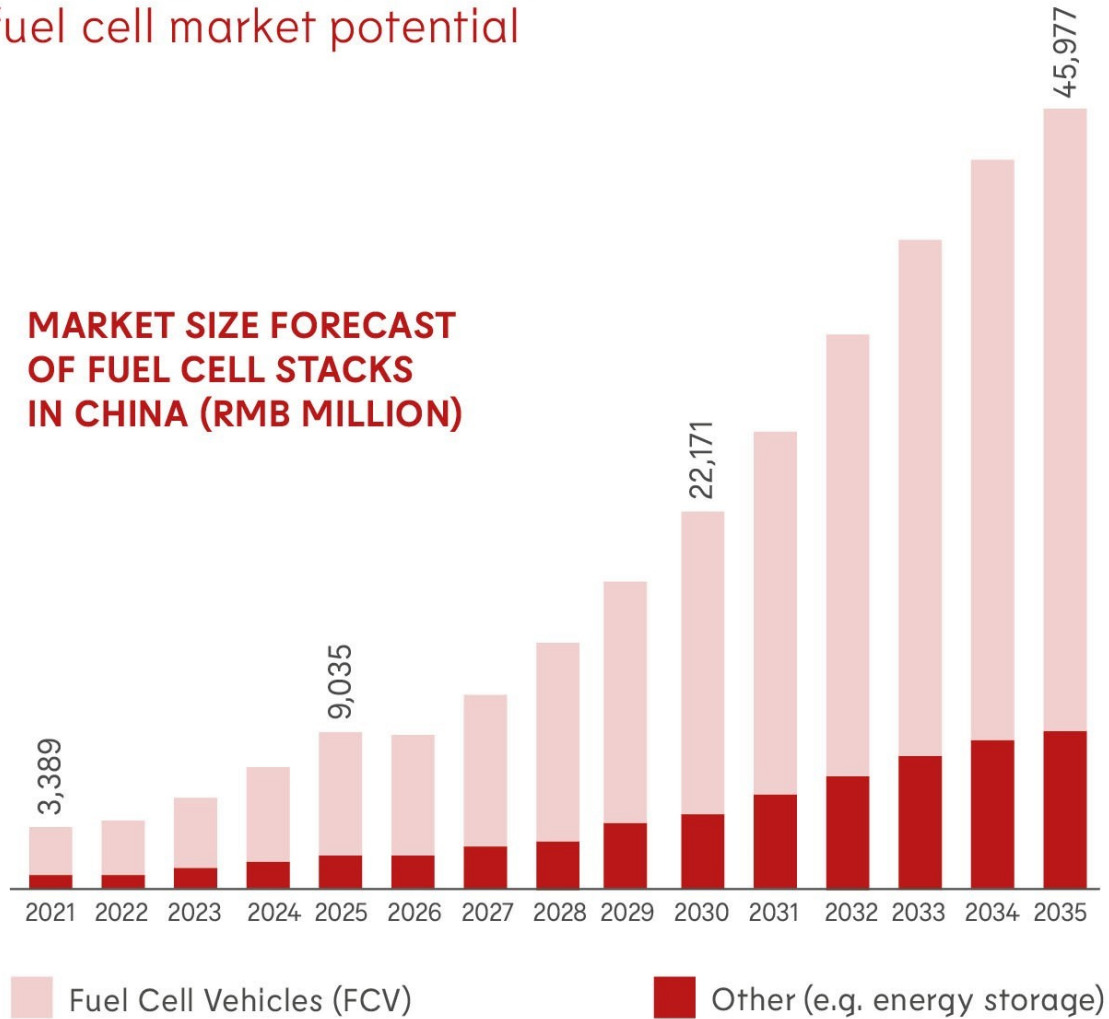


The next Electric Vehicle sector? China's enormous fuel cell market potential



MARKET SIZE FORECAST OF FUEL CELL STACKS IN CHINA (RMB MILLION)



Source: Sinolytics own calculation based on official targets of FCV volume, average output of FCVs and estimate on development of fuel cell unit cost per kw

China's hydrogen and fuel cell industry

SINOLYTICS SERVICES



China strongly pushes hydrogen industry as contribution to achieve carbon neutrality

China's Hydrogen Development Plan 2021-2035

Strategic positioning

- Hydrogen as important part of China's energy mix to support carbon peak by 2030 and carbon neutrality by 2060
- Important medium for increasing green energy consumption
- One of the strategically important sectors in the future

Key quantitative targets for 2025:

- **50k** FCVs in stock
- **100-200kt** green hydrogen production annually

China's technology roadmap for hydrogen energy



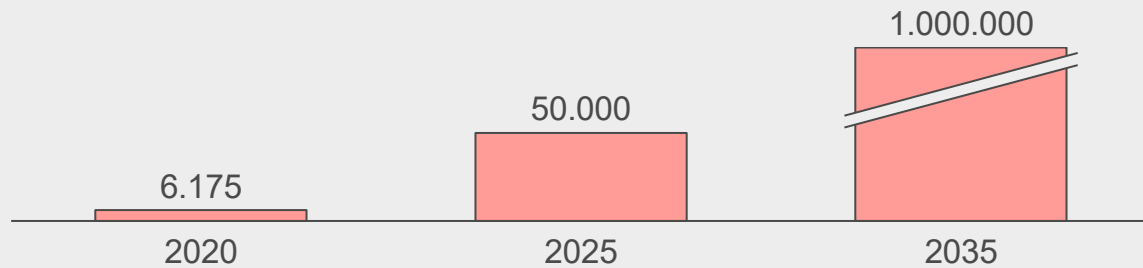
Source: China NEV Roadmap 2.0, *Japan Green Strategy

Huge market potential as China aims for “commercial application” of FCV by 2035

Official targets

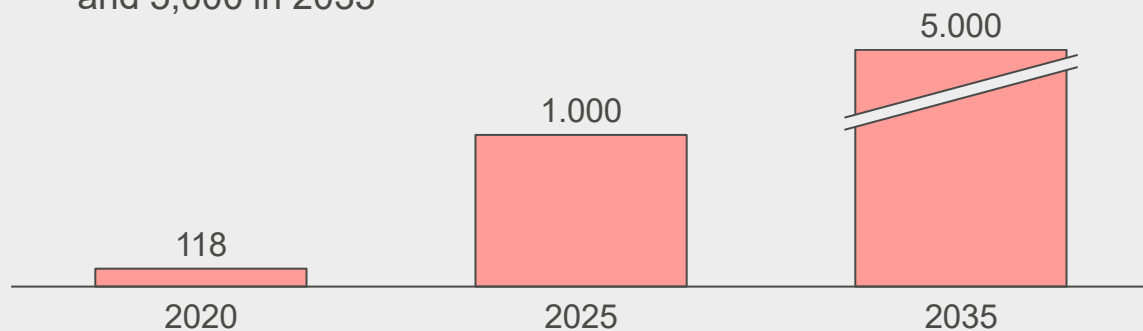
FCV stock targets

- The NEV Roadmap 2.0 (2020) postponed the target of 1mn FCV stock from 2030 to 2035 (compared to the 2016 version)
- The NAHFC White book expects 1.5mn (2035) and 5mn (2050)



H2 stations targets

- 2020 surpassed previous target of 100 stations
- The NEV Roadmap 2.0 (2020) aims at 1,000 H2 stations in 2025 and 5,000 in 2035

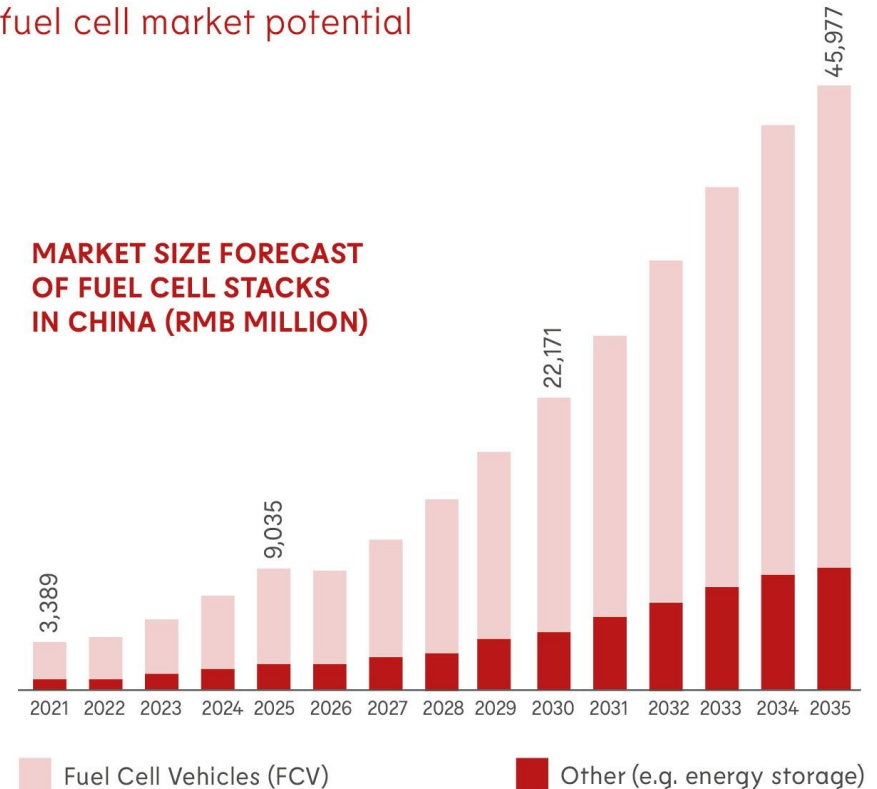


Sinolytics market size forecast

The next Electric Vehicle sector? China's enormous fuel cell market potential

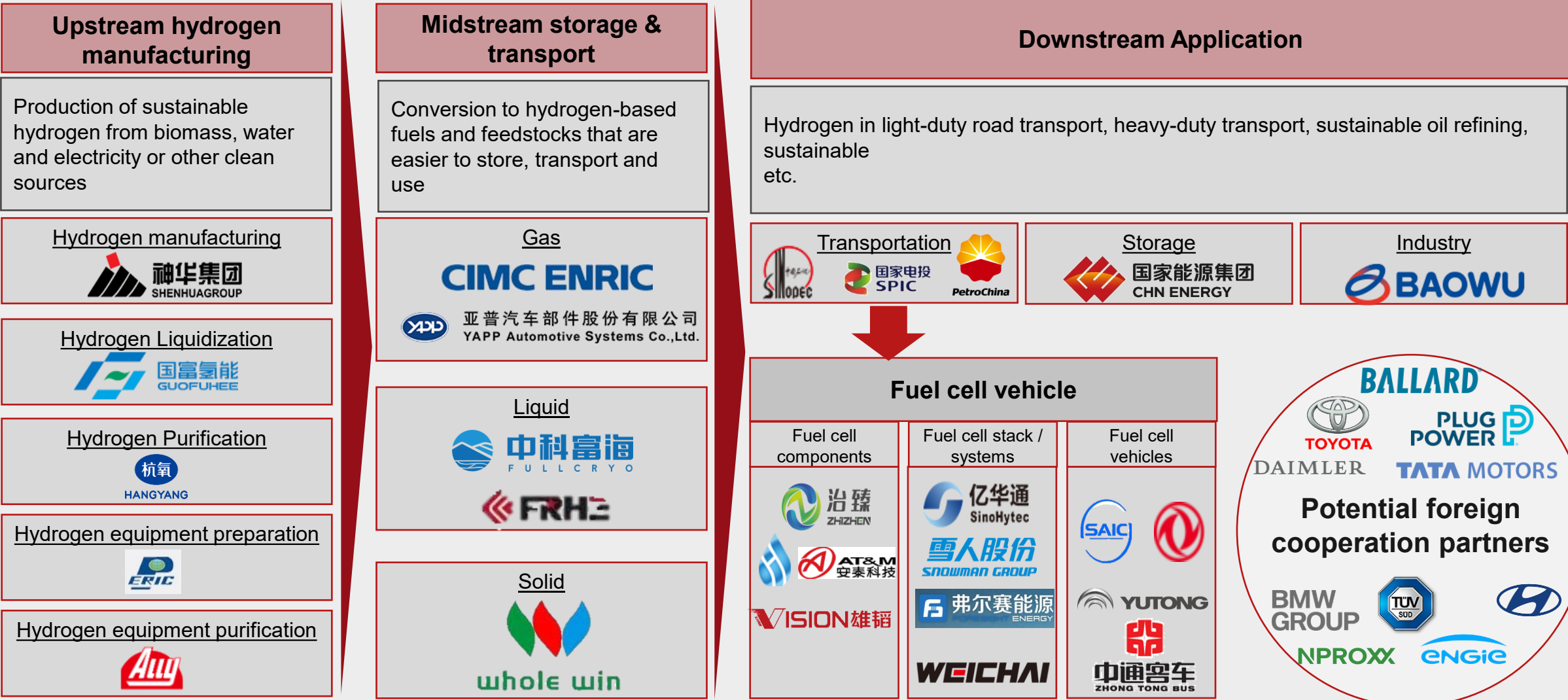
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MARKET SIZE FORECAST OF FUEL CELL STACKS IN CHINA (RMB MILLION)



Source: Sinolytics own calculation based on official targets of FCV volume, average output of FCVs and estimate on development of fuel cell unit cost per kw

Foreign players enter a dynamic market along hydrogen (FCV) value chains in China



Fuel cell components landscape in China gets more competitive recently

Competitor landscape



Competitors' activities (Gas Diffusion Layer as example)

- Cooperation and investment in domestic innovation**
 - General Hydrogen (通用氢能) built first roll-to-roll production and is still expanding production capacity
 - Shanghai Huayi (上海华谊) and Vibrant Epoch signed cooperation agreement to set up a production base, targeting at 300k m² annual capacity
- Localized production to control cost for future commercialization and large-scale production**
 - Gas diffusion layer accounts for **10% of the costs** of FC stacks
 - Localization of Gas diffusion layer's production lowers production costs by 30%-40%
- New local players are entering the market**
 - New domestic players will start production in 2022 (e.g., SHPT 捷氢科技)
 - Applications of local players for new patents in GDL design, manufacturing and equipment

Sinolytics services to support hydrogen/fuel cell business expansion in China



Market analysis

Analyze market potential and trends of the hydrogen industry in China, competition, customers, tech developments, etc.;

- Market Sizing
- Competitor analysis
- Customer analysis



Policy assessment & interpretation

Monitor latest policies/regulation on FC (national and local), provide in-depth policy analysis, impact assessment and trend forecast

- National/local policies
- Governmental priorities
- Technical regulations

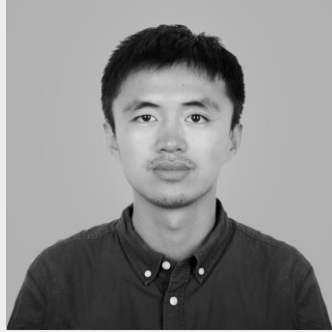


Market entry support

Assess optimal market entry strategies, identify and approach potential targets for investments, acquisitions or partnership

- Benchmarking
- Target scouting
- Due diligence

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