



INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

IPHE Country Update April 2019: India

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Covered Period	December 2018 to April 2019

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

Nil

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 fuel cells, including materials, components, sub-systems, systems, etc; demonstrations for stationary power generation and transportation; and development of hydrogen energy infrastructure in the country.

- Projects are presently being supported in premier academic institutions and industries in India.
- Two new projects have been sanctioned. Under one project, Centre for Excellence for Hydrogen Energy will be established at the National Institute of Solar Energy. Under the second project, ARCI – Centre for Fuel Cell Technology will develop 20 kW LT-PEM Fuel Cell stacks.
- Department of Science and Technology, Government of India, has also undertaken a Call for R&D proposals on Hydrogen and Fuel Cells. This will focus mainly on basic research.

3. Demonstration, Deployments, and Workforce Developments Update

- i. Tata Motors Ltd. has developed 10 PEM Fuel Cell Buses that are currently undergoing trials.
- ii. Indian Oil Corporation is implementing a project on H-CNG fuelled city transport buses in New Delhi. The H-CNG would be generated on-site at refilling stations through a patented compact reformation process.
- iii. Hydrogen internal combustion engine based mini buses, three wheelers and dual-fuel Sport Utility Vehicles, are at advanced stages of demonstration.
- iv. Two hydrogen production and dispensing facilities are operational for demonstration and deployment of vehicles.



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4. Events and Solicitations

Nil

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

For the financial year 2019-20 (1 April, 2019 to 31 March, 2020), there is a provision of INR 200 Million (US\$2.8Million) for hydrogen energy and fuel cell related activities in the budget of the Ministry of New and Renewable Energy.

6. Regulations, Codes & Standards, and Safety Update

Nil