



## **IPHE Country Update Nov 2023 – Feb 2024: Singapore**

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

In December 2023, the Monetary Authority of Singapore (MAS) launched the **Singapore-Asia Taxonomy** which sets out detailed thresholds and criteria for defining green and transition activities that contribute to climate change and mitigation across eight focus sectors<sup>1</sup>. The Singapore-Asia Taxonomy is the first taxonomy globally to pioneer the concept of a “transition” category. This is in recognition of the need to properly contextualise “transition” for the Asian region.

The transition activities are comprehensively defined through two new approaches:

1. A traffic light system that defines green, transition and ineligible activities across eight focus sectors. “Transition” refers to activities that do not meet the green thresholds now but are on a pathway to net zero or contributing to net zero outcomes.
2. A “measures-based approach” that seeks to encourage capital investments into decarbonisation measures or processes that will help reduce emissions intensity of activities and enable the activities to meet the green criteria over time.

MAS has commenced an exercise to map the Singapore-Asia Taxonomy to the International Platform for Sustainable Finance (IPSF)’s Common Ground Taxonomy (CGT), which currently covers the EU Taxonomy and People’s Bank of China (PBOC)’s Green Bond Endorsed Project Catalogue. When this mapping is complete, finance institutions and market participants will be able to refer to a common set of definitions under the CGT, which would help increase taxonomy-aligned financing solutions and facilitate sustainable development in markets which the CGT covers. Through the Singapore-China Green Finance Taskforce, MAS is working with the PBOC to promote the uptake of financial products that reference the China Green Bond Catalogue and the Singapore-Asia Taxonomy, and eventually the CGT when mapping is completed. These efforts serve to facilitate cross-border financing flows.

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<sup>1</sup> The eight focus sectors are: Energy, Real Estate, Transportation, Agriculture and Forestry/Land Use, Industrial, Information and Communication Technology, Waste/Circular Economy, Carbon Capture and Sequestration.



# INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

## 2. Hydrogen R&D Update

In August 2023 and October 2023, the **Directed Hydrogen Programme (DHP)** and the **Emerging Technology Grant Call (ETGC)** respectively, were launched under Phase 2 of the LCER Programme. Following rigorous evaluation of the proposals received, \$55 million has been awarded to support six DHP projects and ten ETGC projects.

The DHP supports Singapore's National Hydrogen Strategy by enabling the development of technologies to build capabilities across the hydrogen supply chain and its end-uses (including carriers) for Singapore to safely and economically import and utilise hydrogen. A grant call was launched, inviting research proposals across four priority areas: (i) hydrogen and ammonia safety and regulatory standards, (ii) ammonia cracking, (iii) ammonia utilisation, and (iv) hydrogen transport and distribution.

Around \$43 million will be awarded to support six projects under the DHP across these three priority areas. These projects, if successful, can help accelerate the technical viability and commercial scalability of hydrogen-related technologies and promote the adoption of hydrogen in Singapore's energy transition.

The ETGC supports nascent yet promising low-carbon energy R&D areas at lower technological readiness levels (TRLs 1-2) such as hydrogen, carbon capture utilisation and storage (CCUS) and other low-carbon energy areas that have the potential to open up more options for abating the emissions of the power and industry sectors.

Around \$12 million will be awarded to support ten projects under the ETGC to fund R&D in low concentration carbon capture, advanced catalysts for ammonia cracking, and coatings for hydrogen pipeline.

## 3. Demonstration, Deployments, and Workforce Developments Update

NIL

## 4. Events and Solicitations

**IECEX International Hydrogen Conference** organised by IEC, together with ISO, UNECE, the Hydrogen Council, IRENA and the Singapore IEC National Committee. Leading experts across the world will share their insights and expertise on international standardisation, equipment manufacturing, inspection, repair and overhaul associated with hydrogen production, transportation, and use.

**IPEF Clean Economy Investor Forum (CEIF)**. Singapore will host the inaugural IPEF CEIF on 6 June 2024 which will bring together the region's largest investors, innovative start-up entrepreneurs, cutting-edge project, and government agencies for matchmaking and investment facilitation. There will be a breakout session on hydrogen and its derivatives as part of the Hydrogen Cooperative Work Programme.



## INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

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

In March 2024, Singapore established the **Future Energy Fund**, with an initial injection of S\$5 billion, to support infrastructure investments for our energy transition towards a net-zero future. These projects may involve nascent technologies or require high upfront capital expenditures, and furthermore exposed to significant commercial and geopolitical risks. The establishment of the Future Energy Fund ensures that the government is ready to provide financial support to catalyse energy transition projects to secure low-carbon energy supplies to meet Singapore's decarbonisation ambitions. This will better prepare our businesses and economy for a low-carbon future and allow Singapore to remain an attractive investment destination.

Examples of energy transition infrastructure which could be supported by the Future Energy Fund include undersea cables to import low-carbon electricity as well as new hydrogen terminals and pipelines.

### **6. Regulations, Codes & Standards, and Safety Update**

Singapore formed the Pro-Tem Committee (PTC) under the Singapore Standardisation Programme in 2H 2023 to assess the prospects of developing hydrogen and hydrogen carrier standards. Discussions continue to be underway.