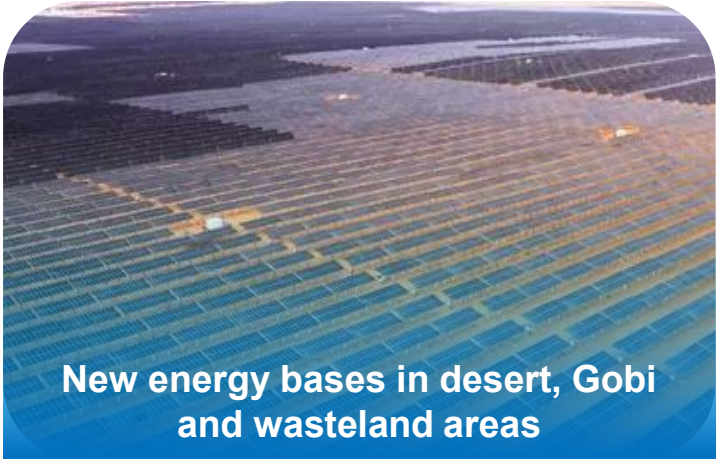
I. Strategic Positioning: Planning and Promoting Hydrogen Development within the Framework of a New Energy System



The high-quality development of hydrogen provides strong support for building a new energy system.



“Medium- and Long-Term Plan for the Development of the Hydrogen Energy Industry (2021–2035)”
— Hydrogen is an important component of the future energy system —



New energy bases in desert, Gobi and wasteland areas



Offshore wind power bases

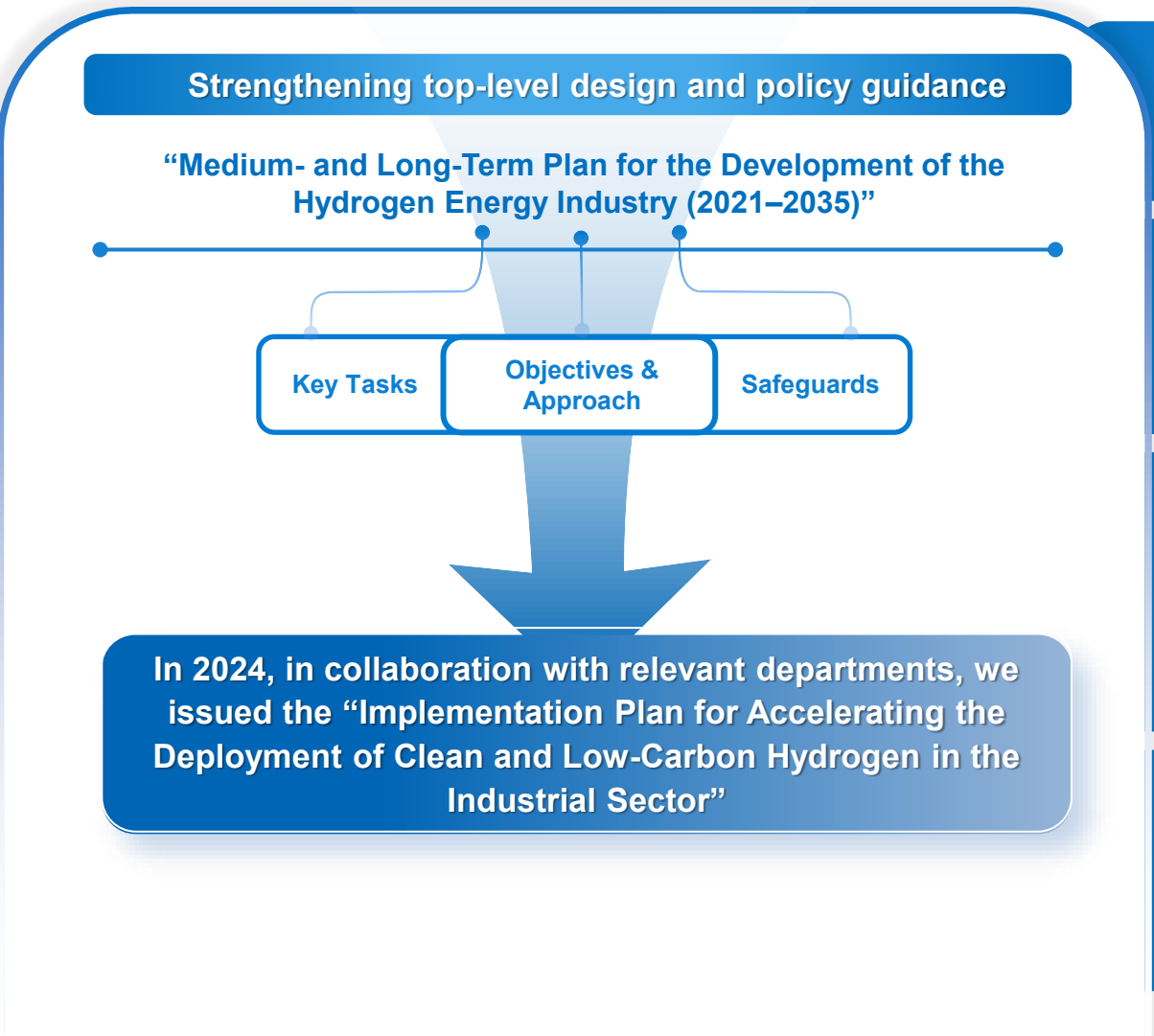


Integrated green hydrogen production, storage, transport and utilization

II. Core Objective: Promoting Coordinated Development Across the Full Chain of Hydrogen Production, Storage, Transport and Utilization



The Chinese government attaches great importance to strategic planning and takes a systematic approach to promoting the coordinated and efficient development of the entire hydrogen industrial chain.



- Promoting technological innovation and demonstration applications
 - Encouraging technological innovation in the hydrogen sector
 - Pilot programs for hydrogen and green fuels in the energy sector
- Strengthening the foundations for hydrogen industry management
 - Establishing technical committee on hydrogen standardization
 - Building “China Hydrogen Information Platform”
 - Releasing the “China Hydrogen Development Report”
- Exploring mechanisms for realizing green value
 - Promoting the development of direct green electricity connections
 - “Evaluation Standard for Clean and Low-Carbon Hydrogen”
 - “Methodology for Voluntary Greenhouse Gas Emission Reduction Projects: Hydrogen Production via Water Electrolysis Using Renewable Energy”
- Deepen international cooperation
 - Making full use of multilateral mechanisms
 - Making hydrogen a priority topic in exchanges and cooperation with the European Union, the Middle East, Southeast Asia and other economies

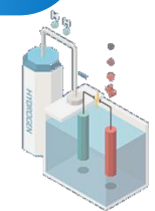
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China has seen rapid growth across all segments of the hydrogen industry and has built the world's largest hydrogen industrial system.

Hydrogen Production

Hydrogen Production Capacity / Output



51 / 39 million tonnes per year

renewable hydrogen production Capacity

250,000+ tonnes per year

Completed

900,000+ tonnes per year

under construction

Large-scale renewable hydrogen production projects gradually put into operation in Northwest, North and Northeast China

Hydrogen Storage and Transport

Deployment of diverse storage and transport technologies

- Pilot and demonstration projects launched for 30 MPa gaseous hydrogen tube-bundle containers, liquid hydrogen and hydrogen pipeline
- Preparatory work actively advanced for hydrogen transport pipeline projects from Ulanqab to Yanshan Petrochemical and from Damao Banner to the urban area of Baotou in Inner Mongolia



Hydrogen Utilization

Transportation as the pioneer sector, with rapid development across multiple sectors

- More than 32,000 hydrogen fuel cell vehicles in operation
- More than 590 hydrogen refueling stations built cumulatively
- Pilot projects such as the Ningdong Renewable Hydrogen Carbon Emission Reduction Demonstration Zone

Demonstrating an integrated process covering hydrogen production, storage, transport and utilization

III. Current Priorities: Continuing to Explore Pathways for High-Quality Industrial Development



The global hydrogen industry is still in the early stages of development, and its high-quality development faces many challenges.

- High costs
- Limited market competitiveness

- The infrastructure investment remains insufficient

- Bottlenecks in key technologies and core materials

- Inadequate market demand
- Incomplete policy system

The NEA will continue to follow the general principle of pursuing progress while ensuring stability, drive the development of a modern industrial system through comprehensive innovation in the hydrogen sector, accelerate the development of new quality productive forces, and lay a solid foundation for accelerating the building of a new energy system.

Acknowledgements



In the context of addressing climate change and ensuring energy security, vigorously developing hydrogen has become a strategic direction and a common endeavor for economies around the world in advancing energy transition.

Wish this conference a great success.

Thank you!