

Projects in China and Women's Stats

Women Moving the Decarbonization Industry: Insights from Developing Countries and Emerging Markets



International Hydrogen and Fuel Cell Association (IHFGA)

May 9th, 2024

Women's Statistics in China

❑ In China, the labor force participation rate among females is **60.5%**

and among males is **72.1%** for 2023 (Datasource: Worldbank)

❑ China ranked at **27** for Mastercard Index of Women Entrepreneurs

2021 global ranking

Labor force participation rate, by sex (% of population ages 15+)

● Female ● Male

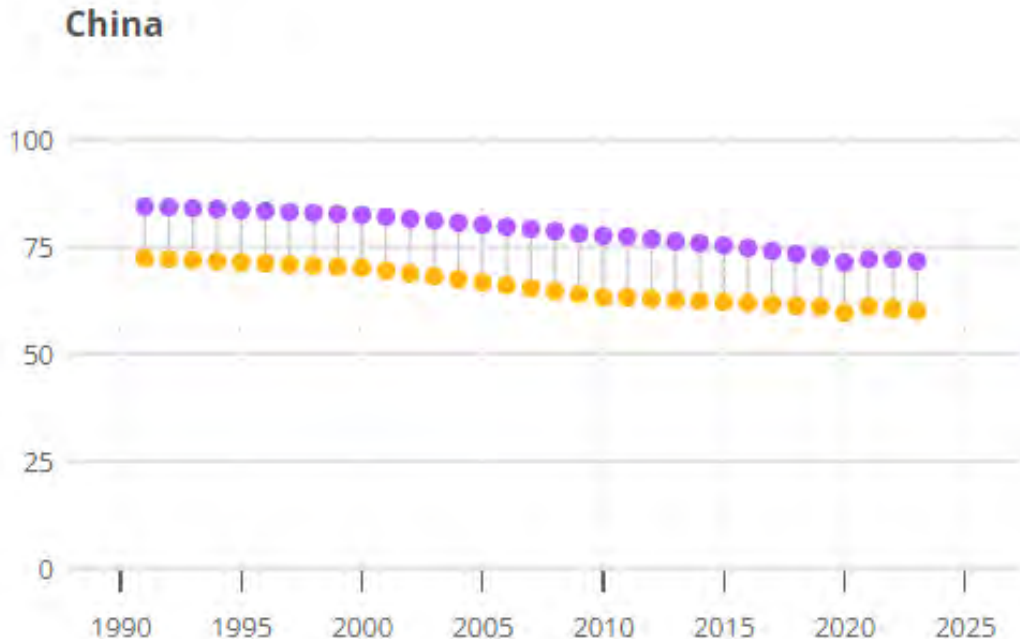
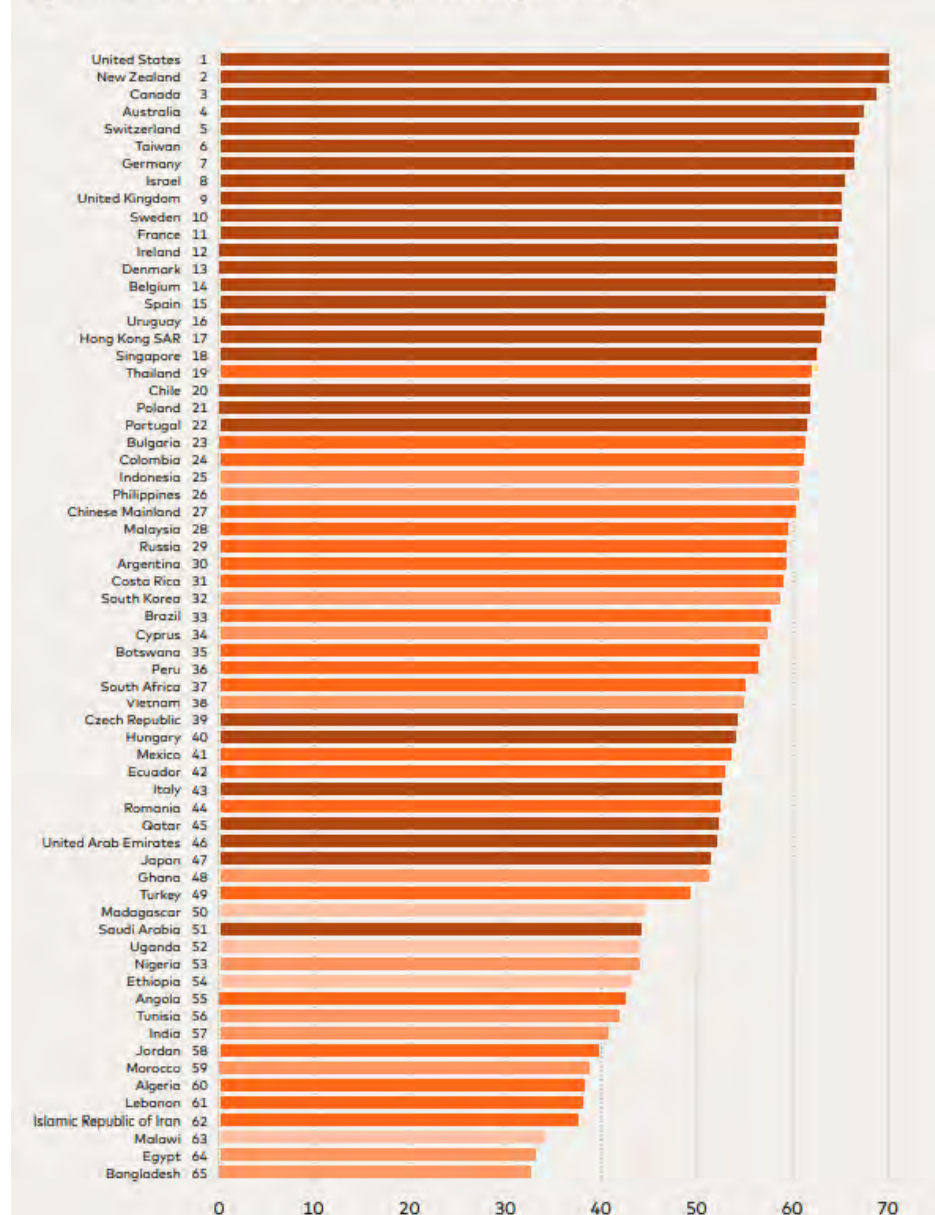
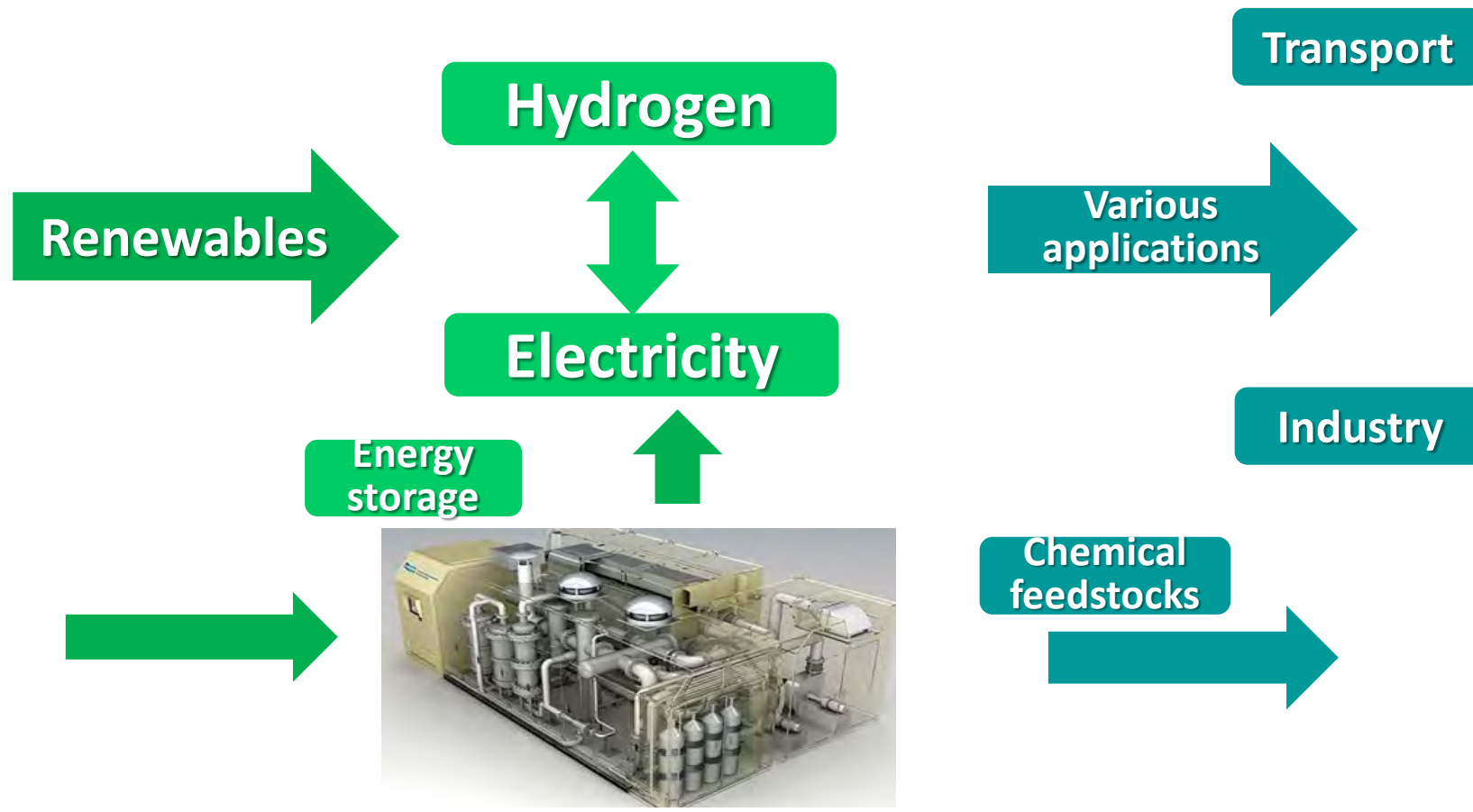


Fig. 2.2b: Mastercard Index of Women Entrepreneurs 2021 global ranking



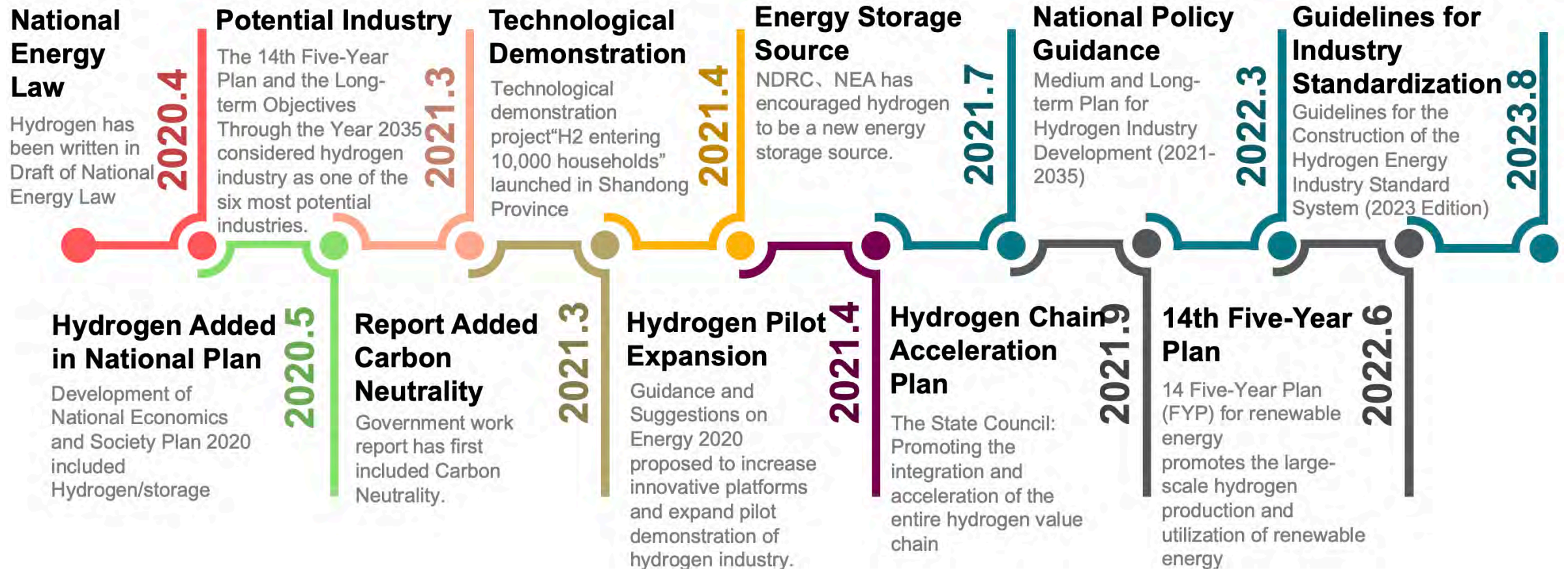
Develop an integrated H2 energy system for the “30-60” de-carbonization goal

The electric and hydrogen-based energy systems have the advantage of multi-sources, high efficiency and zero emissions, enabling energy security, climate action, and industrial transformation and upgrade.



China's Hydrogen Energy Policy Landscape

- In recent years, China has increasingly recognized hydrogen energy as a pivotal pathway for carbon reduction. This shift is evidenced by the issuance of multiple national-level guidelines and policy directives aimed at standardizing and accelerating the development of the hydrogen energy sector.



□ In March 2022, NDRC and NEA jointly released the *Medium and long-term Plan for the Development of Hydrogen Energy Industry (2021-2035)*

Strategy	<ul style="list-style-type: none">• An essential element of future national energy system• A key direction of strategic and emerging industries• An important carrier of green low-carbon transformation
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Principals	<ul style="list-style-type: none">• Driven by innovation, self-reliance• Safety first, clean and low-carbon• Driven by market, guided by the government• Steady applications, led by demonstration
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Beijing Winter Olympic Games: the world's largest hydrogen demonstration

- Near **1,200 FCVs** demonstrated at the Beijing Winter Olympics and Paralympics, realizing total carbon reduction **2,200 tons**
- About **50% of green H2** used at the Zhangjiakou Site generated from **onshore wind P2G** in the City's H2 demonstration base



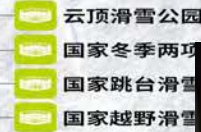
Zhangjiakou City



Solar P2G plant in Zhangjiakou



FCBs for Olympics game

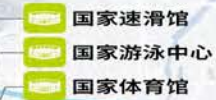


崇礼 (冬奥滑雪赛区)

太子城站

首都体育馆

五棵松体育中心



京张高铁

京藏高速

京礼高速

京礼高速

京藏高速

京张高铁

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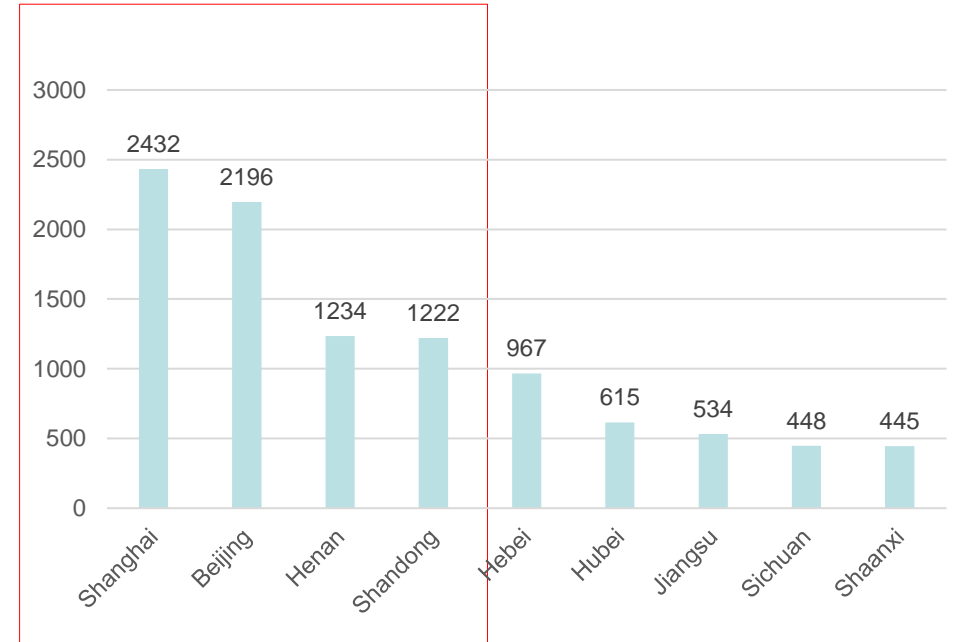
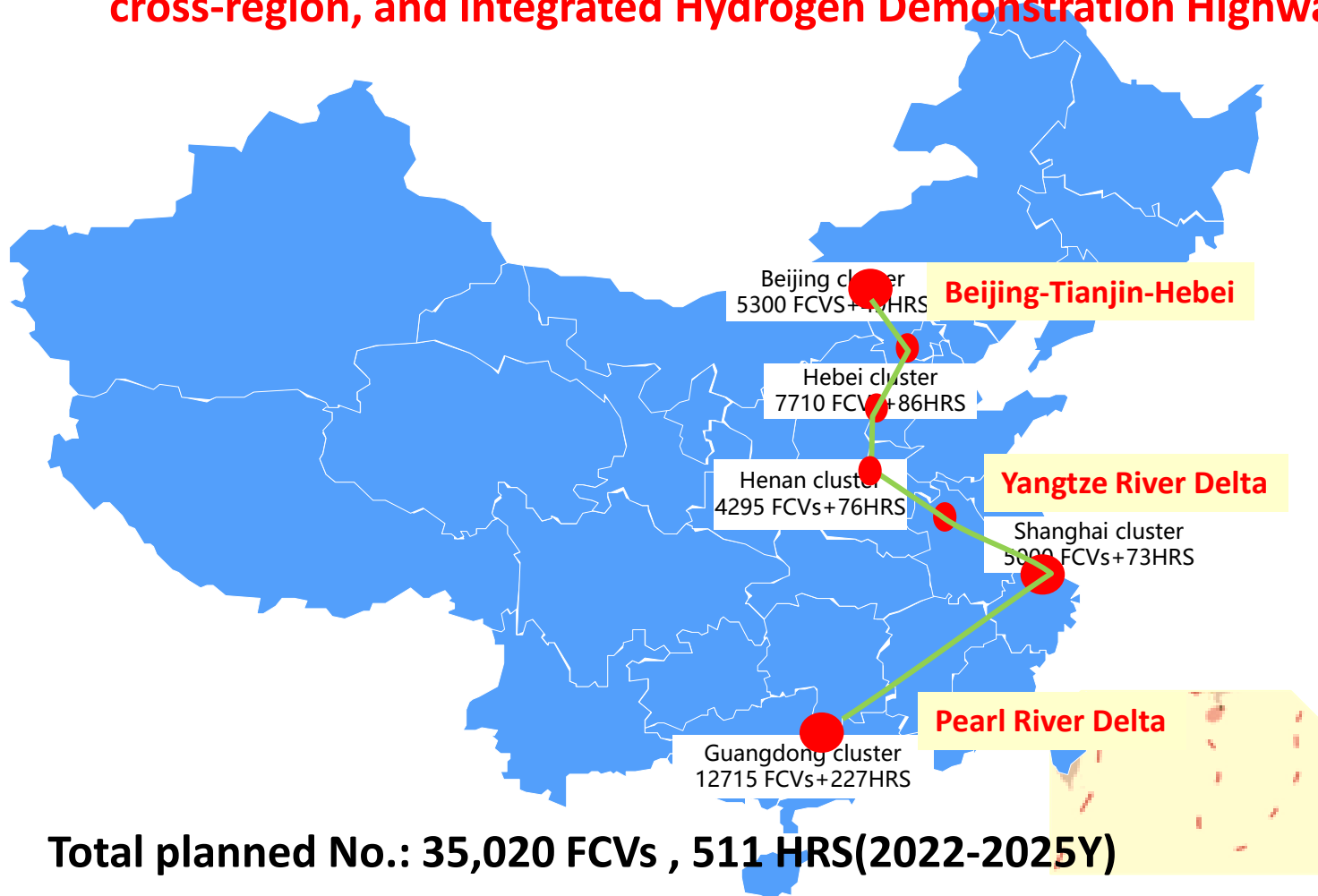
京藏高速



The bulbs at the Beijing Olympic Site lighted by onshore wind energy, and the vehicles at the Winter Olympics powered by solar energy, both came from Zhangjiakou's H2 demo base in Zhangbei District

FCV demo city clusters with cross-regional and collaborative development

- ❑ In 2021, the five Ministries and Commission announced that the FCV demonstration city clusters will mainly be located in Beijing-Tianjin-Hebei, Hebei, Henan, Shanghai, and Guangdong.
- ❑ With the five city clusters as the backbone, a unified plan is in consideration to build a **comprehensive, cross-region, and integrated Hydrogen Demonstration Highway**.



China's registered FCVs in nine provinces and cities (2015-2023H1)

IHFCA was officially established in July 2022

The only international technical organization over the past decade headquartered in China

98
IHFECA
Members

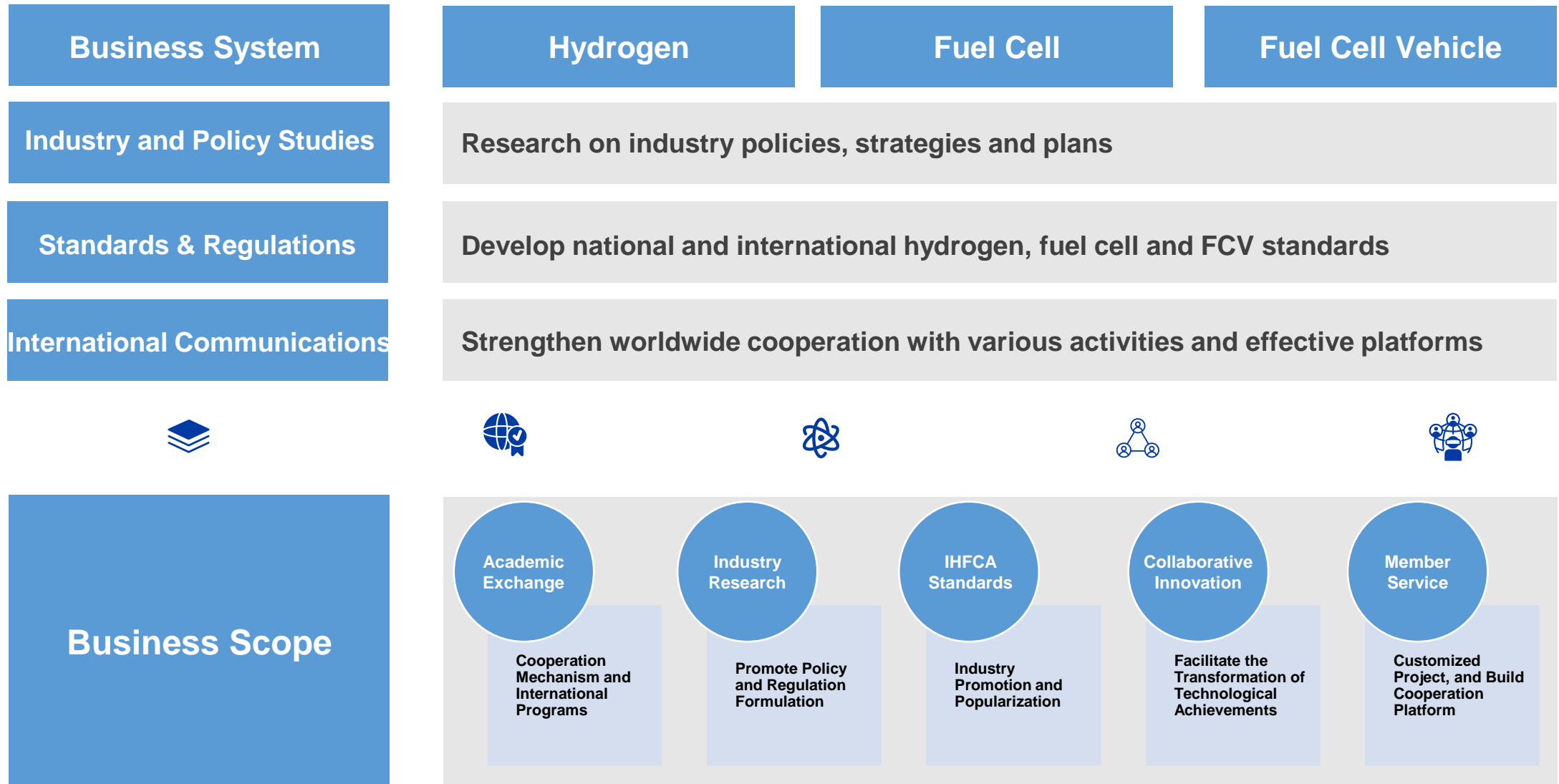
72%
Hydrogen
& Fuel Cell
Companies

28%
Organizations
& Research
Institutions

- Launched by China SAE, FORVIA, Toyota, Hyundai, SAIC, Sinopec, AngloAmerican, Tsinghua University & other leading companies and organizations
- Approved by The State Council of the People's Republic of China
- The headquarter is located in Beijing
- **In the Secretariat, women workforce ratio is 60%, and the top to middle management are all women**



IHFCA License



GEF6: The Shanghai demonstration of Integrated Adoption of New Energy Vehicles in China

A city-level vehicle-grid integrated energy management platform was established,

75 smart charging stations, 876 smart charging piles, 11 optical storage and charging microgrids, 250 electric vehicle outlets totalling 8,105 vehicles were built, forming a fleet of 250 rental electric buses.

Three special studies and research on local policies were carried out. and 15.28 million kilowatt-hours of peak-to-valley storage was realized.

A total of 2.67 billion kWh of renewable energy was generated

Carbon dioxide emissions reduced by approximately 138,500 tonnes.

18 companies in the fields of energy, vehicle manufacturers and other areas participated in the project and yielded great results.



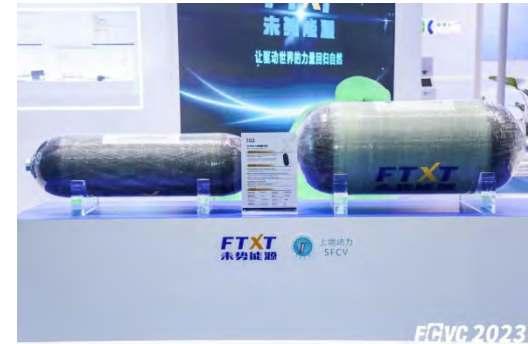
- IHfCA' s signature event FCVC2023 showcased the latest hydrogen fuel cell passenger vehicle/commercial vehicle research and development progress, hydrogen production, storage and transportation related equipment and equipment, hydrogen fuel cell stack system and core components, hydrogen power test platform and software/certification technology, and components related advanced processing technology and manufacturing technology and other related exhibits.



Shanghai Hyfun Energy—ton-level magnesium-based solid-state hydrogen storage and transportation vehicle



The new Hongqi H5-FCV hydrogen fuel cell sedan



FTXT Energy vehicle-mounted IV hydrogen storage bottle



Fuel cell system accessories



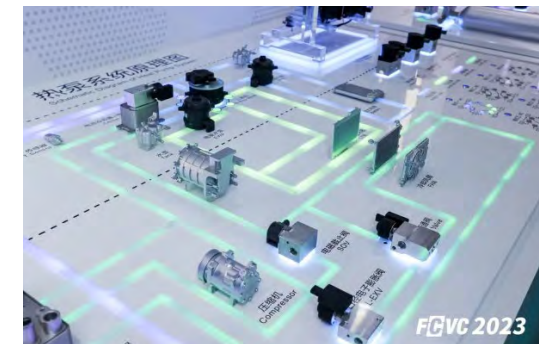
Dech Future Proton Fuel Cell Light-duty Truck



Deepal Automobile - S7 hydrogen fuel cell SUV



Hyundai Modern fuel cell stack



Fuel Cell Tube Valves



国际氢能燃料电池协会
INTERNATIONAL HYDROGEN FUEL CELL ASSOCIATION

THANKS!

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