



INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

IPHE Country Update December 2020: India

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Covered Period	June – November 2020

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

Honourable Prime Minister of India, while inaugurating the 3rd Renewable Energy Investors' Meet and Expo on 26 November 2020, announced that India is proposing to launch a comprehensive National Hydrogen Energy Mission.

2. Hydrogen and Fuel Cell R&D Update

The Ministry's Research, Development and Demonstration (RD&D) programme on Hydrogen Energy and Fuel Cells focuses on: hydrogen production from renewable routes; development of materials and techniques for safe and efficient storage of hydrogen; development of indigenous and affordable fuel cells; and demonstration of hydrogen and fuel cell technologies in various nice applications.

- Projects are being supported in premier universities, research institutions and industries.
- Ongoing projects include pilot scale hydrogen production facility through biomass gasification at Indian Institute of Science, and development of LT-PEM Fuel Cells at ARCI – Centre for Fuel Cell Technology.
- Department of Science and Technology is also funding basic research projects in Hydrogen and Fuel Cell.

3. Demonstration, Deployments, and Workforce Developments Update

- i. MNRE is developing a collaborative proposal to demonstrate hydrogen fuel cell vehicles in Leh as part of the initiative to make the high-altitude region of Ladakh a "Carbon Neutral Destination".
- ii. In October 2020, Indian Oil Corporation commenced 6 month trial runs of the 50 buses fuelled by hydrogen enriched CNG (H-CNG) in Delhi.
- iii. Council of Scientific and Industrial Research (CSIR) and KPIT Technologies successfully ran trials of prototype car running on an indigenously developed fuel cell stack.

4. Events and Solicitations

Nil.

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

For the period 1 April 2020 to 31 March 2021, there is a provision of INR 200 Million (US\$ 2.8 Million) for hydrogen energy and fuel cell related activities in the MNRE budget.



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6. Regulations, Codes & Standards, and Safety Update

- i. Ministry of New and Renewable Energy is coordinating with the Ministry of Road Transport & Highways (MoRTH), Bureau of Indian Standards (BIS) and Petroleum and Explosives Safety Organization (PESO) for putting in place a regulatory framework for deployment of hydrogen and fuel cell technologies in India.
- ii. In July 2020, MoRTH notified draft standard for the safety evaluation of the vehicles being propelled through hydrogen fuel cells under the Central Motor Vehicles Rules, 1989.
- iii. 18% blend of Hydrogen with CNG was notified as an automotive fuel vide GSR 461 in July 2020.