



Powering the World with Infinite Energy

through
Renewable Energy and Hydrogen based solutions

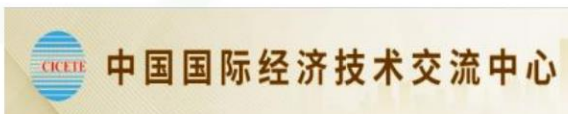


北京清华工业开发研究院
BEIJING TSINGHUA INDUSTRIAL R&D INSTITUTE

IHEC
国 | 际 | 氢 | 能 | 中 | 心

October 2026

About Us



The International Hydrogen Energy Centre (IHEC) was initiated by the Beijing Tsinghua Industrial R&D Institute (BTIRDI), with the support of the United Nations Industrial Development Organization (UNIDO), the Beijing Municipal People's Government represented by the Beijing Municipal Bureau of Economy and Information Technology (Beijing BEIT), and the China International Center for Economic and Technical Exchanges (CICETE) of the Ministry of Commerce of the People's Republic of China.

From Validation to Deployment: Our Core Capabilities



Capability 01

🌐 Global Exchange and Collaboration

Enable cross-border collaboration among governments, industry and research institutions through international exchange, project matchmaking and partnership development.

UNIDO Network | 10+ Countries | 300+ Delegations

Capability 02

📋 Strategic Planning and Technical Advisory

Provide integrated strategic planning and technical advisory services across the green hydrogen and green fuels value chain, supporting pathway design, investment decisions and industrial deployment.

Policy Roadmap | H₂ Value Chain | Global Reports

Our Core Capabilities

Capability 03

⚙️ Technical, Legal and Financial Services

Deliver integrated technical solutions and commercialisation support for project execution, including validation, regulatory and legal advisory, tax structuring and financial consulting.

PoC & Pilot | 5 Test Platforms | 18 Startups

Capability 04

🗣️ Conferences, Forums and Innovation Programs

Convene policymakers, industry leaders and investors through high-level dialogues and innovation programs to accelerate collaboration, innovation and project development.

5 Annual Forums | IHIPC Competition | 1,000+ Participants

Conferences, Forums and Innovation Programs

IHIDF 2026 & IHIPC 2026 · Tianjin, 16–17 September 2026



16 SEP · IHIDF

6th International Hydrogen Industry Development Forum

The Forum brought together academicians, international organisations, research institutions and industry leaders. Discussions focused on hydrogen commercialisation, engineering validation, standards, infrastructure, finance and international cooperation.

Outcome: a shared agenda for demand-led deployment and cross-border collaboration.

17 SEP · IHIPC

2026 International Hydrogen Energy Innovation Pioneer Competition Final

From global sourcing to final selection

100

applications

40

roadshow
projects

22

finalists

12 + 10

mature +
innovation

Finalists represented hydrogen production, storage and transport, key materials, hydrogen-based fuels and end-use applications. The competition awarded 2 Excellent Pioneer, 4 Innovation Breakthrough, 8 Rising Star and 8 Merit awards.



Connecting global dialogue with project validation, industrial collaboration and deployment

Beyond "1+N+X": China's Hydrogen Strategy as a Global Supply Chain Incubator



A Strategic Pivot:
Policy-Driven Local Demonstration → Market-Driven Global Cost Reduction
Based on the Joint directive by MIIT, MOF, and NDRC (Mar 2026).

2030 Target End-User Cost: < ¥25/kg (~¥15/kg in Advantaged Regions)

China Scalability, Global Affordability.
China Execution, Global Solution.



Anchor Demand ("1")

China's Scenario
(Transport Base)

- Heavy-duty & cold-chain fleets.
- H₂ highways & refueling networks.
- Target: 100,000 FCEVs by 2030.

Global Spillover

Absorbing early trial-and-error to rapidly drive down global **BOM costs for Fuel Cell Systems & Refueling.**

Decarb Hubs ("N")

China's Scenario
(Industry Body)

- Green NH₃ /CH₃ OH:** Integrated
- Chemicals:** Fossil H₂ substitution.
- Metallurgy:** Coke replacement.
- Power/Heat:** Grid & boiler blending.

Global Spillover

Maturing the world's largest electrolyzer capacity (CAPEX reduction) & aligning with EU CBAM/RFNBO standards.

Frontier Tech ("X")

China's Scenario
(Innovation)

- Transport:** Ships, aviation, rail.
- Energy:** CHP, novel long-duration storage.
- Industry:** Pharma & Electronics.

Global Spillover

The fastest pathway for commercial validation & joint ventures for advanced overseas technologies (TRL 5-8).

From Framework to Execution

What changed in 2026

2 Mt

renewable H_2 production target by 2030, about 8 times the 2025 level (15th FYP renewable plan, Jul 2026)

5 clusters

approved in Sept 2026 to run the pilots: 4-year programmes, up to ¥1.6 bn of central rewards each

Green power

since May 2026, wind and solar plants can supply industrial users via dedicated lines, with priority for green H_2 , NH_3 and MeOH

The 5 pilot city clusters

Two transport-led, three industry-led

Transport

Beijing–Tianjin–Hebei

Fuel cell vehicles, hydrogen highway network

Transport

Greater Bay Area

Heavy-duty & cold-chain logistics, offshore-wind green fuels

Industry

Northeast – Yangtze River Delta

Green NH_3 / MeOH shipped to eastern ports and bunkering hubs

Industry

Xinjiang – Chengdu-Chongqing

Xinjiang green H_2 supply, Chongqing equipment and markets

Industry

Yellow River Bend – Central Plains

Green H_2 chemicals and industrial decarbonisation

China Hydrogen in Numbers

Where the sector stands in 2026

> 1 Mt/yr

renewable H_2 capacity built or under construction (Mar 2026), of which > 250 kt/yr operating

~ 700 kt/yr

green ammonia capacity in operation (end-2025), plus ~ 380 kt/yr of green methanol

~ 60%

of global electrolyser manufacturing capacity is in China; systems cost \$600–1,200/kW vs \$2,000–2,600/kW elsewhere

~ 53%

of global renewable H_2 production capacity is in China (end-2025)

> 39 Mt

total H_2 output in 2025, still ~ 80% from coal and natural gas: the starting point of the transition

70–80%

of green H_2 cost is electricity: power below ~ ¥0.15/kWh is seen as the competitiveness threshold

Building the Full Green-Fuel Value Chain

From molecule to global market: four milestones

1 PRODUCE

Songyuan green H₂-NH₃-MeOH project

CEEC · Jilin

Phase 1 operating since 16 Dec 2025

ISCC EU certified

Operating

2 TRANSPORT

Bayan Obo – Baotou H₂ pipeline

China Huadian · Inner Mongolia

195 km · 100 kt/yr · 6.3 MPa

NEA hydrogen pilot project

Under construction

3 EXPORT

Green ammonia cargoes to South Korea

SPIC Da'an: 3,750 t, largest single cargo per SPIC

Shipped 28 Jul 2026

4 BUNKER

Ship-to-ship green ammonia bunkering

Zhoushan · 1,000 t

Shenghang Yongle (Operated by ADF) → Mineral Europa (CMB.TECH)

13 Oct 2026

China is building the whole chain: production, transport, export and use as marine fuel.

In line with the 15th FYP renewable plan, which orients Northeast China's green H₂, NH₃ and MeOH bases towards export.



SCALE

From demonstration projects to 5 national pilot clusters and a 2 Mt target for 2030



COST

Below ¥25/kg by 2030: cheap green power through direct connection is the key lever



TRADE

Green ammonia exported to Korea and bunkered ship-to-ship in Zhoushan: Chinese green molecules go global

China Execution, Global Solution.



Thank you!



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