

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO-2924
ANSWERED ON-05/08/2021

HYDROGEN AS AN AUTOMOTIVE FUEL

2924. SHRI JAGDAMBIKA PAL

Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

- a) the steps being taken/proposed to be taken by the Government for use of Hydrogen as an automotive fuel in the country;
- b) the steps being taken/proposed to be taken for development of Hydrogen Fuel Cells or Hydrogen Power Cells for various uses in the country;
- c) whether the Government has provided or released specific funds for research and development of Hydrogen as a fuel in the country during the last three years and the current year;
- d) if so, the details thereof; and
- e) whether any Hydrogen powered vehicle has been deployed by the Government or any private enterprise for use in the country and if so, the details thereof?

ANSWER

THE MINISTER OF NEW & RENEWABLE ENERGY AND POWER

(SHRI R.K. SINGH)

(a) In her Budget Speech on 1 February 2021, the Finance Minister announced the launch of a Hydrogen Energy Mission in 2021-22 for generating Hydrogen from green power sources. Accordingly, the Ministry of New and Renewable Energy (MNRE) has drafted a National Hydrogen Energy Mission document which would inter-alia aim to scale up Green Hydrogen production and utilization across multiple sectors, including transportation. The draft Mission document is currently under inter-ministerial consultation.

Further, in September 2016, Ministry of Road Transport and Highways (MoRTH) has notified Hydrogen as a fuel for automotive application for Bharat Stage VI vehicles. In September 2020, MoRTH has specified the safety and type approval requirements for hydrogen fuel cell vehicles in Automotive Industry Standard (AIS) 157. Also, in September 2020, 18% blend of Hydrogen with CNG (HCNG) has been notified as an automotive fuel.

(b)to(d)An R&D project titled “Design and Development of 20 kW Low Temperature Polymer Electrolyte Membrane Fuel Cell with high indigenous content” has been sanctioned by MNRE to International Advanced Research Centre for Powder Metallurgy and New Materials, Chennai at a total project cost of Rs 21.42 crores (with MNRE share of Rs 17.74 crore). Rs 7.9 crores has been released under this project in 2019-2020.

Further, Department of Science and Technology has launched Hydrogen and Fuel Cell Program and Advanced Hydrogen and Fuel Cell program to support research on Hydrogen and Fuel Cell. The details of the funds released by DST for research and development of Hydrogen.

<u>Year</u>	<u>Funds Released</u>
2019-20	Rs.20,38,28,770/-
2020-21	Rs.83,01,158/-

(e)Various hydrogen powered vehicles have been developed and demonstrated under projects supported by Government of India. These include 6 Fuel Cell buses (by Tata Motors Ltd.), 50 hydrogen enriched CNG (H-CNG) buses in Delhi(by Indian Oil Corporation Ltd. in collaboration with Govt. of NCT of Delhi), 2 hydrogen fuelled Internal Combustion Engine buses (by IIT Delhi in collaboration with Mahindra & Mahindra), fifteen hydrogen fuelled 3-wheelers (by IIT Delhi in collaboration with Mahindra & Mahindra), 2 Hydrogen-Diesel dual fuel cars(by Mahindra & Mahindra) and one fuel cell car (by CSIR-National Chemical Laboratory, CSIR-Central Electrochemical Laboratory and CSIR-National Physical Laboratory).
